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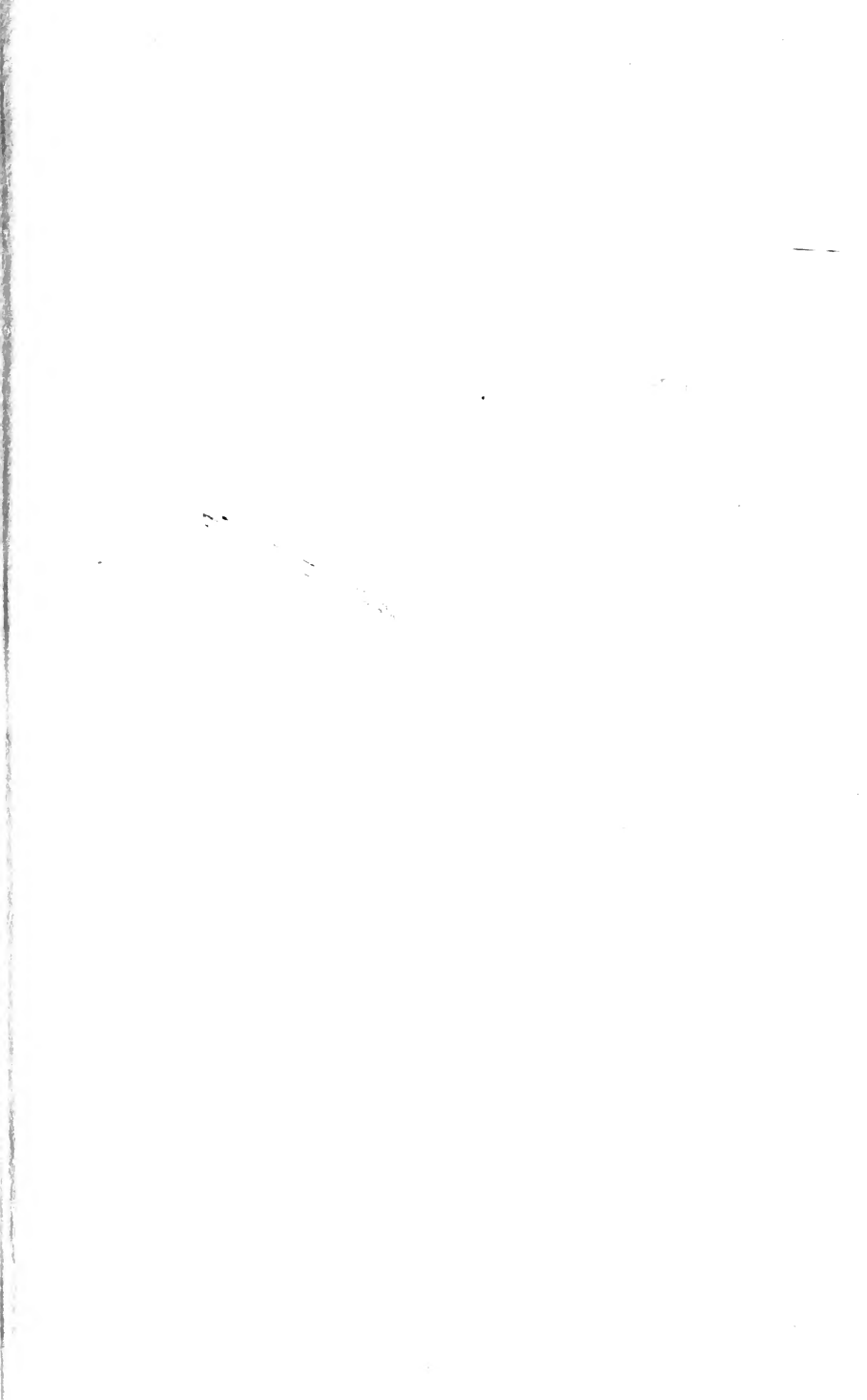


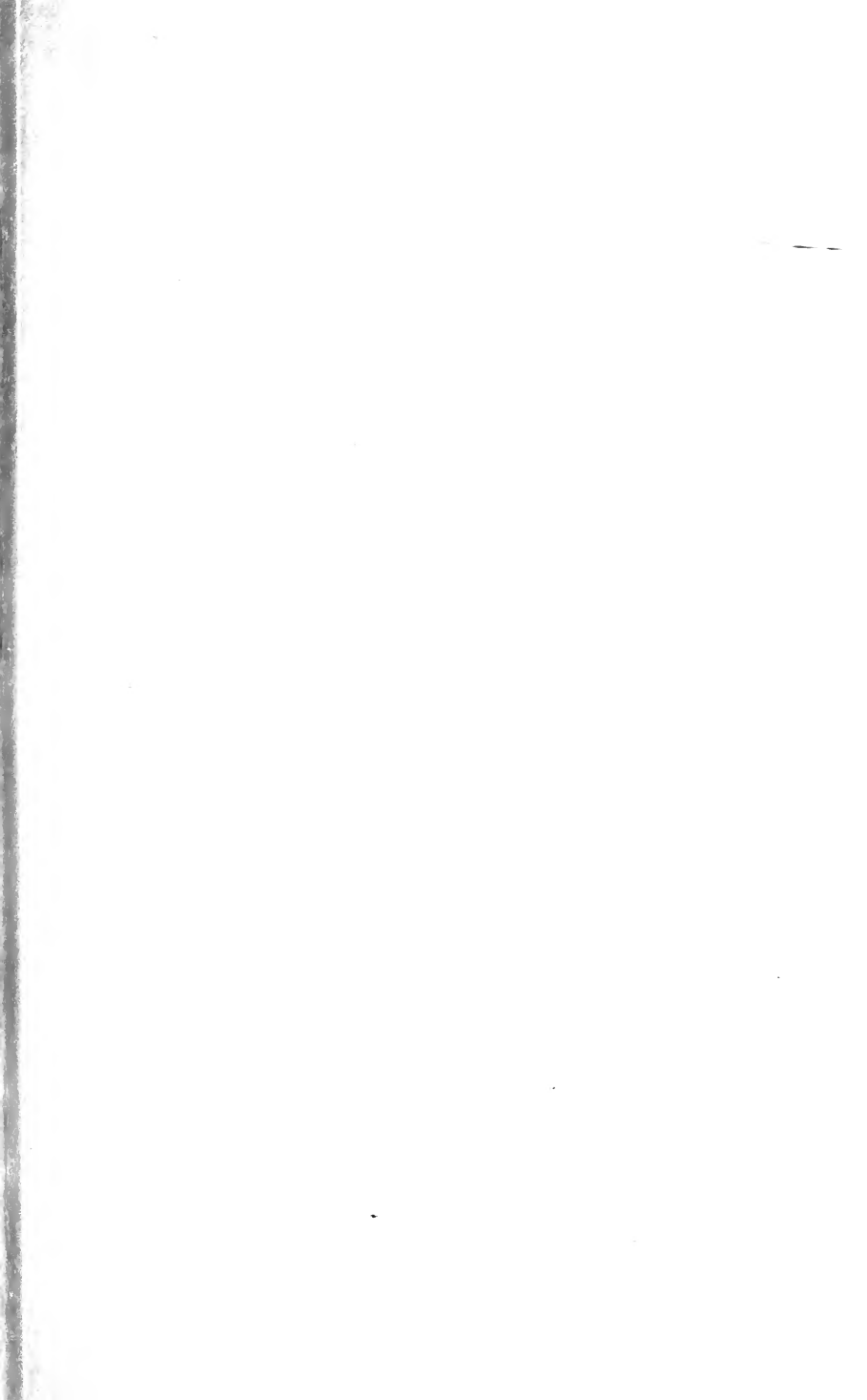
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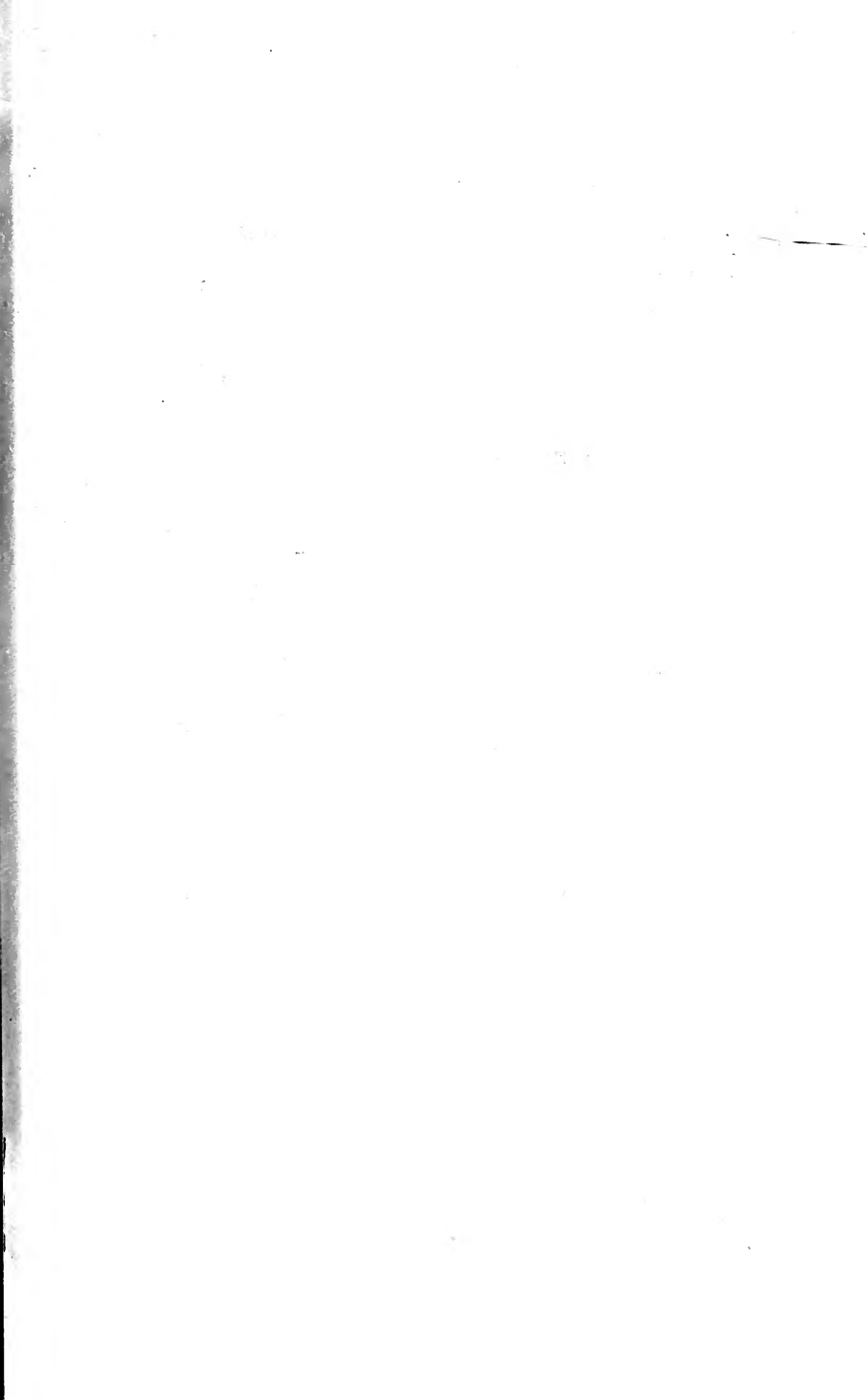
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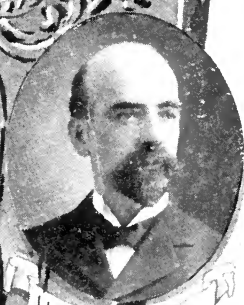
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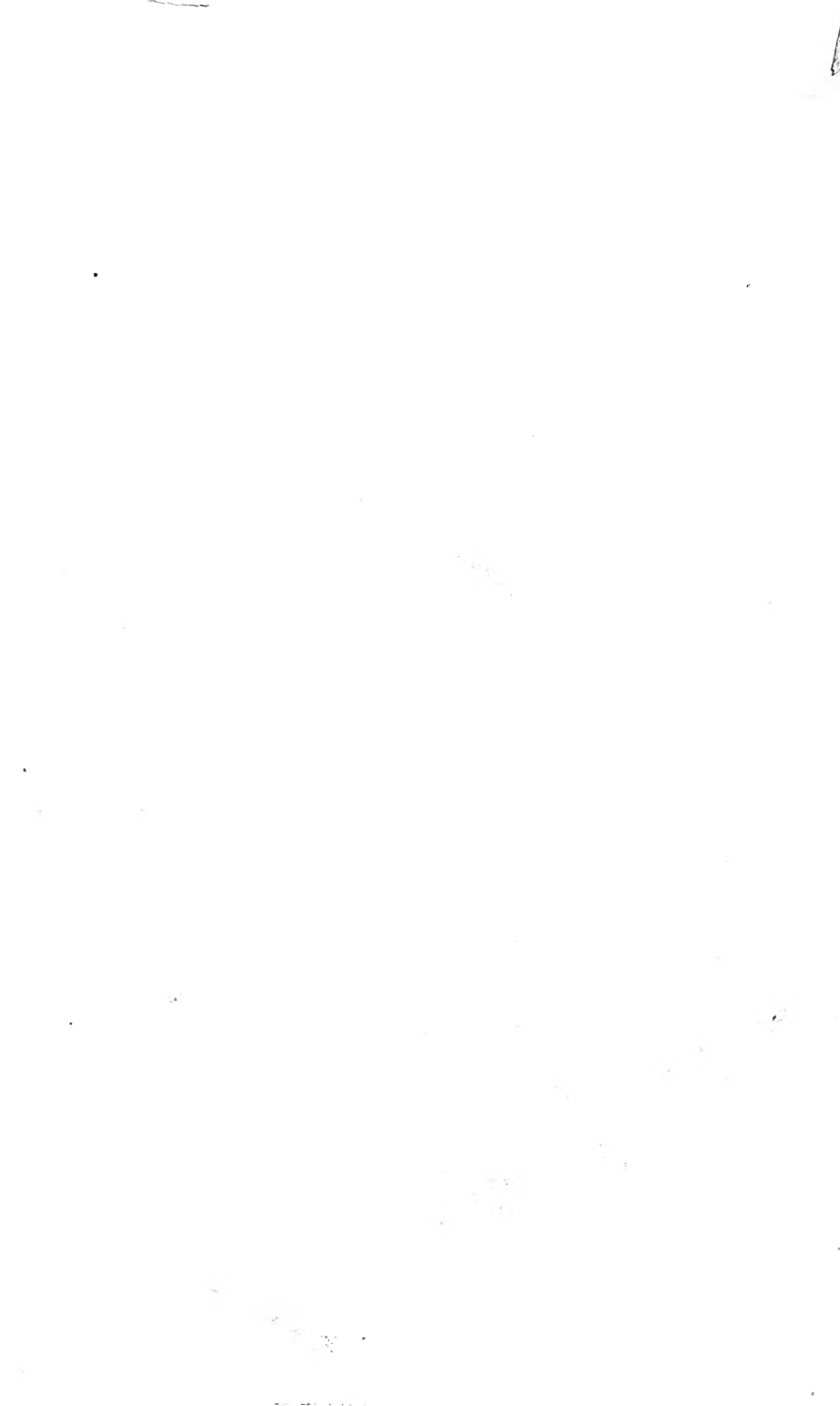


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BOARD
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1900-1901



SAN FRANCISCO
MUNICIPAL REPORTS

FOR THE

FISCAL YEAR 1900-1901, ENDING JUNE 30, 1901

PUBLISHED BY ORDER OF THE

BOARD OF SUPERVISORS



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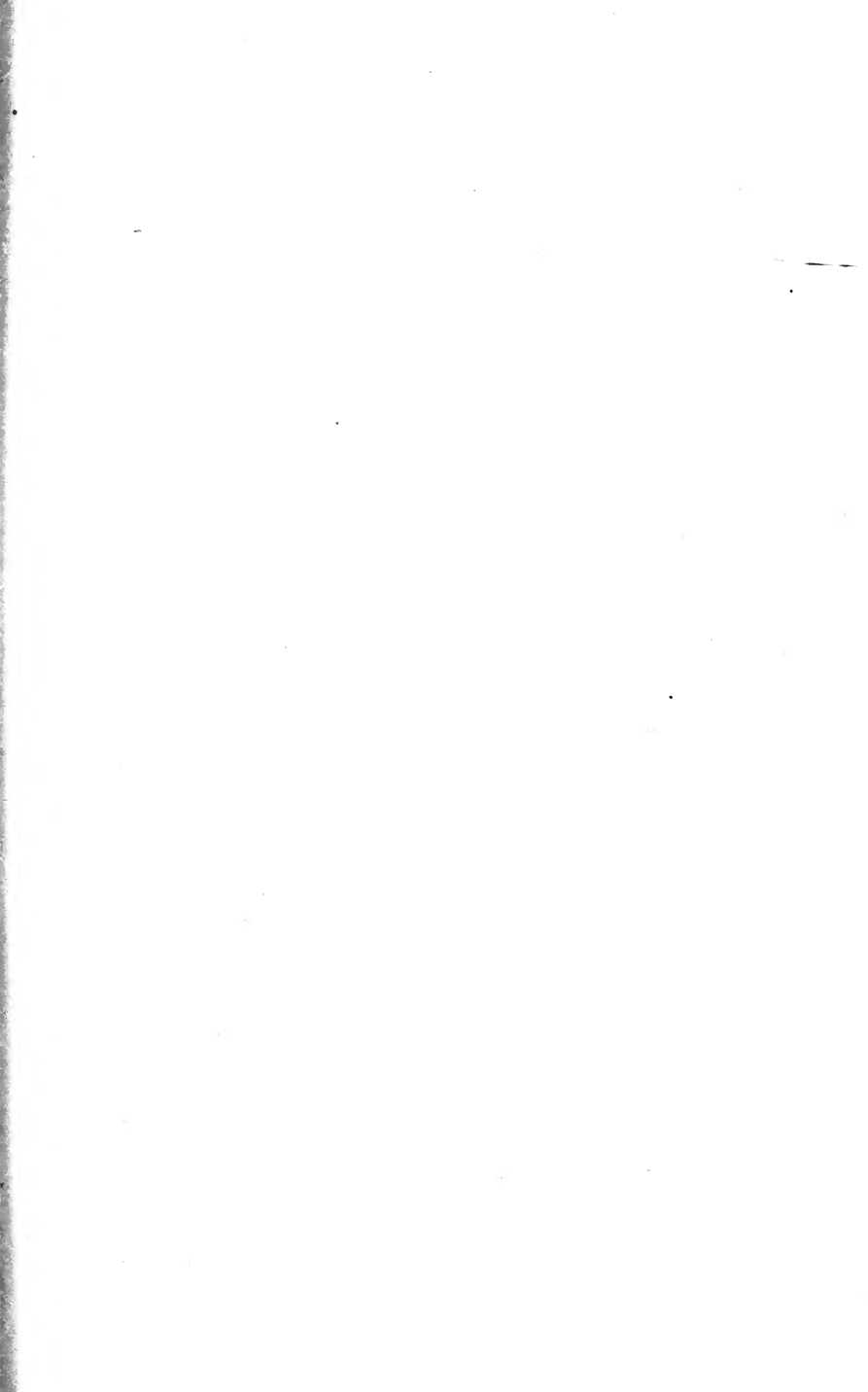
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COUNTY CLERK'S REPORT.

SAN FRANCISCO, July 1, 1901.

To the Honorable James D. Phelan, Mayor
Of the City and County of San Francisco—

Dear Sir: In accordance with Section 9 of Article XVI of the Charter and in compliance with Resolution No. 1,643 of the Board of Supervisors of date June 24, 1901, I respectfully submit my annual report for the fiscal year ending June 30, 1901, as follows, to wit:

In the concluding paragraph of my report for the fiscal year ending June 30, 1900, I stated that the County Clerk's Office should be made self-sustaining, and therefore in presenting my annual report it is with the greatest pleasure that I respectfully call the attention of your Honor and that of the Honorable Board of Supervisors to the fact that for the first time in the history of this municipality the County Clerk's Office, for the fiscal year ending June 30, 1901, has been no burden to the taxpayers or citizens of the City and County of San Francisco, but on the contrary has been self-sustaining and a means of revenue, and in proof of this assertion I respectfully submit the following figures:

Total receipts for year ending June 30, 1901.....	\$90,761 05
Total disbursements for year ending June 30, 1901.....	79,346 95
	<hr/>
Balance in favor of City.....	\$11,414 10

This result must be as gratifying to your Honor, the Honorable Board of Supervisors, our citizens and taxpayers, as it is to the undersigned, but it is only as it should be, for next to the efficiency of the clerks in my office I have made economy a cardinal principle, and, assisted by the wise provisions of the Charter, the result could hardly be otherwise.

During this fiscal year, as the one preceding, I have had but forty-nine men employed in the office, as against from sixty to eighty-four employed therein during past administrations, and this of course has been a great means of enabling me to report a surplus instead of a deficit.

For the fiscal year I have asked for no increase of appropriation from your Honorable Board, being satisfied with the amount allowed me last year to conduct my office.

It is unnecessary for me to go into further details in this preface. The workings of the County Clerk's Office are fully set out in the following pages of my report, to which I invite your careful attention, and will simply say in conclusion that I am pleased to state that the hopes expressed by me in my last report have been realized.

Respectfully,

WM. A. DEANE, County Clerk.

COUNTY CLERK'S REPORT.

NUMBER OF CAUSES ON FILE IN THE SUPERIOR
COURT JUNE 30, 1901.

General Department.....	77,057	
Probate Department.....	25,056	
Adoptions.....	327	
Certificates of Incorporation.....	17,580	
Certificates of Copartnership.....	5,386	
Appeals from Justices' Courts (including abstracts).....	8,726	
Coroner's Inquests.....	448	
Informations, Indictments and Appeals from the Police Courts.....	1,156	
		<hr/>
Total number of Proceedings on file.....		135,736

DEPOSITS IN COURT IN CIVIL ACTIONS.

Amount on deposit, June 30, 1900.....	\$64,826 71	
Amount deposited during year ending June 30, 1901.....	34,080 71	
		<hr/>
		\$98,907 42
Withdrawn by order of Court.....		25,116 22
		<hr/>
Balance on deposit June 30, 1901.....		\$73,791 20

RECEIPTS FOR THE YEAR ENDING JUNE 30, 1901.

General Department.....	\$33,146 55	
Probate Department.....	11,971 50	
Marriage License Department.....	7,432 00	
Fines imposed by Superior Court.....	2,815 50	
Fines imposed by Police Court, Department No. 1.....	\$6,328 50	
Fines imposed by Police Court, Department No. 2.....	7,022 00	
Fines imposed by Police Court, Department No. 3.....	7,500 00	
Fines imposed by Police Court, Department No. 4.....	8,377 00	
		<hr/>
		29,227 50
Law Library Taxes.....	5,886 00	
Medical and Dental Certificates.....	282 00	
		<hr/>
Total Receipts.....		\$90,761 05

COUNTY CLERK'S REPORT.

3

DISBURSEMENTS FOR THE YEAR ENDING JUNE 30, 1901.

Stationery-- (Refer to Stationery Clerk.)	
Transcripts on Appeal.....	\$2,746 95
Salary of County Clerk.....	4,000 00
Salaries of Deputies, Copyists and Messenger.....	72,600 00
Total Disbursements.....	\$79,346 95

MARRIAGE LICENSE DEPARTMENT.

NUMBER OF MARRIAGE LICENSES ISSUED FROM JULY 1, 1900, TO JUNE 30, 1901.

1900—July.....	251		1901—January.....	316
August.....	285		February.....	284
September.....	336		March.....	244
October.....	348		April.....	360
November.....	326		May.....	260
December.....	318		June.....	388
Total.....				3,716

MEDICAL CERTIFICATES.

Number of medical certificates recorded from July 1, 1900, to June 30, 1901..... 212

DENTAL CERTIFICATES.

Number of dental certificates registered from July 1, 1900, to June 30, 1901..... 7

CIVIL ACTIONS

COMMENCED IN THE SUPERIOR COURT DURING THE FISCAL YEAR ENDING JUNE 30, 1901.

Number of civil suits commenced.....	4,159
Number of civil suits adjudicated.....	1,548
Number of civil suits discontinued.....	134
Number of civil suits transferred to other Courts.....	49
Number of civil suits pending.....	2,428
Total number of civil suits commenced.....	4,159

COUNTY CLERK'S REPORT.

ACTIONS.

APPEALED FROM JUSTICES' COURTS DURING THE FISCAL YEAR ENDING
JUNE 30, 1901.

Number of appeals from Justice Court (including abstracts).....	336
Number of abstracts from Justice Court.....	157
Number of appeals adjudicated.....	46
Number of appeals discontinued.....	8
Number of appeals pending.....	125
Total.....	336

CERTIFICATES OF COPARTNERSHIP.

Number on file June 30, 1900.....	5,311
Number filed during year ending June 30, 1901.....	75
Total.....	5,386

AUCTIONEERS' BONDS.

Number filed during year ending June 30, 1901.....	5
--	---

NOTARIAL BONDS.

Number filed during year ending June 30, 1901.....	21
--	----

ARTICLES OF INCORPORATION.

Number on file June 30, 1900.....	16,643
Number filed during year ending June 30, 1901.....	937
Total.....	17,580

EXAMINATION OF INSANE.

number of examinations of insane during year ending June 30, 1900.....		521
Number committed to the several asylums for the insane.	362	
Number discharged after examination.....	159	
Total.....		521

COMMITMENTS OF INSANE.

	MALES.	FEMALES.
Number committed to Agnews State Hospital.....	31	25
Number committed to Napa State Hospital.....	62	47
Number committed to Stockton State Hospital.....	60	57
Number committed to Mendocino State Hospital.....	51	29
	204	158

NATIONALITIES OF INSANE.

COUNTRY.	NUMBER.	COUNTRY.	NUMBER.
Australia.....	3	Mexico.....	4
Austria.....	7	Norway.....	5
Azores Island.....	2	Nova Scotia.....	3
British Columbia.....	1	Poland.....	3
Bombay.....	1	Prince Edward Island.....	1
China.....	11	Roumania.....	1
Canada.....	7	Russia.....	5
Chile.....	1	Scotland.....	9
Denmark.....	4	Servia.....	1
England.....	9	Sweden.....	11
Egypt.....	1	Switzerland.....	2
France.....	8	Spain.....	1
Germany.....	35	Turkey.....	1
Holland.....	1	United States.....	146
Hungary.....	1	Unknown.....	5
Ireland.....	54	West Indies.....	2
Italy.....	15		
Japan.....	1	Total	362

NUMBER COMMITTED TO THE CALIFORNIA HOME FOR THE CARE AND TRAINING
OF FEEBLE-MINDED CHILDREN, AT ELDRIDGE.

	MALES.	FEMALES.
Committed.....	7	5
Total.....		12

NATIONALITIES OF NATURALIZATIONS.

FOR THE YEAR ENDING JUNE 30, 1901.

COUNTRY.	NUMBER.	COUNTRY.	NUMBER.
Azores Island.....	16	Jamaica.....	1
Australia.....	16	Japan.....	1
Austria.....	80	Luxemberg.....	2
British Columbia.....	1	Mexico.....	9
Belgium.....	6	Norway.....	92
Brazil.....	1	Nova Scotia.....	9
Bavaria.....	2	New Brunswick.....	4
Canada.....	66	Newfoundland.....	1
Chile.....	4	New Zealand.....	4
Central America.....	2	Poland.....	11
Cape Verde Islands.....	1	Portugal.....	43
Denmark.....	90	Philippine Islands.....	1
England.....	174	Prince Edward Island.....	8
East Indies.....	1	Peru.....	2
Finland.....	38	Russia.....	59
France.....	79	Sweden.....	222
Germany.....	583	Scotland.....	78
Greece.....	17	Switzerland.....	57
Gibraltar.....	1	South Africa.....	1
Holland.....	16	Spain.....	2
Hong Kong.....	1	Turkey.....	5
Hungary.....	10	Uruguay.....	1
Ireland.....	318	United States of Colombia...	1
Italy.....	99	Wales.....	13
Isle of Man.....	2		
Isle of Malta.....	1	Total	2,252

DECLARATIONS OF INTENTION

FROM JULY 1, 1900, TO JUNE 30, 1901.

COUNTRY.	NUMBER.	COUNTRY.	NUMBER
Azores Island.....	4	Isle of Man.....	1
Alsace.....	3	Isle of St. Helena.....	1
Australia.....	15	Japan.....	8
Argentine Republic.....	2	Luxemberg.....	2
Austria.....	40	Mexico.....	9
British Columbia.....	1	Norway.....	87
Belgium.....	11	Nova Scotia.....	5
Bavaria.....	1	New Brunswick.....	1
Canada.....	40	Newfoundland.....	2
Chile.....	8	New Zealand.....	5
Central America.....	2	Poland.....	2
Denmark.....	52	Portugal.....	5
England.....	138	Prince Edward Island.....	1
East Indies.....	2	Peru.....	10
Equador.....	2	Russia.....	49
Finland.....	72	Roumania.....	57
France.....	52	Sweden.....	127
Germany.....	220	Scotland.....	51
Greece.....	23	Switzerland.....	36
Gibraltar.....	1	Spain.....	12
Guatemala.....	2	Turkey.....	13
Holland.....	5	Uruguay.....	1
Hong Kong.....	1	United States of Colombia...	2
Hungary.....	9	Wales.....	5
Ireland.....	222	West Indies.....	1
Italy.....	64		
Isle of Malta.....	1	Total	1,486

REMITTITURS RECEIVED FROM SUPREME
COURT IN CRIMINAL CASES

DURING THE FISCAL YEAR ENDING JUNE 30, 1901.

Number of remittiturs received.....	6	
Judgments affirmed.....		2
Judgments reversed and cause remanded.....		3
Judgments reversed.....		1
Totals.....	6	6

WRITS OF HABEAS CORPUS ISSUED

DURING THE FISCAL YEAR ENDING JUNE 30, 1901.

Writs pending June 30, 1900.....	6	
Writs issued during the year ending June 30, 1901.....	69	
Prisoners remanded.....		46
Prisoners discharged.....		25
Writs pending June 30, 1901.....		4
Totals.....	75	75

APPEALS FROM POLICE COURTS.

Appeals pending July 1, 1900.....	14	
Appeals filed during the fiscal year ending June 30, 1901.....	48	
Judgments affirmed.....		18
Judgments modified.....		1
Judgments dismissed.....		5
Judgments reversed and cause dismissed.....		26
Judgments reversed and new trial ordered.....		1
Pending June 30, 1901.....		11
Totals.....	62	62

INCORRIGIBLE JUVENILES COMMITTED TO INDUSTRIAL SCHOOLS

Informations.....	6	
Petitions.....	5	
By information defendant convicted, judgment suspended, and ordered committed to Whittier School.....		
By information defendants convicted, judgment suspended and ordered committed to Preston School.....		5
By petition committed to Whittier School.....		2
By complaint committed to Preston School.....		1
By petition committed to the Industrial School of the City and County of San Francisco.....		1
By petition committed to the Boys and Girls' Aid Society.....		1
Total.....	11	11

WRITS OF PROHIBITION.

Writs filed.....	2	
Writs granted.....		1
Writs denied.....		1
Totals.....	2	2

GENERAL SUMMARY.

CIVIL DEPARTMENT.

Number of civil actions commenced during the year.....	4,159
Number of appeals from Justices' Courts.....	336
Number of marriage licenses issued.....	3,716
Number of medical and dental certificates recorded.....	282
Number of Coroner's inquests filed.....	448
Number of auctioneers' bonds filed.....	5
Number of notarial bonds filed.....	21
Number of articles of incorporation.....	937
Number of certificates of copartnership.....	5,386
Number of certificates of naturalization issued.....	2,252
Number of declarations of intention.....	1,486
Number of estates commenced, Probate Department.....	3,270
Number of letters issued, Probate Department.....	1,684
Number of claims filed, Probate Department.....	2,000
Number of examinations of insane.....	374
Number of informations, indictments and appeals from Police Courts filed.....	1,156
Total.....	27,512

COUNTY CLERK'S REPORT.

DEPARTMENTS Nos. 9 AND 10, SUPERIOR COURT (PROBATE).

MONTHS.	ESTATES COMMENCED.						LETTERS ISSUED.						NUMBER OF CLAIMS AND NUMBER OF PROCEEDINGS WHERE FEES WERE REMITTED OR DEFERRED.			AMOUNT OF FEES COLLECTED.	
	DECEASED.			GUARDIANSHIP.			Testamentary	Administration	Administration with Will annexed	Special Letters	Guardianship	No. of Proceedings Fees Remitted	No. of Proceedings Fees Deferred	No. of Claims allowed and filed	Clerk's Fees	Law Library Fees	
	Testate	Intestate	No. commenced	Minors	Insane	Incompetent											Miscellaneous
1900—July	122	30	46	25	8	9	4	25	46	4	5	22	10	2	143	\$827 15	\$122 00
August	144	39	73	20	2	3	3	24	61	12	12	44	4	1	252	992 80	144 00
September	95	28	45	15	3	2	2	23	40	12	6	21	2	3	104	886 25	95 00
October	130	46	54	17	2	7	4	36	46	9	8	26	4	3	163	1,101 35	130 00
November	126	38	57	21	4	3	3	34	58	5	6	27	2	1	164	834 90	126 00
December	117	32	62	16	2	2	3	30	70	13	13	26	2	2	104	1,056 45	117 00
1901—January	162	47	74	27	3	7	4	38	65	2	11	23	1	3	184	984 15	162 00
February	162	56	72	22	4	5	3	38	70	6	9	32	5	2	137	870 00	162 00
March	132	35	67	20	1	3	6	43	87	10	7	37	4	...	193	1,125 55	132 00
April	152	39	80	25	4	2	2	37	72	6	7	24	4	1	196	1,111 50	152 00
May	143	41	59	32	5	4	2	32	67	8	14	28	5	...	129	1,192 90	143 00
June	150	43	74	26	1	5	1	35	65	3	14	30	4	1	178	988 50	150 00
Total	1635	474	763	266	30	56	37	395	747	90	112	340	54	19	1,927	\$11,971 50	\$1,635 00

DISPOSITION OF CRIMINAL CASES FOR THE

OFFENSES CHARGED.	CONVICTED.			Acquitted
	As charged	Of lesser offense	Of misdemeanor	
Abduction				
Arson	1			
Assault to produce bodily harm				
Adultery				
Assault with a deadly weapon	11	7	2	3
Assault with intent to commit murder	3	7	4	3
Assault with intent to commit rape	2			2
Assault with intent to commit robbery	1			
Attempt to commit burglary	1	2		
Attempt to commit grand larceny	1			
Attempt to extort				
Attempt to commit crime against nature	1			
Attempt to commit mayhem				
Attempt to rescue prisoners				
Bigamy	1			
Burglary	58			4
Child stealing				
Conspiracy				
Crime against nature	2	1		
Destroying telegraph message				
Embezzlement	3			
Extortion				

COUNTY CLERK'S REPORT.

FISCAL YEAR ENDING JUNE 30, 1900.

DISMISSED.			PENDING.					Convicted and judgment suspended.	For examination.	Totals
No evidence to convict.....	Defendants sentenced on other charges.....	In furtherance of justice....	On habeas corpus.....	On demurrer.....	Defendants discharged on own recognizance.....	Against defendants insane..	Against minors in Industrial School.....	Ag st st fugitives from justice	For trial June 30, 1901	
								3		3
				1		1		1		4
				4				8	1	13
									1	1
				11	4	1		14	8	62
				9	6	6		9	9	56
				4	3			1		12
				3	2			1	4	11
				5	3		4			15
				2	1					4
		1							1	2
									1	2
					1					1
								1		1
				1						2
3	3			90	74	6		11	20	285
				2						2
									2	2
				4				1	1	9
				1						1
2			1	6	18			21	23	76
				2						2

DISPOSITION OF

OFFENSES CHARGED.	CONVICTED.			Acquitted
	As charged	Of lesser offense.....	Of misdemeanor.....	
Felony under Section 51, Penal Code.....				
Felony under Section 222, Penal Code				
Felony under Section 266, Penal Code.....				
Felony under Section 470, Penal Code				
Felony under Section 475, Penal Code.....				
Felony under Section 476, Penal Code.....				
Felony under Section 479, Penal Code.....				
Felony under Section 564, Penal Code.....				
Felony under Section 587, Penal Code.....				
Felony under Section 596, Penal Code.....				
Felony under Section 22, Purity of Elections Act.....				
Felony under Section 29, Purity of Elections Act.....				
Felony under Act of March 23, 1893.....				
Felony under Section 247, Penal Code.....	1			
Forgery.....	4			1
Fraudulently concealing property.....				
Gaming.....				
Grand Larceny.....	18		9	2
Incest.....				
Libel.....				
Manslaughter.....	1			2
Mayhem.....	1			

CRIMINAL CASES—CONTINUED.

DISMISSED.		PENDING.						Convicted and judgment suspended.	For examination.....	Totals	
No evidence to convict.....	Defendants sentenced on other charges.....	In furtherance of justice...	On habeas corpus.....	On demurrer.....	Defendants discharged on own recognizance.....	Against defendant's sentenced on other charges.	Against defendants insane..				Against minors in Industrial School.....	Against fugitives from justice	For trial June 30, 1900.....
										3	3
					1						1
								1			1
						2				1	2
					1	3		3	2		9
								1			1
					1			1			1
									2		2
						1					1
									3		3
						1					1
											1
					17	30	4	7	16		79
					1			1			2
									4		4
	4	1			39	36	1	37	17	8	172
								1			1
					3	3	1		7		14
					1	1		1	2		8
					1				1		3

DISPOSITION OF

OFFENSES CHARGED.	CONVICTED.			Acquitted
	As charged	Of lesser offense.....	Of misdemeanor.....	
Murder.....	4	2	.....	6
Misdemeanor.....	.....	.....	.....	.....
Obtaining money or property by false pretenses.....	1	.....	.....	1
Perjury.....	.....	.....	.....	.....
Petit larceny.....	5	.....	.....	1
Rape.....	.....	.....	3	1
Receiving stolen goods.....	1	.....	.....	.....
Robbery.....	7	3	.....	4
Seduction under promise of marriage.....	.....	.....	.....	.....
Subornation of perjury.....	.....	.....	.....	.....
Totals.....	128	22	18	30

CRIMINAL CASES—CONCLUDED.

DISMISSED.					PENDING.				Convicted and judgment suspended.	For examination.....	Totals	
No evidence to convict.....	Defendants sentenced on other charges.....	In furtherance of justice...	On habeas corpus.....	On demurrer	Defendants discharged on their own recognizance ..	Against defendants insane..	Against defendants sentenced on other charges.....	Against minors in Industrial School.....				Ag'nst fugitives from justice	For trial June 30, 1901 .....
1					4	3	8		10	10		48
					1					1		2
4					1	3			23	4		37
				1	4	2	2		11	16		36
					8	2						16
2					4	2			3		1	16
					1				6	5	1	14
4					19	7		2	7	6		59
									1			1
										1		1
20	4	1	1	1	253	208	30	6	186	171	28	1,108

LAW LIBRARY REPORT.

SAN FRANCISCO, July 1, 1901.

To the Honorable Jas. D. Phelan, Mayor

Of the City and County of San Francisco—

DEAR SIR: I have the honor of herewith presenting the annual report of the affairs of the San Francisco Law Library.

Except in the matter of receipts, the year just closing compares favorably with the average library year.

During the year there were lost from the membership of the library by death: M. A. Dorn, E. B. Mastick, E. J. Pringle, Patrick Reddy and Hepburn Wilkins.

There were no applications for life membership during the year.

There were fifteen subscribers during the year.

There were added to the library during the year 923 volumes, making the total number of books now on the shelves 39,452.

Of the accessions 144 were presented, 131 were records of the Supreme Court, bound, and 648 were purchased.

The donors were: The Secretaries of the Departments at Washington, the Secretaries of the States of Massachusetts, Nevada and California, Jno. A. Russell, John T. Doyle, T. W. Balch, J. M. Kinley, West Publishing Company, A. S. Newburgh, Bancroft-Whitney Company, R. H. Countryman, American Bar Association, Buck & McPetridge.

The character of the books is as follows:

Text books.....	87
Reports.....	220
Statutes.....	89
Digests and indexes.....	49
Periodicals.....	128
Records.....	131
Governmental publications.....	104
Selected cases.....	38
General miscellany.....	77

923

More particularly classified, the books are as follows:

American text books.....	82
American State reports.....	195
American statutes.....	41
American digests and indexes.....	45
American legal periodicals.....	107
American selected cases.....	30
English text books.....	5
English reports.....	9
English legal periodicals.....	12

REPORT OF LAW LIBRARY.

19

English statutes	2
English digests	2
English selected cases	8
Australian reports.....	7
Australian statutes.....	3
Canadian statutes.....	16
Canadian reports.....	9
Canadian periodicals.....	7
Canadian digests.....	2
Other foreign statutes.....	29
Citations.....	8
Encyclopedias—legal	9
Encyclopedias—miscellaneous	1
Miscellaneous periodicals.....	1
Statistical works.....	2
Legal dictionaries.....	1
Supreme Court records.....	131
Trials.....	1
Literary works	48
Governmental publications.....	104
Directories, legal.....	2
Miscellaneous directories.....	1

923

The expenses for the year were as follows :

Books	\$2,807 05
Salaries.....	2,570 00
Binding and repairing.....	1,137 97
Miscellaneous.....	496 68

\$7,011 70

The items of expenditure were:

American text books.....	\$334 00
American reports.....	593 20
American statutes	127 48
American digests	252 50
American legal periodicals.....	416 12
American selected cases.....	165 00
English and Canadian text books.....	24 53
English and Canadian statutes.....	49 66
English and Canadian reports.....	161 70
English and Canadian periodicals	93 91
English and Canadian digests.....	17 50
English and Canadian selected cases.....	29 75
Australian reports and digests.....	114 78
Citations.....	71 17

Encyclopedias—Legal.....	\$37 90
“ Miscellaneous.....	6 00
Directories—Legal.....	12 85
Directories—Miscellaneous.....	11 05
Newspapers.....	60 90
Literary works.....	156 05
Statistical works.....	18 90
Miscellaneous citations.....	18 75
Foreign statutes (other than above).....	2 85
Telegraph and telephone.....	68 70
Postage.....	26 97
Binding and repairing.....	1,064 10
Materials for binder.....	73 87
Stationery.....	54 60
Printing.....	25 75
Salaries.....	2,570 00
Insurance.....	180 00
Repairing indexer.....	33 30
Cartage and expressage.....	51 73
Miscellaneous.....	86 63
Total.....	\$7,011 70

The above expenditures are of moneys received by the Library from the dollar tax and from collections from lawyers for subscriptions, fines, etc.

In addition to these expenditures, the city appropriates the following sums:

Salary of Librarian.....	\$2,400 00
Salary of Messenger.....	840 00
	<u>3,240 00</u>

This sum, added to the above total, makes the entire expenditure of the Library \$10,251 70.

The income for the year was:

From the dollar tax.....	\$5,733 00
From subscriptions, fines, etc.....	663 31
	<u>\$6,396 31</u>

In addition, the city appropriated for the use of the Library the sum of \$3,240 00, which, added to the above, made the total income \$9,636 31.

The Library is in need of many urgent repairs. The electrical fixtures are very old and very inadequate. There is no method of heating the rooms. The linoleum needs shellacking. The attention of the Board of Public Works has been called to these needs, and it is hoped it will be able to give attention to these matters.

Respectfully submitted.

JAMES H. DEERING,

Librarian and Secretary.

REPORT
OF THE
PUBLIC ADMINISTRATOR.

SAN FRANCISCO, July 1, 1901.

*To the Honorable Jas. D. Phelan, Mayor
Of the City and County of San Francisco—*

DEAR SIR: I hereby make my return of all estates of decedents which have come into my hands for the fiscal year ending June 30, 1901.

Respectfully submitted,

P. BOLAND,
Public Administrator.

ESTATES OF DECEDENTS

Date of Issuance of Letters of Administration	NAMES OF DECEDENTS.	Approximate Value of estate, as far as can be ascertained	Money which has come into the hands of the Administrator.....
1900.			
July 5.....	Margaret C. Rasmussen.....	\$1,440 70	\$1,390 70
July 6.....	Mary Keefe.....	5,283 30	5,283 30
July 6.....	Thomas Considine.....	400 00	.....
July 9.....	John Hillman	3,758 11	3,575 76
July 9.....	Timothy Dimon.....	932 85	132 85
July 9.....	John Petrovich.....	92 30	92 30
July 9.....	Euphrasie J. C. Dicaud.....	2,466 00	.....
July 10.....	Andreas Andersen.....	1,306 00	286 00
July 16.....	Elizabeth Micklehaugh.....	750 00	50 00
July 17.....	Con Crowley.....	50 00	50 00
July 18.....	Walter W. Naughton.....	.....	.....
July 20.....	Gregory Preseault.....	949 59	732 00
July 23.....	Mary Dugan (special).....	.....	.....
August 2.....	James W. Brower (spectal).....	30 30	30 30
August 15.....	Catherine Driscoll.....	322 53	322 53
August 17.....	O. Nelson.....	124 45	124 45
August 17.....	Josephine Sullivan.....	500 00	.....
August 20.....	Fritz Krebs.....	2,988 68	2,969 58
August 21.....	August Schwaderer.....	1,162 39	1,162 39
August 22.....	Charles Smith.....	1,783 10	1,781 60
August 23.....	George Vas Mendes.....	347 80	347 80
August 27.....	Duncan Smith.....	720 37	720 37
August 27.....	Thomas Collins.....	1,513 20	1,513 20
August 27.....	Sarah Zengler.....	234 50	85 20

ADMINISTERED.

Funeral Expenses, Expenses of Last Illness, Debts and Family Allowances Paid by Administrator.....	Fees and Expenses Paid by Administrator.....	Moneys on Deposit with Union Trust Company to Credit of Estates of Decedents.....	Property, Exclusive of Money, in Hands of Administrator.....	Distributed to Heirs....	Cash on hand (in Bank).
\$520 00	7170 79	430 00	50 00	.....	260 91
397 50	724 71	3,902 50	.....	.....	258 59
.....	8 50	.....	400 00	.....	.....
17 50	497 96	3,060 30	182 35	.....	.....
.....	14 50	.....	800 00	.....	118 35
.....	42 21	50 09	.....	.....	.....
.....	3 75	.....	2,466 00	.....	.....
80 00	56 52	149 48	1,020 00	.....	.....
.....	52 35	.....	700 00	.....	.....
.....	18 00	.....	.....	.....	32 00
.....	1 00	.....	.....	.....	.....
75 00	154 30	175 00	217 59	.....	327 70
.....	1 25	.....	.....	.....	.....
28 05	2 25	.....	.....	.....	.....
.....	15 00	.....	.....	.....	307 53
50 00	14 50	.....	.....	.....	59 95
.....	1 25	.....	.....	.....	.....
127 50	26 75	2,248 43	19 10	.....	566 90
100 00	67 35	760 58	.....	.....	234 46
230 00	13 75	1,070 00	1 50	.....	467 85
128 50	14 00	21 50	.....	.....	183 80
.....	40 00	475 00	.....	.....	205 37
.....	64 25	950 00	.....	.....	498 95
.....	22 50	.....	149 30	.....	62 70

ESTATES OF DECEDENTS

Date of Issuance of Letters of Administration	NAMES OF DECEDENTS.	Approximate Value of estate as far as ascertained.....	Money which has come into the hands of the Administrator.....
August 28.....	Johann Iglehaut.....	\$300 00	.....
September 5.....	Charles Anderson.....	2,000 00	\$63 14
September 5.....	Samuel Silberstein.....	435 30	435 30
September 5.....	Marie L. Ashton.....	1,000 00	.....
September 12.....	Albert Lang.....	1,091 00	1,060 90
September 12.....	Julius Bitters.....	790 60	790 60
September 14.....	Andre Sarrazin.....	613 65	501 65
September 17.....	Elma M. Taylor.....	45,000 00	.....
September 17.....	John Hurley.....	2,000 00	.....
September 20.....	Lewis B. Park.....	4,972 32	1,533 40
September 20.....	*Caroline Llewellyn.....	6,000 00	428 05
September 21.....	John R. Craigen.....	3,500 00	.....
October 4.....	John Kratz.....	5,258 25	5,131 20
October 5.....	Louis Hamm.....	.....	.....
October 15.....	David Hartigan.....	404 50	404 50
October 16.....	Josephine Mahe.....	165 00	138 79
October 16.....	Henry Lawson.....	10,659 25	10,659 25
October 19.....	Catherine Liske.....	250 13	250 13
October 19.....	Thomas McDermott.....	82 88	52 88
October 19.....	C. H. Henkel.....	8,893 60	2,000 00
October 23.....	Thomas Aylward.....	8,339 60	8,315 10
October 23.....	Jane Brooks.....	.....	.....
November 12.....	George Ivoevich.....	.....	.....
November 15.....	Harry Brown.....	6,500 00	354 82
November 15.....	Victor Roos.....	6,000 00	.....

* Property delivered to succeeding executor.

ADMINISTERED—CONTINUED.

Funeral Expenses, Expenses of Last Illness, Debts and Family Allowances Paid by Administrator.....	Fees and Expenses Paid by Administrator.....	Moneys on Deposit with Union Trust Company to Credit of Estates of Decedents.....	Property Exclusive of Money in Hands of Administrator.....	Distributed to Heirs.....	Cash on hand (in Bank)
.....	\$1 00	.....	.....	.....	.....
.....	17 80	.....	\$1,936 86	.....	\$45 34
206 00	24 75	.....	.....	.....	114 55
.....	1 00	.....	.....	.....	.....
.....	100 60	\$625 00	30 10	.....	335 30
.....	23 50	600 00	.....	.....	167 10
.....	37 75	300 00	112 00	.....	163 90
.....	27 50	.....	.....	.....	.....
.....	1 50	.....	.....	.....	.....
246 32	33 25	774 00	3,438 92	.....	479 83
.....	167 25	.....	.....	.....	.....
.....	1 75	.....	.....	.....	.....
227 00	331 75	3,673 00	127 05	.....	899 45
.....	1 00	.....	.....	.....	.....
100 00	15 00	.....	.....	.....	289 50
.....	14 75	.....	26 21	.....	124 04
154 00	215 10	7,942 65	.....	.....	2,347 50
.....	14 50	.....	.....	\$30 00	205 63
.....	16 00	.....	30 00	.....	36 88
317 50	36 50	717 50	68 93	.....	928 50
275 50	171 00	7,036 35	34 50	.....	832 25
.....	1 00	.....	.....	.....	.....
.....	1 15	.....	.....	.....	.....
.....	3 25	.....	4,000 00	.....	351 37
.....	2 25	.....	.....	.....	.....

ESTATES OF DECEDENTS

Date of Issuance of Letters of Administration.	NAMES OF DECEDENTS.	Approximate Value of estate as far as ascertained.....	Money which has come into the hands of the Administrator.....
November 20.....	Edward Barry.....	\$70 00	\$70 00
November 21.....	Margaret A. Kennedy.....	400 00	.....
November 22.....	Joseph Whiteside.....	2,000 00	.....
November 26.....	D. E. Wehrenberg.....	8,467 74	5 60
November 28.....	Louis Walter.....	4,500 00	3,973 33
November 30.....	Edward Gorman.....	445 00	440 00
December 4.....	Seth Lovell.....	1,000 00	.....
December 5.....	John McCarthy.....	725 80	80
December 5.....	Mary Kells.....	2,475 00	750 00
December 7.....	Frank Byron.....	180 00	.....
December 10.....	Alexander Blondeau.....	2,214 47	2,214 47
December 12.....	Mary A. Baker.....	6,000 00	.....
December 12.....	John Ray (special).....	.....	.....
December 14.....	M. T. Boland.....	1,957 14	45
December 18.....	Daniel Thompson.....	4,500 00	.....
December 21.....	Mowry P. Sweet (special).....	250 24	250 24
December 28.....	John Robbins.....	150 00	146 00
December 28.....	George McGuire.....	420 00	416 85
December 28.....	Moses Adler.....	9,991 05	12 05
December 31.....	John P. Harrington (special).....	15,000 00	383 86
1901.		\$202,158 09	\$61,433 69
January 4.....	William Flett.....	\$174 35	\$174 35
January 7.....	Mowry P. Sweet.....	250 24	250 24
January 11.....	Catherine D. Eldridge, alias.....	12,800 65	1,280 30
January 15.....	Margaret McCourt.....	692 85	692 85

ADMINISTERED—CONTINUED.

Funeral Expenses, Expenses of Last Illness, Debts and Family Allowances Paid by Administrator.....	Fees and Expenses Paid by Administrator.....	Moneys on Deposit with Union Trust Company to Credit of Estate of Decedents.....	Property, Exclusive of Money, in Hands of Administrator.....	Distributed to Heirs.....	Cash on hand (in Bank).
	\$ 25				\$61 75
	1 50		\$400 00		
	1 00				
	13 75		8,462 14		
	1 25	\$3,000 00			972 08
	103 60		5 00		336 40
	1 25				
	1 25		725 00		
\$376 07	76 25	48 93	1,725 00		248 75
	2 00				
	25	2,000 00			214 22
	1 60		6,000 00		
	7 10				
	1 25		1,956 69		
	1 50				
	3 00				247 24
	41 75		4 00		104 25
	1 50		3 15		415 35
	1 50		9,979 00		10 55
	1 50		7,483 86		382 36
\$3,746 44	\$3,559 49	\$40,010 21	\$59,368 32	\$30 00	\$13,908 45
\$114 50	\$26 95				\$32 90
90 00	35 02				125 22
	371 90		\$11,520 35		908 40
	37 75	\$64 55		\$590 55	

ESTATES OF DECEDENTS

Date of Issuance of Letters of Administration	NAMES OF DECEDENTS.	Approximate Value of estate, as far as can be ascertained.....	Money which has come into the hands of the Administrator
January 16.....	John Breiholz.....	\$621 40	\$621 40
January 22.....	Edward Benson.....	797 05	347 05
January 29.....	Isaac C. Gillet.....	207 20	205 20
January 29.....	John Desmond.....	413 85	413 85
January 29.....	Denis Collins.....	2,504 35	2,501 35
January 29.....	Emma L. Connor.....	2,500 00	.....
January 30.....	Thomas W. Mahoney.....	17,000 00	.....
January 30.....	S. W. Houlton.....	.....	.....
February 1.....	Daniel Mahoney.....	35,383 75	1,651 70
February 5.....	William T. Foley.....	171 54	171 54
February 5.....	George S. Davidson.....	170 15	170 15
February 5.....	William Moore.....	444 65	444 65
February 5.....	Frederick Thorfest.....	60 00	60 00
February 14.....	Patrick McGreal.....	1,500 00	.....
February 19.....	Halldor Johnson.....	700 00	700 00
February 19.....	John Regan.....	5,167 95	1,167 95
February 19.....	Hermann Warnecke.....	306 90	306 90
February 20.....	Nannie B. Craigen.....	5,000 00	.....
February 21.....	Charles A. Johnson.....	.....	.....
February 27.....	John Harris (special).....	10,057 70	57 70
February 28.....	Eliza Montgomery.....	350 15	350 15
February 28.....	John Wagner.....	646 50	646 50
March 4.....	John Sinclair.....	457 30	457 30
March 5.....	Hyman Clinowsky.....	1,634 80	1,296 30
March 8.....	H. A. Iddings.....	8,317 75	562 75

ADMINISTERED—CONTINUED.

Funeral Expenses, Expenses of last illness, Debts and Family Allowances Paid by Administrator.....	Fees and Expenses paid by Administrator.....	Moneys on Deposit with Union Trust Company to Credit of Estates of Decedents.....	Property Exclusive of Money in Hands of Administrator.....	Distributed to Heirs....	Cash on hand (in Bank)..
166 00	\$120 95	\$334 00			80 45
142 00	137 30		\$450 00		67 75
94 30	14 25		2 00		96 65
132 75	22 00	87 25			171 85
200 00	309 97	1,800 00	3 00		191 38
	1 00				
20 00	1 00				
	50				
299 06	694 64		33,732 05		658 00
82 75	27 50				61 29
85 00	28 51				56 64
159 50	49 13				236 02
	18 20				41 80
	3 50		1,500 00		
111 00	103 00				486 00
265 00	535 80	135 00	4,000 00		232 15
100 00	38 25				168 65
	1 00				
	1 00		*10,000 00		56 70
90 00	12 25				247 90
	14 00				632 50
113 50	33 00				310 80
	187 88	600 00	338 50		508 42
	11 00		7,755 00		551 75

*Property delivered to succeeding executor.

ESTATES OF DECEDENTS

Date of Issuance of Letters of Administration	NAMES OF DECEDENTS.	Approximate Value of estate as far as ascertained.....	Money which has come into the hands of the Administrator.....
March 11.....	Thomas Young.....	\$71 45	\$71 45
March 12.....	Anna Mary Webb.....	14,580 04	634 50
March 12.....	Thomas Molloy.....	1,121 60	1,121 60
March 12.....	August Knop.....	5,651 97	5,651 97
March 14.....	Camille Demaroff.....	310 00	310 00
March 14.....	Ralph McIntyre.....	2,342 87	2,326 42
March 18.....	William Ward.....	3,100 00	588 33
March 18.....	Henry B. Holdof.....	973 75	973 75
March 18.....	Owen Langan.....	4,155 26	155 25
March 18.....	John Drech.....	2,600 00	170 80
March 18.....	Ashbury F. Dyer.....	250 00	.....
March 25.....	Denis O'Leary.....	8,507 44	2,257 44
March 26.....	C. F. Knutsen.....	268 30	268 30
March 27.....	Sarah Franklin.....	200 00	.....
April 11.....	Johanna McCarthy.....	300 00	.....
April 11.....	W. F. G. Nibel.....	195 40	195 40
April 11.....	Frank S. Campbell.....	135 90	135 90
April 16.....	James Dunn.....	134 30	134 30
April 16.....	Mary Ann Riordan.....	17,517 39	1,298 76
April 18.....	Henri Grougnel.....	2,904 50	2,904 50
April 18.....	Eliza M. Wilson.....	1,535 10	185 10
April 19.....	Frank J. Belcher (special).....	.....	.....
April 22.....	G. A. Kornberg (special).....	500 00	.....
April 22.....	Elizabeth Dorgan.....	240 95	240 95
April 22.....	Charley Daniel.....	500 00	350 70

ADMINISTERED—CONTINUED.

Funeral Expenses, Expenses of Last Illness, Debts and Family Allowances Paid by Administrator.....	Fees and Expenses Paid by Administrator.....	Moneys on Deposit with Union Trust Company to Credit of Estates of Decedents.....	Property Exclusive of Money in Hands of Administrator.....	Distributed to Heirs. ...	Cash on Hand (in Bank).
	\$14 00				\$57 45
\$125 00	181 63		\$13,945 54		327 87
128 00	57 50	\$800 00			138 10
250 00	34 25	4,532 87			784 85
102 00	50 04				177 96
448 35	234 70		16 45		1,643 37
	35 50		2,511 67		552 83
	14 00	500 00			450 75
60 00	27 50		4,000 00		37 75
	101 25		2,429 20		69 55
	1 50		250 00		
329 00	151 25	1,171 00	6,250 00		606 19
	7 50				290 80
	1 00		200 00		
	1 00		300 00		
91 50	7 50				96 40
	9 50				136 40
75 00	1 00				58 30
	138 50		16,218 63		1,160 26
212 25	27 00	2,000 00			655 25
	7 00		1,350 00		178 10
	2 00				
	1 00				
145 00	1 50				94 45
90 00	8 50		149 30		252 20

ESTATES OF DECEDENT

Date of Issuance of Letters of Administration	NAMES OF DECEDENTS.	Approximate Value of estate as far as ascertained.....	Money which has come into the hands of the Administrator.....
May 2.....	Duncan C. McCrimmon.....		
May 2.....	H. W. Moller.....	\$320 45	320 45
May 2.....	James E. Putnam.....	4,511 50	4,511 50
May 9.....	Catherine O'Donnell, alias.....	4,429 18	429 18
May 9.....	Vincent M. Lucco.....		
May 13.....	James Clune.....	255 15	255 15
May 13.....	James Fitzpatrick.....	248 90	223 90
May 16.....	John Sweeney.....	3,480 32	3,480 32
May 16.....	Theodore Lagoniski.....	2,200 00	
May 16.....	John Siebel.....	6,315 63	6,315 63
May 21.....	Ann Bouley, alias.....	6,002 00	3,002 00
May 21.....	Nicholas Rensky.....	2,397 20	2,397 20
May 23.....	Thomas Barber.....	94 55	94 55
May 23.....	Frank Tilford.....		
May 28.....	Emil Lubeck.....	4,458 45	1,958 45
May 28.....	Abe Rodnick.....	4,018 09	4,018 09
June 7.....	William Dillon (special).....	21,500 00	2,101 00
June 14.....	John F. Buhler (special).....		
June 24.....	Catherine Cushing.....	660 00	
June 24.....	Larus Erickson, alias.....	9,667 85	1,000 85
June 26.....	Ole Olsen.....	245 00	
June 26.....	J. M. Smith.....	90 00	
		\$247,321 56	\$64,613 85

ADMINISTERED—CONTINUED.

Funeral Expenses, Expenses of Last Illness, Debts and Family Allowances Paid by Administrator.....	Fees and Expenses Paid by Administrator.....	Money on Deposit with Union Trust Company to Credit of Estates of Deceaseds.....	Property Exclusive of Money in Hands of Administrator.....	Distributed to Heirs.....	Cash on hand (in bank).
\$90 00	\$8 25				22 20
	51 75				4,459 75
203 40	37 95		\$4,000 00		187 83
77 00	1 75				176 40
75 00	1 25		25 00		147 65
200 00	58 75	\$2,500 00			721 57
	2 00		2,200 00		
	53 60	5,300 00			1,062 63
523 00	76 50	1,877 00	3,000 00		525 50
	32 25	1,880 00			484 95
					94 55
75 00	133 00		2,500 00		1,750 45
	1 25	3,400 00			616 84
	40 95		19,399 00		2,060 05
	1 00				
	1 00		660 00		
	1,910 00		8,667 00		
	1 00		245 00		
	1 00				
\$5,562 86	\$5,496 02	\$26,881 67	\$157,617 69	\$500 55	\$26,131 42

ASSESSOR'S REPORT.

San Francisco, July 1, 1901.

To the Honorable Jas. D. Phelan, Mayor

Of the City and County of San Francisco—

Dear Sir: In compliance with Article XVI, Section 9, of the Charter, I herewith submit my annual report as City and County Assessor.

On July 1st I delivered to John A. Russell, Esq., Clerk of the Board of Supervisors, the Assessment Rolls as required by law.

Under present conditions, the amount of the Assessment Roll is of vital importance in our municipal affairs. As the tax rate, under the new Charter, is limited to one dollar on the hundred, the amount of the Assessment Roll, rather than the rate of taxation, must determine our yearly revenue from taxation; hence greater needs in the way of public improvements, or in other directions, can only be provided for by means of an increase in the amount of the Assessment Roll. Knowing our present needs, it is a matter of congratulation that the Assessment Roll for the coming year amounts to \$415,195,184. This insures a revenue at least \$300,000 greater than that which the Honorable Board of Supervisors had at its disposal last July when making their appropriations.

This additional revenue, together with the unexpended surplus of last year, due to a similar increase in the Assessment Roll of that year, gives a total of \$568,000 which is now available for needed public improvements, and for liquidating the City's indebtedness to its creditors, including its school teachers and merchants

While our revenue has been thus increased, largely through the assessment of newly discovered property, there have been large reductions made in the assessment of certain kinds of property, amounting to millions of dollars, as shown in the following table:

Roll of 1900.....		\$410,155,304
Reductions on old dwellings.....	\$3,700,000	
Reductions on outlying real estate.....	2,500,000	
Loss on church property.....	1,500,000	
Loss on National Bank stock.....	1,700,000	
Loss on estates.....	2,180,000	
		<hr/>
Total loss	\$11,580,000	
Remaining		398,575,304

This loss in the Roll was made up by the following increases:

Remaining		\$398,575,304
Newly discovered property.....	\$10,125,000	
Increase business real estate.....	4,500,000	
Other additions.....	1,994,880	
		<hr/>
Total Roll 1901.....		\$415,195,184

The reductions made in the assessed value of dwellings and of suburban real estate have afforded relief to 20,000 taxpayers, and aggregate \$6,200,000. Notwithstanding these reductions, the additions made to the Roll during the past two years have added at least \$600,000 to the yearly revenue of the City. It will be observed, however, that this great increase in our yearly revenue has not been derived by the simple process of increasing the assessed valuation of all property; nor is it due to the increased assessment of real estate. An examination of the Roll will show that real estate is assessed this year for \$192,000,000, while in 1899, prior to these additions, it was assessed for \$189,000,000. This increased revenue is almost entirely due to an increase of \$55,000,000 in the assessed value of newly discovered personal property, all of which has been, and is now, in the possession of those individuals and corporations who had not heretofore contributed their just share of taxes, but who are now willingly bearing their proportionate burden. The effect of this policy is strikingly shown by the following facts:

In 1897-98, out of every \$100 in taxes collected, real estate contributed \$81, while to-day it pays only \$69 out of each \$100 collected. To this extent, then, has the real estate owner been benefited by the increased assessment of personal property.

The total tax rate this year will be lower than it has been for forty years, with the exception of four years during this period, and the low local rate of these four years resulted in a large deficiency, which had to be met by an increased rate the following year; while this year, with this low rate, we should have a surplus. Thus while the great mass of taxpayers are contributing less in taxes, the revenue of the City has been greatly increased.

While the Roll of this year exceeds the sum on which the Board of Supervisors based the City's revenue by ten millions, it will probably produce but a very small surplus, as the amount of last year's Roll standing delinquent to-day, including National Bank stock, amounts to \$9,500,000.

In conclusion, I desire to draw your Honor's attention to the fact that, while a much greater amount of work is being performed by this office than formerly, there is being saved to the City in salaries alone over \$20,000 a year.

Respectfully yours,

WASHINGTON DODGE, Assessor.

ASSESSOR'S REPORT.

ASSESSOR'S STATISTICAL REPORT OF THE MECHANICAL
AND MANUFACTURING INDUSTRIESOF THE CITY AND COUNTY OF SAN FRANCISCO FOR THE FISCAL YEAR ENDING
JUNE 30, 1901.

AGRICULTURAL IMPLEMENT MANUFACTORIES—7.

Men employed..... 200 | Value of manufactures..... \$375,000

AIR COMPRESSOR MANUFACTORIES—5.

Men employed..... 110 | Value of manufactures..... \$315,000

ARTIFICIAL STONE MANUFACTORIES—33.

Men employed..... 500 | Value of manufactures..... \$600,000

ARCHITECTURAL IRON MANUFACTORIES—7.

Men employed..... 70 | Value of manufactures..... \$175,000

AXLE GREASE MANUFACTORIES—4.

Men employed..... 30 | Value of manufactures..... \$60,000

BAG MANUFACTORIES (Jute and Hemp)—5.

Men and boys employed..... 130 | Value of manufactures..... \$700,000
Girls employed..... 60 |

BAG MANUFACTORIES (Paper)—2.

Men and boys employed..... 80 | Value of manufactures..... \$75,000
Girls employed..... 30 |

BARREL MANUFACTORIES—23.

Men and boys employed..... 320 | Value of manufactures..... \$600,000

BARBED WIRE AND WIRE NAIL MANUFACTORIES—2.

Men and boys employed..... 75 | Value of manufactures..... \$150,000

BEDDING AND UPHOLSTERING FACTORIES—16.

Men employed..... 310 | Value of manufactures..... \$500,000

BED SPRING MANUFACTORIES—2.

Men employed..... 27 | Value of manufactures..... \$80,000

ASSESSOR'S REPORT.

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BELLOWS MANUFACTORIES—2.

Men employed.....	10		Value of manufactures.....	\$20,000
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BELTING MANUFACTORIES—9.

Men and boys employed.....	60		Value of manufactures.....	\$170,000
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BILLIARD TABLE MANUFACTORIES—4.

Men and boys employed.....	30		Value of manufactures.....	\$60,000
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BOAT BUILDERS—12.

Men employed.....	100		Value of manufactures.....	\$100,000
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BOOK BINDERIES—34.

Men, women, boys employed.....	100		Value of manufactures....	\$800,000
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BRASS FOUNDRIES—10.

Men and boys employed.....	400		Value of manufactures.....	\$350,000
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BOX MANUFACTORIES (Cigar)—5.

Men, boys and girls (white) employed.	60		Value of manufactures.....	\$60,000
Chinese employed.....	80	|	Value of manufactures	\$25,000

BOX MANUFACTORIES (Paper)—10.

Men, boys and girls employed	220		Value of manufactures.....	\$190,000
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BOX MANUFACTORIES (Wooden)—7.

Men and boys employed.....	550		Value of manufactures....	\$750,000
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BREWERIES—35.

Men employed.....	1,150		Beer manufactured, barrels.....	700,000
Hops consumed yearly, pounds.....	650,000		Aggregate value of product.....	\$4,000,000
Barley consumed yearly, tons.....	30,000	|		

BROOM MANUFACTORIES—8.

Men and boys employed.....	100	|	Value of manufactures.....	\$180,000
Chinese employed.....	90	|		

BRUSH MANUFACTORIES—7.

Men and boys employed.....	65		Value of manufactures.....	\$110,000
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CANDLE MANUFACTORIES—5.

Men, boys and girls employed.....	80	Value of manufactures.....	\$85,000
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CARRIAGE AND WAGON MANUFACTORIES—40.

Men and boys employed.....	400	Value of manufactures.....	\$370,000
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COFFEE, SPICE AND CHOCOLATE MANUFACTORIES—27.

Men, boys and girls employed.....	300	Value of manufactures.....	\$2,200,000
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CONFECTIONERY MANUFACTORIES—23.

Men, boys and girls employed.....	400	Value of manufactures.....	\$700,000
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CIDER MANUFACTORIES—5.

Men employed.....	20	Value of manufactures.....	\$15,000
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CIGAR MANUFACTORIES—321.

Men, women and boys (white) employed.....	500		Cigars manufactured.....	58,650,000
Chinese employed.....	800		Cigarettes manufactured.....	5,200,000
			Value of manufactures.....	\$2,000,000

CRACKER MANUFACTORIES—3.

Men, boys and girls employed.....	400	Value of manufactures.....	\$1,750,000
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CAR MANUFACTORIES—4.

Men employed.....	80	Value of manufactures.....	\$150,000
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CHEMICAL WORKS—6.

Men employed.....	100		Value of manufactures.....	\$1,500,000
Chinese employed.....	40			

CLOTHING MANUFACTORIES—30.

Men, women and boys employed (white)	800	|	Value of manufactures.....	\$1,500,000
Chinese employed.....	250			

COPPERSMITHS—12.

Men and boys employed.....	50	Value of manufactures.....	\$100,000
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CORDAGE AND ROPE FACTORIES—2.

Men, boys and girls employed.....	250	Value of manufactures.....	\$700,000
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ASSESSOR'S REPORT.

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CLOAK MANUFACTORIES—30.

Women employed..... 700 | Value of manufactures..... \$500,000

COFFIN MANUFACTORIES—3.

Men and boys employel..... 50 | Value of manufactures..... \$150,000

CUTLERY MANUFACTORIES—4.

Men employed..... 40 | Value of manufactures \$25,600

DRY DOCKS (FLOATING)—2.

Men employed..... 80 | Capacity of docks—1st, 4,500 tons.....
2d, 2,000 tons..... 6,500

DRY DOCKS (STONE)—1.

Length of excavation in rock, feet....	490	Capacity of drawing, feet.....	22
Width of top, feet.....	126	Capacity of pumps for cleaning per	
Capacity of length.....	425	hour, cubic feet.....	326,316
		Total cost of work.....	\$675,000

ELECTRIC-MACHINE WORKS—6.

Men employed..... 400 | Value of manufactures..... \$700,000

ELECTRIC-LIGHTING COMPANIES—6.

Men and boys employed.....	1,200	Horse-power of motors.....	15,000
Number of incandescent lights.....	150,000	Coal used, tons.....	90,000
Number of arc lights.....	6,500	Value of manufactures.....	\$3,750,000

ELECTRIC SUPPLY MANUFACTORIES—20.

Men employed 180 | Value of manufactures..... \$340,000

ELEVATOR MANUFACTORIES—3.

Men and boys employed..... 80 | Value of manufactures \$150,000

FERTILIZER MANUFACTORIES—8.

Men and boys employed.... 100 | Value of manufactures..... \$330,000

FIRE-WORKS MANUFACTORIES—1.

Men and boys employed.....	20	Value of manufactures.....	\$50,000
Chinese employed.....	12		

FLOUR, FEED AND MEAL MILLS—12.

Men and boys employed 360 | Value of manufactures..... \$3,000,000

ASSESSOR'S REPORT.

FOUNDRIES AND MACHINE WORKS—51.

Men and boys employed.....	5,500		Value of manufactures.....	\$7,500,000
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FRINGE MANUFACTORIES—5.

Men and women employed.....	130		Value of manufactures.....	\$27,000
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FRUIT CANNING AND PRESERVING FACTORIES—11.†

Men, women and boys employed.....	2,500		Value of fruits, vegetables and meats	\$3,700,000
Chinese employed.....	350	|		

FUR MANUFACTORIES—6.

Men and women employed.....	190		Value of manufactures.....	\$310,000
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GAS WORKS—4.

Men employed.....	1,200		Value of manufactures.....	\$4,500,000
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GAS-ENGINE WORKS—7.

Men employed.....	110		Value of manufactures.....	\$300,000
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GLASS WORKS—15.

Men and boys employed.....	175		Value of manufactures.....	\$1,300,000
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GLASS STAINING, CUTTING AND BENDING WORKS—5.

Men and boys employed.....	50		Value of product.....	\$200,000
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GLOVE MANUFACTORIES—21.

Men, boys and women employed.....	465		Value of manufactures.....	\$540,000
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GLUE MANUFACTORIES—2.

Men and boys employed.....	25		Value of manufactures.....	\$75,000
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GLYCERINE MANUFACTORIES—2.

Men employed.....	10		Value of product.....	\$25,000
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HARNESS MANUFACTORIES—37.

Men and boys employed.....	330		Value of manufactures.....	\$700,000
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HAT AND CAP MANUFACTORIES—8.

Men and women employed.....	190		Value of manufactures.....	\$500,000
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ASSESSOR'S REPORT.

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ICE MANUFACTORIES—4.

Men employed..... 100 | Value of product \$210,000

INK AND MUCILAGE MANUFACTORIES—1.

Men employed..... 14 | Value of product \$40,000

IRON-FENCE MANUFACTORIES—7.

Men and boys employed..... 50 | Value of manufactures..... \$75,000

JAPANNING AND GALVANIZING FACTORIES—3.

Men and boys employed 40 | Value of manufactures \$110,000

JEWELRY AND SILVERWARE MANUFACTORIES—35.

Men employed..... 200 | Value of manufactures..... \$900,000

LAUNDRIES (WHITE, 139; CHINESE, 151)—290.

Men, women and boys empl'y'd (white) 1,600 | Chinese employed..... 850

LAST MANUFACTORIES—3.

Men employed..... 14 | Value of manufactures..... \$15,000

LEAD PIPE AND SHOT FACTORY—1.

Men employed..... 60 | Value of manufactures..... \$500,000

LINSEED-OIL WORKS 1.

Men employed..... 60 | Value of product..... \$170,000

MACARONI AND VERMICELLI FACTORIES—16.

Men and boys employed 210 | Value of manufactures \$140,000

MALT HOUSES—6.

Men employed..... 120 | Value of manufactures \$750,000

MARBLE WORKS—22.

Men and boys employed 150 | Value of product \$210,000

MATCH FACTORIES—4.

Men and boys employed..... 60 | Value of manufactures \$65,000
 Chinese employed..... 20 |

ASSESSOR'S REPORT.

MILINERY MANUFACTORIES -110.

Women employed.....	650	Value of product.....	\$810,000
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MUSICAL INSTRUMENT MANUFACTORIES-14.

Men and boys employed.....	70	Value of manufactures.....	\$110,000
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NEATSFOOT OIL MANUFACTORIES-1.

Men employed.....	5	Value of manufactures	\$5,000
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OAKUM MANUFACTORIES-1.

Men employed.....	20	Value of manufactures.....	\$20,000
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PAINT MANUFACTORIES-8.

Men and boys employed.....	90	Value of product	\$630,000
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PICTURE FRAME MANUFACTORIES-11.

Men and boys employed.....	270	Value of product.....	\$350,000
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PUMP AND PUMPING MACHINERY MANUFACTORIES-14.

Men employed	110	Value of product.....	\$500,000
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PROVISION PACKING HOUSES-11.

Men employed.....	800	Value of product.....	\$3,500,000
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RUBBER MANUFACTORIES-3.

Men employed.....	100	Value of manufactures.....	\$300,000
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RUBBER STAMP MANUFACTORIES-14.

Men and boys employed.....	70	Value of product.....	\$60,000
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SAFE AND VAULT WORKS-7.

Men employed.....	20	Value of manufactures	\$100,000
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SAW AND PLANING MILLS-17.

Men and boys employed.....	800	Value of product.....	\$1,000,000
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SHIRT MANUFACTORIES-40.

Men, women and boys employed.....	830	Value of manufactures	\$1,700,000
Chinese employed.....	700		

SAW MANUFACTORIES-10.

Men employed.....	50	Value of manufactures... ..	\$200,000
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SASH, DOOR AND BLIND FACTORIES—11.

Men and boys employed.....	250		Value of manufactures.....	\$305,000
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SHIP YARDS—6.

Men employed.....	1,000		Value of product	\$3,000,000
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SALT WORKS—4.

Men and boys employed.....	50		Value of product.....	\$100,000
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SHOE FACTORIES—16.

Men and boys employed.....	500		Value of manufactures.....	\$2,300,000
Chinese employed.....	250			
Girls employed.....	200			

SOAP FACTORIES—15.

Men employed.....	150	|	Value of manufactures.....	\$550,000
Soap made annually, pounds.....	11,000,000			

SODA WATER WORKS—11.

Men employed.....	70		Value of manufactures.....	\$150,000
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SOLDER AND BABBITT WORKS—3.

Men employed.....	35		Value of manufactures.....	\$80,000
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SHOW-CASE FACTORIES—4.

Men employed.....	15		Value of product.....	\$20,000
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SUGAR REFINERIES—1.

Men and boys employed.....	700		Sugar (yellow) made, pounds	12,886,050	
Sugar (raw) used, pounds	368,379,880			Syrup made, gallons.....	621,740
Sugar (white) made, pounds.....	338,434,435			Value of manufactures.....	\$14,211,516

SYRUP AND CORDIAL FACTORIES—4.

Men employed.....	25		Value of manufactures.....	\$25,000
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TANNERIES, HIDES—22.

Men employed.....	240		Value of manufactures.....	\$1,310,000
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TANNERIES OF SHEEP SKINS—3.

Men employed.....	90		Value of product.....	\$150,000
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ASSESSOR'S REPORT.

TINWARE AND TIN-CAN FACTORIES—3.

Men and boys employed.....	650		Value of manufactures.....	\$1,700,000
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TRUNK MANUFACTORIES—20.

Men and boys employed.....	60		Value of product.....	\$125,000
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TYPE FOUNDRIES—5.

Men employed.....	150		Value of manufactures.....	\$100,000
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TANK MANUFACTORIES—23.

Men employed.....	30		Value of product.....	\$60,000
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VARNISH MANUFACTORIES—5.

Men employed.....	16		Value of manufactures.....	\$60,000
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VENEERING MANUFACTORIES—2.

Men employed.....	35		Value of product.....	\$55,000
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VINEGAR AND PICKLE FACTORIES—12.

Men and boys employed.....	150		Value of manufactures.....	\$160,000
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WHITE-LEAD MANUFACTORIES—4.

Men employed.....	75		Value of manufactures.....	\$300,000
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WIND-MILL MANUFACTORIES—7.

Men employed.....	60		Value of manufactures.....	\$100,000
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WIRE AND WIRE-ROPE MANUFACTORIES—2.

Men employed.....	300		Value of manufactures.....	\$1,500,000
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WILLOW AND WOODEN-WARE MANUFACTORIES—4.

Men employed.....	65		Value of manufactures.....	\$90,000
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WOOLEN MILLS—1.

Men, women and boys employed.....	125		Value of product.....	\$350,000
Chinese employed.....	20			

WHIP MANUFACTORIES—3.

Men, women and boys employed.....	16		Value of manufactures.....	\$25,000
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ASSESSOR'S REPORT.

WOOD-TURNING AND CARVING MANUFACTORIES—12.

Men and women employed.....	200		Value of product.....	\$125,000
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WATER-WHEEL MANUFACTORIES—3.

Men employed.....	70		Value of manufactures.....	\$300,000
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WOMEN'S AND CHILDREN'S UNDERWEAR MANUFACTORIES—16.

Women employed.....	200		Value of product.....	\$300,000
Chinese employed.....	570			

WOOL SCOURING AND GRADING HOUSES—9.

Men and women employed.....	300		Wool scoured, pounds.....	125,000,000
Wool produced, pounds.....	36,500,000		Value of product.....	\$2,000,000

REPORT OF CITY ATTORNEY.

SAN FRANCISCO, July 1, 1901.

To the Honorable James D. Phelan, Mayor
Of the City and County of San Francisco—

Sir: In accordance with Resolution No. 1643 of the Board of Supervisors and in compliance with Section 9 of Article XVI of the Charter, I herewith submit a report of the business of this office for the fiscal year ending June 30, 1901.

The following is a summarization of the report:

Number of opinions rendered.....	139
Number of decisions by Superior Court.....	73
In favor of the City or its officers.....	52
Against the City or its officers.....	21
Number of decisions by Supreme Court.....	18
In favor of the City or its officers.....	12
Against the City or its officers.....	6
Number of decisions by United States Circuit Court of Appeals against the City or its officers.....	1
Number of decisions by United States District Court in favor of the City or its officers.....	1
Number of cases pending in Superior and Justices' Courts.....	281
Number of cases pending in Supreme Court.....	18
Number of cases pending in United States Circuit Court.....	25
Number of cases pending in the Superior Court of Sacramento County..	1
Number of cases pending in the Superior Court of Alameda County....	1
Number of cases pending in the Superior Court of San Joaquin County	1
Total number of cases in office.....	327
Number of suits begun against the City and County or its officers during fiscal year.....	181

Respectfully,

FRANKLIN K. LANE,
City Attorney.

OPINIONS AND COMMUNICATIONS.

TO THE MAYOR.

July 1, 1900—Transmitting Report for fiscal year 1899-1900.

October 5, 1900—As to the approval by Mayor of demands on Urgent Necessity Fund.

October 6, 1900—As to whether it is necessary for the Mayor to issue a proclamation for the election to be held on November 6, 1900.

December 31, 1900—Reporting condition of and work done in the office of the City Attorney for the year ending December 31, 1900.

January 21, 1901—Transmitting note and mortgage in the matter of the Baldwin loan.

March 13, 1901—As to whether a franchise may be passed to print at one meeting of the Supervisors and finally passed at the next meeting.

April 3, 1901—As to the bond of the Pacific States Telephone and Telegraph Company.

May 4, 1901—Transmitting certificate of title to Widber property in Alameda County.

June 7, 1901—As to when the obligation for work done in any fiscal year arises.

June 7, 1901—Transmitting a record of the judgments in the Mackay cases.

June 17, 1901—Requesting evidence to be used in the trial of the People of the State of California v. San Francisco.

TO THE BOARD OF SUPERVISORS.

July 17, 1900—As to the power of the Supervisors to subdivide Park Fund or to direct how any portion thereof shall be used.

July 20, 1900—As to whether in an award of contract the number on the schedule is a sufficient identification.

July 24, 1900—As to the power to pass a bill "Regulating the hours of labor of persons engaged in the wholesale fish business."

July 30, 1900—Transmitting copy of opinion of Judge Murasky in *Barto v. Board of Supervisors*.

August 8, 1900—As to whether there is any conflict between proposed new fire Ordinance and Section 11, Chapter I, Article II, of the Charter.

August 10, 1900—As to the power of the Board to fix telephone rates.

August 13, 1900—As to when amendments to the Charter may be submitted to the people.

August 20, 1900—As to the refunding of license taxes paid for selling fireworks.

August 24, 1900—As to whether the Board has the power to allow expert witness fees to a person who is serving as a city official.

August 24, 1900—As to the power of the Board to appoint a Japanese interpreter for the Police Courts.

August 27, 1900—As to the right of Gray Bros. to operate an engine and boiler under an assigned permit.

August 29, 1900—As to whether the Pound limits should be co-extensive with the boundaries of the City and County.

August 30, 1900—Requesting that abstract of title be furnished this office.

September 4, 1900—As to the petition of Christian Hellywig for a deed to a portion of Serpentine avenue.

September 5, 1900—As to the granting of permission to the San Francisco Special Messenger Service to erect and maintain overhead wires.

September 14, 1900—As to the procedure to be followed in the absence of a quorum of the Board.

September 14, 1900—As to the acceptance of \$1,225 for Widber place in Santa Clara County.

September 17, 1900—As to the power of the Board to refund taxes on quasi-public corporation bonds where suit has not been brought within six months after payment.

September 18, 1900—As to a proposed quitclaim deed from A. C. Widber to all real estate owned by him.

September 19, 1900—As to the liability of the City for injury to State wharves.

September 20, 1900—Report on the abstract of title and certificate of search to

the right of way of the San Francisco and San Jose Railroad through blocks 5 and 6 as the same are laid down on "West End Map No. 2."

September 22, 1900—As to the resolution granting permission to the Market-street Railway Company to operate its Fifth street by electricity.

September 26, 1900—As to whether the Board of Health, Board of Fire Commissioners, Department of Electricity, Board of Public Works, City and County Hospital and City and County Almshouse may pay for stationery and printing out of their appropriations.

September 29, 1900—As to the power of the Board to return fees voluntarily paid to a county officer.

September 29, 1900—As to the claim of ownership of Lillie E. Winans to a portion of Randall street.

October 5, 1900—Requesting abstract of title to property bounded by Channel, Seventh, De Haro, Berry and Alameda streets.

October 10, 1900—Transmitting list of cases for the purpose of receiving taxes paid under protest.

October 15, 1900—As to whether surplus revenue arising from the increased Assessment Roll is available this fiscal year.

November 5, 1900—As to Resolution No. 640 relating to proposed resolution of intention to change certain street grades.

November 14, 1900—As to the publication by the Tax Collector of a list of properties to be sold under direction of State Controller for non-payment of taxes.

November 19, 1900—Advising Supervisors that the Widber property at Mountain View was bought by City at Sheriff's sale.

November 19, 1900—Requesting permission to engage expert testimony on trial of the case of De Boom v. City and County.

November 20, 1900—As to the power of the Supervisors to permit the use of a room in the City for Grand Army Post meetings.

November 23, 1900—Requesting alterations in the additional room assigned to the City Attorney.

November 24, 1900—As to the proposed purchase of an option upon the franchise and plant of the People's Mutual Telephone Company by the City and County.

November 26, 1900—As to the cancellation of the local assessment of the San Francisco and San Mateo Electric Railway Company.

November 26, 1900—Advising Building Committee of the request for an additional room.

November 30, 1900—As to the legality of the action of the Supervisors on December 1, 1892, overruling objections to and vacating streets and portions of streets in Mission Bay south of Channel street.

December 3, 1900—As to the cases of Dusenberg v. San Francisco and Auerbach v. San Francisco.

December 5, 1900—As to the power to grant permission to the City Warehouse Company to construct and maintain a spur track from the Belt road on Battery street, between Greenwich and Lombard streets.

December 13, 1900—As to the offer of Jean Marie Dupas to dedicate an alley running northerly from Broadway street, 127½ feet east from Powell street, on condition that the City redeem the land from sales made to the State for taxes.

December 14, 1900—As to whether the Charter requires that a majority of the Supervisors or a majority of a quorum be present to amend a resolution prior to its final passage.

December 29, 1900—As to the legality of the demand of the Superintendent of Schools for expenses in attending the convention of County Superintendents.

December 31, 1900—As to certain demands for transportation for persons employed in the City government.

December 31, 1900—Transmitting inventory of books, furniture, etc., contained in the office of the City Attorney.

January 3, 1901—As to whether the City should be charged with any part of the expense in resetting corner, cesspools and curbing on unaccepted streets.

January 30, 1901—As to the power to allow the demands of Sheriffs of other counties where unsuccessful in serving subpoenas to attend the criminal Courts of this City and County.

February 11, 1901—As to whether the demands on the Urgent Necessity Fund in sums exceeding \$500 must be passed for printing.

February 11, 1901—As to the legality of Bill No. 298, granting a franchise to the Bay and Coast Railway.

February 18, 1901—As to the appeal taken in the case of City and County of San Francisco v. Albouze et al.

February 18, 1901—As to the demand of Japanese Interpreter for services rendered in cases before the Insanity Commissioners.

February 25, 1901—As to the payment of the money alleged to have been deposited by order of the Court in the Treasury in trust for certain legatees of Margaret Sullivan, deceased.

March 8, 1901—As to the mode of payment of 1892-1893 claims.

March 13, 1901—As to the doing of street work by private contract.

March 15, 1901—As to the power of the Board to compel the Spring Valley Water Works to lay larger mains, and as to the power of the Supervisors to allow interest on money not as yet expended by said water works.

March 18, 1901—As to whether the Telephone Company is subject to the provisions of the Charter relating to opening and closing of trenches in the public streets.

March 21, 1901—As to whether a judgment is enforceable without the act of the Board appropriating money for the purpose in the Budget or out of the surplus.

March 22, 1901—As to the judgment obtained by Edgar D. Peixotto against the Bank of Commerce and the City and County of San Francisco.

March 29, 1901—As to the legality of Bill No. 315, regulating the use of signs and transparencies upon and projecting over the public streets.

March 29, 1901—Transmitting estimate of expenditures for fiscal year 1901-1902.

April 3, 1901—Requesting complete abstract of property involved in the case of San Francisco v. Angus et al.

April 12, 1901—Report on the case of Auerbach v. City and County.

April 15, 1901—As to the demand of the Tax Collector for fees for compiling military roll.

April 29, 1901—As to the necessary proceedings to be taken for a bond election.

May 1, 1901—As to providing for a deficiency in the Police Pension Fund.

May 4, 1901—As to the delegation of power to the Board of Police Commissioners to lease certain premises.

May 9, 1901—As to the publication of the Delinquent Tax List.

May 11, 1901—As to the claims of State Hospitals for the Insane for the care of insane criminals.

May 16, 1901—As to the petition of the taxpayers for the removal of obstructions (railroad tracks) on St. Mary's avenue and Roanoke street.

May 16, 1901—As to the validity of a certain clause in the ordinance providing for a public pound.

May 17, 1901—As to whether the Tax Collector may employ counsel for the collection of delinquent license taxes.

May 17, 1901—Transmitting an estimate of the cost of an abstract of title to the Fillmore-street wharf property.

May 27, 1901—As to the acquisition of land by condemnation proceedings and purchase under the Charter.

May 31, 1901—As to the judgment in the case of Rehfeld v. San Francisco.

June 3, 1901—As to the acceptance of a gift of the option on the People's Mutual Telephone Company's franchise.

June 10, 1901—As to what if any interest the City has in Olive avenue.

June 17, 1901—As to the power of the Board to increase the license tax on the cars of the Market-street Railway system.

June 21, 1901—As to the constitutionality of the act of the Legislature providing for the payment of jurors' fees in criminal cases.

June 22, 1901—As to the payment of the judgment demand of W. A. Swinerton.

TO THE BOARD OF PUBLIC WORKS.

July 20, 1900—As to the granting of permits for the maintaining steps upon the sidewalks.

August 13, 1900—Transmitting form for contracts for street work.

August 23, 1900—As to which is the proper Board to adopt specifications for street work.

August 30, 1900—Requesting that certain parcels of land be platted.

September 27, 1900—As to whether curbstones taken from the streets should be removed to the Corporation Yard.

November 20, 1900—Advising that without an abstract it is impossible to define the status of Tehama place.

December 12, 1900—As to whether the driveways around the City Hall are under the jurisdiction of the Board of Public Works or the Park Commission.

February 27, 1901—Regarding certain street work on Sacramento, Clay and Washington streets, between Montgomery and Sansome streets.

March 1, 1901—As to urgent repairs on accepted streets.

March 8, 1901—Advising that the abstract of title furnished does not show that Tehama place has ever been dedicated to public use.

March 9, 1901—As to whether Stevenson and Jessie streets extend through 100-vara lots 282 and 283.

April 2, 1901—Requesting exact description of portion of Division now obstructed.

April 16, 1901—As to the eight-hour work day provided for in the Charter.

April 19, 1901—As to a controversy between the Board of Public Works and the Civil Service Commission respecting their relative powers.

TO THE BOARD OF EDUCATION.

July 23, 1900—As to the removal of E. C. Kilpatrick.

August 16, 1900—As to whether a teacher is subject to dismissal for marrying while in the department.

October 2, 1900—As to the authority of the Board of Education to make repairs on school buildings, etc.

November 2, 1900—Defining the duties of the City Attorney with respect to certain litigation.

February 1, 1901—As to the position of Justice of the Peace John R. Daniels with reference to Section 4, Article XVI.

TO THE BOARD OF POLICE COMMISSIONERS.

July 31, 1900—As to the status of police officers dismissed by former Board of Police Commissioners.

August 21, 1900—As to the power of the former to disrate officers.

September 29, 1900—Requesting certain papers to be used in preparing answer in the case of Price v. Board of Police Commissioners.

TO THE BOARD OF FIRE COMMISSIONERS.

August 17, 1900—As to pensions of firemen.

September 21, 1900—As to whether employees of the corporation who were employed when the Charter went into effect should be considered members of the department.

February 1, 1901—Advising that matters contained in the petition of Wm. Gleason have been passed upon in opinion of September 21, 1900.

April 13, 1901—As to the liability of the horseshoeing contractor for the loss of a Fire Department horse while under his care.

May 25, 1901—As to whether the shoeing of fire horses may be done by the department or must be let to the lowest bidder.

TO THE AUDITOR.

August 13, 1900—As to the release of claims on the Hall of Justice Fund.

March 13, 1901—Transmitting estimate expenses for fiscal year 1901-1902.

June 6, 1901—Advising that certain judgments have been obtained by the City in Mackay cases.

TO THE ASSESSOR.

March 14, 1901—As to whether mortgages secured by church property are taxable to the owner of the mortgage.

April 15, 1901—As to whether Brooks street is a public street.

June 13, 1901—As to the assessment of a loan due a resident secured by mortgage on property outside the State.

June 24, 1901—As to the taxation of vessels under temporary register in another port.

TO THE TREASURER.

July 24, 1900—As to the payment of stenographers of Police Courts on orders of Police Judges.

August 11, 1900—Advising Treasurer of the commencement of an action to determine the ownership of commissions for collection of poll tax.

April 9, 1901—As to the method to be pursued in the return of bail bond money.

June 24, 1901—As to the payment of bail bond moneys.

TO THE TAX COLLECTOR.

August 23, 1900—As to the issuance of a license to the Alhambra Theater.

October 16, 1900—As to the issuance of tax deeds.

October 26, 1900—As to the validity of Order No. 1589.

June 17, 1901—Requesting the delivery of the papers in certain suits against the Telephone Company.

TO THE REGISTRAR.

October 11, 1900—As to whether the names of candidates for Justices of the Peace should be placed on the ballot for the election to be held in November 6, 1900.

October 22, 1900—As to the power of the Election Commissioners to place upon the ballot a proposed ordinance.

REPORT OF CITY ATTORNEY.

TO THE BOARD OF POLICE PENSION FUND COMMISSIONERS.

November 26, 1900—As to the cases of Moran and Murphy v. Commissioners.

TO THE BOARD OF FIRE PENSION FUND COMMISSIONERS.

December 15, 1900—As to whether a pensioner should be deprived of his pension if engaged in a lucrative occupation.

TO THE RECORDER.

March 1, 1901—As to the use of typewriting machines in copying records.

TO THE CLERK OF THE BOARD OF SUPERVISORS.

October 15 1900—Requesting full record relating to street closing proceedings.

SHERIFF'S REPORT.

SAN FRANCISCO, July 1, 1901.

To the Honorable Jas. D. Phelan, Mayor
Of the City and County of San Francisco—

Dear Sir: In compliance with Section 9, Article XVI of the Charter, I herewith submit my report for the fiscal year ending June 30, 1901, together with statistics of the County Jails.

OFFICE.

The amount of fees received and paid into the City and County Treasury for the fiscal year ending June 30, 1901, as per statement made to the Auditor, is as follows:

RECEIPTS.

MONTHS.	AMOUNT.	TOTAL.
1900—July.....	\$1,218 53	
August	1,406 35	
September.....	1,119 57	
October.....	1,217 99	
November.....	1,210 04	
December.....	1,063 32	
1901—January.....	1,249 18	
February.....	1,065 21	
March.....	1,388 07	
April.....	1,198 65	
May.....	1,234 19	
June.....	1,131 35	
Total paid in for the fiscal year ending June 30, 1901.		\$14,502 45
Received for Board of U. S. Prisoners and paid into Treasury...		6,876 40
Grand total paid into Treasury for fiscal year.....		\$21,378 85

JAIL NO. 1.

This jail has received a thorough overhauling during the last fiscal year as far as the means at our disposal would permit. The outside porch, stairs and railings had become so old and dilapidated that it was dangerous to enter or leave the jail. The woodwork of the porch has been renewed and braced, railings scraped, fastened and painted and a new top rail of brass put on.

On the front of the building the weather had loosened large sections of plaster which had fallen off years ago, giving it the appearance of an uninhabited ruin. The whole front has been repaired and painted from roof to pavement, and that, with the brass railing, gives the building the appearance of consequence suitable to an institution of that kind.

In the interior of the jail a new floor was laid in the front halls. The toilet room has been remodeled. The interior of some seventy cells have been thoroughly renovated. The yard has been thoroughly scraped and painted in white, which enables the jailers on duty at night to see into the remotest corners without difficulty. One of the front rooms has been fitted up as a hospital and library. The library, through the kindness of the ladies of the California Club, now contains some 400 volumes, and is greatly appreciated by the intelligent and better class of prisoners.

Nearly all of the above work has been done by the prisoners without expense to the City, except for material, and has tended to largely improve the sanitary condition of the jail.

JAIL NO. 2.

The Supervisors have allowed us four additional guards and through that we have been enabled to do a large amount of work with prisoners outside of the jail, there being from fifty to sixty prisoners and five teams employed daily. Some thirty acres of land around the jail were cultivated and hay and potatoes were raised, saving to the City about \$1,000 in those two items. Several hundred feet of the jail fence was blown down during the severe storms of last winter; the repairing of the same was done almost entirely by prisoners. The roof, cornice work, windows and all iron work has been painted and the barns and outhouses have been whitewashed. All the wagons, buggies and vans have been painted. Nearly all the repairing to wagons, picks, shovels, drills, crowbars, etc., has been done in the blacksmith-shop connected with the jail.

The most important work has been done on the roads. San Jose avenue has been repaired from the Gum Trees to the County line, a distance of about three miles, and a large amount of work has been done on the Ocean House and Mission roads. A conservative estimate will place the value of the work done on these different roads above \$20,000.

The health of this jail has been exceptionally good, owing mainly to the fact that the prisoners are doing outdoor work, and keeping them employed is a blessing in many other respects. It seldom happens that one who has been given outdoor employment comes back a second time, as the steady work gets them into other habits, it encourages them to lead better lives, and they seek and usually obtain employment after they are released. On a number of occasions we have assisted them in obtaining employment.

JAIL NO. 3.

The entire roof of this jail has been renewed; the asphaltum part over the South Dormitory was entirely removed and replaced by a tin roof. This work was done under the direction of the Board of Public Works, but was paid for out of the money saved from the Subsistence Fund. The roof of the main building and North Wing has been entirely re-shingled, requiring about 60,000 shingles. This

work was done by prisoners without any cost to the City, except for nails and shingles.

The occupied portion of the building has been renovated. A new floor has been laid in the South Dormitory. The lawns and grounds have been restored to a fairly good condition. A fumigating room has been erected and the management is thereby enabled to eradicate every trace of vermin, which the larger portion of the new comers usually carry into the place.

COMMISSARY DEPARTMENT.

This department has now been operating a full fiscal year under the new system which we inaugurated last year, and in consequence we receive a better quality of goods, more of it in proportion to the inmates, and the City is not required to pay for anything that they do not receive. Under the former system the contract was let at a certain figure per ration (a ration consisting of a prisoner's food per day), the goods and the amount to be delivered were specified at so much per hundred inmates, and the amount delivered in very few instances ever came up to the amount advertised for, but the City always paid the full price whether the goods were delivered or not. Under the new system each article is advertised for separately and awarded to the lowest bidder in each case; whatever is required is delivered and whatever is delivered is paid for, and we do not pay for anything that is not delivered. Furthermore, the contractors are required to live strictly up to contract in regard to quantity, quality and price.

By instilling business methods into the manner of furnishing supplies, by insisting upon strict compliance with contracts and by economical management in the different jails, we have been enabled to make enormous savings in the cost of subsistence as compared with former years.

The following table will show the saving effected this year over the average cost of subsistence during the six years from 1893 to 1899, also the difference in the salary roll of the Sheriff's Office during the same period:

ANNUAL COST OF PRISONERS' SUBSISTENCE AND SALARIES FROM 1893 TO 1899, AS COMPARED WITH THE COST OF THE SAME DURING THE FISCAL YEAR ENDING JUNE 30, 1901.

	AMOUNT.	SAVING.
Annual cost of subsistence from 1893 to 1899.....	\$46,305 95	
Cost of subsistence, fiscal year 1900-1901.....	29,630 98	\$16,674 97
Annual salaries from 1893 to 1899.....	\$100,440 15	
Salaries fiscal year 1900-1901.....	84,125 00	16,315 15
Total saving effected fiscal year 1900-1901.....		\$32,990 12

Annexed hereto please find statistics of the County Jails.

Respectfully submitted,

JOHN LACKMANN,
 Sheriff of the City and County of San Francisco.

COUNTY JAIL STATISTICS FOR THE FISCAL YEAR ENDING JUNE 30, 1901.

CHARGES AGAINST PRISONERS WHEN RECEIVED IN COUNTY JAIL.

CRIMES FOR THE MONTH OF	Drunkenness	Disturbing the Peace	Discharging Firearms	Cruelty to Sailors (U. S.).....	Cruelty to Children and Animals.....	Counterfeiting (U. S.)	Contempt of Court..	Carrying Concealed Weapons.....	Burglary, Attempt at	Burglary.....	Bigamy.....	Begging.....	Battery.....	Assault on the High Seas and Mutiny (U. S.).....	Assault with Deadly Weapon	Assault.....	Arson	Absconding Debtor..	
1900—July.....	3	12	.....	.....	.....	2	.....	.....	4	4	.....	6	7	.....	1	1	.....	.....	.....
August.....	3	9	.....	.....	.....	.....	2	2	4	4	.....	3	10	.....	2	2	.....	.....	.....
September.....	1	10	.....	.....	1	.....	1	2	4	4	.....	3	10	.....	1	2	.....	.....	.....
October.....	10	19	.....	.....	.....	.....	1	.....	10	10	.....	15	4	.....	.....	1	.....	1	.....
November.....	10	8	.....	.....	.....	.....	.....	.....	6	6	.....	12	6	.....	1	1	.....	.....	.....
December.....	6	22	.....	.....	.....	2	.....	2	17	17	.....	19	4	.....	2	.....	3	.....	.....
1901—January.....	15	15	.....	.....	.....	.....	1	1	6	6	.....	43	4	.....	4	1	.....	1	.....
February.....	10	6	.....	.....	.....	1	2	.....	7	7	.....	17	4	.....	.....	.....	.....	.....	.....
March.....	18	8	.....	.....	.....	.....	2	.....	8	8	.....	7	15	.....	1	.....	.....	.....	.....
April.....	6	8	.....	.....	.....	.....	.....	1	8	8	.....	9	7	.....	1	1	.....	1	.....
May.....	11	6	.....	.....	.....	.....	.....	.....	4	4	.....	1	3	.....	1	.....	.....	.....	.....
June.....	5	7	.....	.....	.....	2	.....	1	6	6	.....	3	6	.....	.....	.....	.....	.....	.....
Number received for each of- fense during fiscal year.....	98	130	.....	.....	.....	10	9	9	84	84	1	138	80	.....	13	10	3	3	.....

RECAPITULATION.

Prisoners in County Jails July 1, 1930.....	324
Prisoners received.....	2,428
Total	2,752
Prisoners discharged.....	2,400
Prisoners remaining in County Jails June 30, 1931.....	352

EXHIBIT A.

The 352 prisoners remaining on hand July 1, 1931, are distributed as follows:

BRANCH JAIL NO. 1.

Awaiting trial on the charge of arson.....	1
Awaiting trial on the charge of burglary.....	14
Awaiting trial on the charge of embezzlement.....	2
Awaiting trial on the charge of felony.....	2
Awaiting trial on the charge of forgery.....	5
Awaiting trial on the charge of murder, attempt and assault.....	12
Awaiting trial on the charge of obtaining money by false pretenses.....	2
Awaiting trial on the charge of larceny, grand.....	5
Awaiting trial on the charge of larceny, petit, second offense.....	1
Awaiting trial on the charge of robbery and attempt.....	12
United States prisoners awaiting trial.....	13
United States prisoners serving sentences.....	3
Serving sentence.....	19

BRANCH JAIL NO. 2.

Serving sentence.....	206
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BRANCH JAIL NO. 3.

Women serving sentence.....	50
Women awaiting trial on charge of grand larceny.....	2
Women awaiting trial on charge of murder.....	3
Total.....	352

COUNTY JAIL No. 2—EXHIBIT B.

NUMBER OF PRISONERS COMMITTED DURING THE FISCAL YEAR ENDING
JUNE 30, 1901.

Number of prisoners on hand June 30, 1900.....	142
Committed during the year.....	1,277
From City Prison.....	2
From County Jail No. 1.....	14
Recaptured.....	3
Returned from Hospital.....	7
Total.....	1,445

NUMBER OF PRISONERS RELEASED DURING THE FISCAL YEAR ENDING
JUNE 30, 1901.

Discharged by expiration of sentence.....	1,194
Discharged by order of Court.....	1
Died.....	9
Sent to Pest House.....	1
Sent to Insane Asylum.....	3
Sent to City and County Hospital.....	21
Sent to County Jail No. 1.....	2
Escaped.....	8
Total number.....	1,239
Total number received and on hand.....	1,445
Total number discharged.....	1,239
Prisoners on hand June 30, 1901.....	206

EXHIBIT C—COUNTY JAIL No. 2.

NUMBER OF PRISONERS LITERATE AND ILLITERATE RECEIVED DURING THE
FISCAL YEAR ENDING JUNE 30, 1901.

Number of prisoners who can read and write.....	1,187
Number of prisoners who can read but cannot write.....	107
Number of prisoners who can neither read nor write.....	1
Total.....	1,295

EXHIBIT D—COUNTY JAIL No. 2.

TERMS OF SENTENCES OF PRISONERS COMMITTED DURING THE FISCAL YEAR
ENDING JUNE 30, 1901.

SENTENCE.	NUMBER.	SENTENCE.	NUMBER.
\$500 or three months.....	1	21 months.....	1
450 or 90 days.....	1	18 months.....	2
200 or 30 days.....	1	15 months.....	1
180 or 180 days.....	3	11 months.....	1
140 or 140 days.....	2	10 months.....	3
120 or 120 days.....	1	9 months.....	1
100 or 100 days.....	5	6 months.....	190
90 or 90 days.....	5	5 months.....	20
60 or 60 days.....	10	4 months.....	31
60 or 30 days.....	1	3 months.....	176
55 or 55 days.....	1	150 days.....	1
50 or 100 days.....	1	120 days.....	3
50 or 50 days.....	13	90 days.....	19
50 or 25 days.....	3	70 days.....	1
40 or 40 days.....	1	60 days.....	106
30 or 30 days.....	20	50 days.....	1
30 or 15 days.....	1	45 days.....	1
30 or 10 days.....	2	40 days.....	4
25 or 25 days.....	1	30 days.....	275
20 or 20 days.....	12	20 days.....	32
20 or 10 days.....	4	15 days.....	23
15 or 15 days.....	1	10 days.....	163
15 or 5 days.....	1	5 days.....	52
10 or 10 days.....	46	9 days.....	1
10 or 5 days.....	12	3 days.....	1
5 or 5 days.....	15	2 days.....	2
3 years.....	1	48 hours.....	1
2 years.....	4		
1 year.....	13		1,295

EXHIBIT E—COUNTY JAIL No. 2.

OCCUPATIONS OF INMATES COMMITTED DURING THE FISCAL YEAR ENDING
JUNE 30, 1901.

OCCUPATIONS.	NUMBER.	OCCUPATIONS.	NUMBER.
Agents	7	Firemen	32
Artist	1	Fortune-tellers.....	3
Bakers.....	9	Gardeners	12
Basket-maker.....	1	Glaziers	2
Barbers.....	22	Grocer.....	1
Bar-tenders.....	11	Harness-makers.....	7
Blacksmiths.....	18	Hat-maker	1
Boilermakers.....	10	Hostlers.....	23
Bookbinders.....	5	Iron-workers.....	4
Bookkeepers.....	8	Janitors.....	4
Brickmasons.....	1	Laborers.....	499
Butchers.....	15	Laundrymen.....	9
Butlers	2	Locksmiths.....	2
Confectioners.....	1	Longshoremen.....	3
Canners.....	1	Machinists	25
Carpenters	34	Miners.....	14
Carriagemakers.....	2	Moulders.....	6
Comedian.....	1	Painters	50
Cigarmakers.....	1	Pattern-maker.....	1
Chemist.....	1	Paper-hangers.....	3
Clerks.....	23	Peddlers.....	20
Coopers.....	5	Plasterers.....	3
Cooks.....	59	Plumbers.....	19
Dishwashers.....	8	Porters.....	8
Dairymen.....	1	Printers	16
Doctor.....	1	Railroad men	3
Draughtsman	2	Rag-picker.....	1
Druggist.....	1	Roofers.....	6
Electrician.....	1	Sailmakers.....	2
Engineers	3	Second-hand dealer.....	1
Farmers.....	3	Seamen.....	33

REPORT OF THE SHERIFF.

EXHIBIT E, OCCUPATIONS—CONTINUED.

OCCUPATIONS.	NUMBER.	OCCUPATIONS.	NUMBER.
Shoemakers.....	28	Telegraph operators.....	4
Soldiers.....	7	Typewriter.....	1
Silversmiths.....	3	Upholsterer.....	1
Stewards.....	5	Waiters.....	39
Stevedores.....	6	Weigher.....	1
Stone cutters.....	7	Watchman.....	2
Surgeon.....	1	Wood carvers.....	2
Tailors.....	15	None.....	17
Teamsters.....	76	Total.....	1,235
Tinsmiths.....	8		
Type-maker.....	1		

EXHIBIT F—COUNTY JAIL No. 2.

PRISONERS COMMITTED FOR ONE AND MORE THAN ONE TERM, AND RECEIVED
DURING THE FISCAL YEAR ENDING JUNE 30, 1901.

TIMES COMMITTED.	NUMBER.	TIMES COMMITTED.	NUMBER.
First time committed.....	526	Sixteenth time committed.....	10
Second time committed.....	5	Seventeenth time committed.....	2
Third time committed.....	198	Eighteenth time committed.....	3
Fourth time committed.....	165	Nineteenth time committed.....	2
Fifth time committed.....	115	Twentieth time committed.....	1
Sixth time committed.....	46	Twenty-first time committed.....	10
Seventh time committed.....	79	Twenty-second time committed..	1
Eighth time committed.....	34	Twenty-fifth time committed.....	1
Ninth time committed.....	10	Forty first time committed.....	3
Tenth time committed.....	3	Fifty-first time committed.....	3
Eleventh time committed.....	33	Sixty-first time committed.....	1
Twelfth time committed.....	6	Seventy-sixth time committed....	3
Thirteenth time committed.....	23	One hundred and first time.....	1
Fourteenth time committed.....	4	One hundred and fifty-first time..	1
Fifteenth time committed.....	6	Total.....	1,295

EXHIBIT G—COUNTY JAIL No. 2.

NATIVITY OF PRISONERS COMMITTED DURING THE FISCAL YEAR ENDING
JUNE 30, 1901.

UNITED STATES.

NATIVITY.	NUMBER.	NATIVITY.	NUMBER.
Arkansas.....	1	Nebraska.....	1
California.....	329	Nevada.....	8
Colorado.....	4	New Hampshire.....	1
Connecticut.....	14	New Jersey.....	7
District of Columbia.....	1	New York.....	151
Georgia.....	6	North Carolina.....	1
Hawaiian Islands.....	1	Ohio.....	32
Illinois.....	29	Oregon.....	7
Indiana.....	10	Pennsylvania.....	68
Iowa.....	10	Rhode Island.....	6
Kansas.....	5	South Carolina.....	2
Kentucky.....	9	Tennessee.....	10
Louisiana.....	5	Texas.....	2
Maine.....	3	Utah.....	4
Maryland.....	10	Vermont.....	3
Massachusetts.....	49	Virginia.....	6
Michigan.....	8	Washington.....	
Minnesota.....	1	West Virginia.....	
Mississippi.....	1		
Missouri.....	19		833

FOREIGN.

NATIVITY.	NUMBER.	NATIVITY.	NUMBER.
Austria.....	3	Japan.....	5
Australia.....	3	Mexico.....	19
Canada.....	9	New South Wales.....	1
China.....	60	Norway.....	4
Chili.....	1	Prussia.....	1
Denmark.....	4	Russia.....	3
England.....	57	Scotland.....	14
France.....	8	South America.....	2
Germany.....	67	Spain.....	5
Greece.....	2	Sweden.....	15
Ireland.....	168	Switzerland.....	1
Italy.....	10		462

United States.....	833
Foreign.....	462
Total.....	1,295

EXHIBIT H—COUNTY JAIL No. 2.

NUMBER OF DAYS' LABOR PERFORMED ON ROADS, QUARRIES AND FARM, TAILOR, SHOE, PLUMBING, PAINT, CARPENTER AND BLACKSMITH SHOPS, IN AND ABOUT THE HOUSE, GARDEN, STABLES AND JAIL No. 3, FOR THE FISCAL YEAR ENDING JUNE 30, 1901.

MONTHS.	Blacksmith Shop..	Tailor & Shoe Shops	Jail No. 3.....	Laundry.....	In and about Build- ings, Stables and Garden.....	Carpenter, Painting and Plumbing....	Farm and Stables..	Roads and Quarry..	Totals.....
1900—July.....	83	88	183	124	1,242	83	589	776	3,168
August.....	93	81	180	154	1,166	88	570	974	3,306
September.....	90	89	221	156	1,118	101	586	865	3,226
October.....	101	89	71	170	1,277	115	570	749	3,142
November.....	110	80	157	178	969	110	575	762	2,941
December.....	120	81	174	159	1,242	120	560	693	3,149
1901—January.....	90	80	150	150	1,276	100	589	805	3,240
February.....	86	81	157	140	1,167	112	586	869	3,198
March.....	95	82	180	120	1,342	120	560	1,372	3,911
April.....	90	90	180	93	1,386	150	580	1,059	3,628
May.....	90	90	180	120	1,387	150	575	1,238	3,830
June.....	86	84	155	54	1,167	155	589	1,166	3,456
Totals.....	1,134	1,015	1,988	1,618	14,779	1,404	6,929	11,328	40,195

EXHIBIT I—COUNTY JAIL No. 2.

VALUE OF WORK DONE ON ROADS, QUARRIES AND FARM, IN TAILOR, SHOE, PLUMBING, PAINT, CARPENTER AND BLACKSMITH SHOPS, AND IN AND ABOUT THE HOUSE, GARDENS, STABLE AND JAIL No. 3 FOR THE FISCAL YEAR ENDING JUNE 30, 1901.

	NUMBER OF DAYS' LABOR.	VALUE PER DAY.	TOTAL VALUE.
Blacksmith shop.....	1,134	\$0 50	\$567 00
Tailor and shoe shop.....	1,015	50	507 50
Jail No. 3.....	1,988	50	994 00
Laundry.....	1,618	50	809 00
In and about buildings, stables and gardens.....	14,779	50	7,389 50
Carpenter, painting and plumbing.....	1,404	50	702 00
Farm and stables.....	6,929	50	3,464 50
Roads and quarries.....	11,328	50	5,664 00
Double teams hauling rock....	896	4 00	3,584 00
From June 30, 1900, there were 845 car-loads of rock hauled by electric cars, equal to 2,535 teams at \$4 per day.....	2,535	4 00	10,140 00
Total value of work performed for fiscal year ending June 30, 1901.....			\$33,821 50

REPORT

OF THE

CIVIL SERVICE COMMISSION.

SAN FRANCISCO, July 1, 1901.

*To the Honorable Jas. D. Phelan, Mayor
Of the City and County of San Francisco—*

Dear Sir: In compliance with Section 9, Article XVI, of the Charter, the Civil Service Commission has the honor to submit herewith a report of the operations of the Civil Service Department for the fiscal year ending June 30, 1901.

THE SUPREME COURT DECISION.

During the past year considerable time was given to defending the Civil Service provisions of the Charter against the attacks made upon them in the courts. In this litigation the Commission was greatly aided by your Honor, and this opportunity is taken to publicly thank you for your unceasing devotion, personally and officially, to the interests of the merit system.

The most important suit in which the Commission was interested was that of *Crowley vs. Freud et al.* The point involved in this action was the validity of the provisions of Section 11, Article XIII (the Civil Service article), of the Charter, respecting its application to certain officers named therein, and sometimes known as County officers, namely, the Assessor, County Clerk, Sheriff, Recorder and Coroner. The office of the Clerk of the Justices' Court was also included in the opinion of the Court. The decision turned upon the right of the Charter of a consolidated city and county government to provide for the "qualifications" of the deputies of the so-called county officers. After elaborate arguments, in which the Commission was represented by the Hon. Franklin K. Lane, City Attorney, and Mr. Garret McEnerney, the Superior Court issued an order permanently restraining the Commission from introducing the merit system into the so-called County offices.

On April 6th last the Supreme Court rendered a decision affirming the action of the Superior Court. A petition for a rehearing was denied by the appellate Court, and 242 positions in the County offices, involving a yearly expenditure of \$220,600 for salaries, were thereby opened to political patronage. Whether the copyists employed in the offices of the County Clerk and Recorder are deputies within the meaning of the Supreme Court decision in *Crowley vs. Freud*, and are therefore exempt from Civil Service, is a question now before the Supreme Court in an appeal taken by the City Attorney from the decision of the Superior Court.

in favor of the petitioner, a non-civil service copyist, in *Garnett vs. Brooks*, as Treasurer.

Pending the decision on this appeal, thirty-seven Civil Service copyists are retained by the County Clerk and the Recorder. It is due these clerks to say their general efficiency is admittedly of such a high order, and their work has been so well done, that the County Clerk and the Recorder fear to injure their departments by displacing these men of proved ability and appointing instead the clamorous applicants of the political arena. The efficiency of the Civil Service clerks was also recognized and acknowledged in a most satisfactory manner by the Hon. Washington Dodge, Assessor, who, after the Supreme Court decision, retained in his department nearly one hundred ordinary clerks from our lists.

The case of *Cahen vs. Wells*, which was an attack upon the constitutionality of the Civil Service article of the Charter, was decided by the Supreme Court in favor of the merit system. In this case the plaintiff contended that Section 12 of Article XIII provided for a life tenure in office, in violation of Section 16, Article XX, of the State Constitution; and that, as the life tenure was the controlling and vital purpose of all of the Charter provisions on Civil Service, Section 12 being unconstitutional, all the other sections must fall with it.

In its opinion the Supreme Court held that even without the disputed Section 12, Article XIII provided a complete plan for the operation of the merit system. Its constitutionality was therefore sustained. The Justices of the Supreme Court were careful to state that they in no way expressed an opinion as to the constitutionality of Section 12. The door to future litigation upon this question is thus left open.

Upon the authority of *Cahen vs. Wells* the Supreme Court sustained the (favorable) decision of the Superior Court in *Bauer vs. Quinn*, which was another general attack upon the Civil Service provisions of the Charter.

The most recent Court decision involving the merit system was that of Judge Murasky, in denying the petition of Lewald, an unapproved temporary appointee as Deputy Tax Collector, for a writ of mandate compelling Brooks, the Treasurer, to pay the petitioner's salary. In this case the Court sustained the provision of Section 10, Article XIII, requiring that temporary appointments shall not remain in force more than sixty days, and must be approved by the Commission.

The case of *Seyden vs. Freud*, another attack of the Tax Collector's Deputies against the operation of the merit system, is yet pending in the Superior Court.

EXAMINATIONS AND APPOINTMENTS:

During the past fiscal year the Commission has held forty-four examinations. Interesting data regarding these examinations will be found in the Appendix attached to the report, which also shows the number of places under Civil Service in the various departments of the municipal government. From the eligible list of the Commission 387 appointments have been made, not including 200 ordinary clerks appointed to fill temporary positions and over 100 laborers. All the clerks, bookkeepers, deputies and secretaries employed in the offices and bureaux of the Board of Public Works, Board of Health, Board of Election Commissioners, Board of Police Commissioners, Board of Fire Commissioners, Board of Police Pension Fund Commissioners, Board of Fire Pension Fund Commissioners, Department of Electricity, the Auditor and the Tax Collector, are Civil Service appointees. The Civil Service appointees as Deputies in the Tax Collector's Office have not yet entered upon their duties. All the laborers, carpenters, plumbers, painters, machinists, bricklayers, hodcarriers, pavers, rammers and inspectors of various kinds employed by the Board of Public Works, the Board of Health and the Department of Electricity are also Civil Service appointees. The last-named department is under the operation of the merit system in all its branches, examinations having been held for all its places of employment from Chief to lineman.

To fill a demand for male stenographers, an examination has been set for July

25th. The Commission is about to hold examinations for the City Engineer's Office and for promotion in the Police Department. As the way has been cleared by the settlement of the most important litigation involving the merit system, the Commission now hopes to make rapid progress and to have Civil Service applicants appointed within a comparatively short time to all the 1,700 places subject to the jurisdiction of this department.

But for the assistance of the public-spirited citizens who have acted as members of the Boards of Examiners, it would be impossible to transact the business of this Commission without an appropriation twice as great as that allowed. The Commission takes pleasure in hereby expressing its profound appreciation of the invaluable services rendered gratuitously by the following gentlemen who acted as members of the Boards of Examiners during the past fiscal year:

Bricklayers and Hodcarriers—Adam Beck, Thomas Butler, Thomas W. Butcher.
 Pavers and Rammers—J. J. Flynn, John J. Dowling, C. B. Williams.
 Plumbers—James Shepard, F. S. Snook, Charles Wetherbee.
 Painters—H. F. Wagner, P. Brown, W. S. Upham, E. H. Black.
 Machinists—P. H. Reardan, William Speck, Martial Hainque.
 Carpenters—S. H. Kent, W. B. Anderson, C. P. Moore.
 Bookkeepers—Cyril Williams, John Fettee, S. P. Johnson.
 Assistant Plumbing Inspectors—Richard Rice, F. W. Snook, Charles Wetherbee.
 Department of Electricity—William W. Hanscom, Frederick Cartwright, John M. Klein.
 Street and Sewer Inspectors—J. A. Fairchild, Charles A. Warren, Owen McHugh.
 Building Inspectors—S. H. Kent, C. P. Moore, W. B. Anderson.
 Superintendent of Public Buildings—Thomas Morrin, Newton J. Tharp, S. H. Kent.
 Superintendent of Stone Pavements, Superintendent of Sewers and Field Deputies, Board of Public Works—Otto von Geldern, Charles A. Warren, J. A. Fairchild.

During the past fiscal year the expenses of this department have been as follows:

Salaries—	
Three Commissioners.....	\$3,600
Chief Examiner and Secretary....	2,400
Clerk	1,200
Stenographer	900
Total	\$8,100

Respectfully submitted,

CIVIL SERVICE COMMISSION,

JOHN E. QUINN,

P. H. McCARTHY,

J. RICHARD FREUD, President.

E. F. MORAN, Chief Examiner and Secretary.

APPENDIX.

CIVIL SERVICE PLACES.

DEPARTMENT.	POSITIONS.	SALARIES.
Auditor.....	8	\$10,200 00
Election.....	21	24,660 00
Electricity.....	62	63,000 00
Fire.....	518	615,870 00
Firemen's Fension Fund.....	1	600 00
Health.....	233	152,940 00
Police.....	591	754,692 00
Police Pension Fund.....	1	600 00
Public Works.....	200	200,000 00
Stenographers, Police Court.....	3	7,200 00
Tax Collector.....	75	58,500 00
	1,713	\$1,888,262 00

EXAMINATIONS AND APPOINTMENTS.

CLASSIFIED CIVIL SERVICE TO JULY 24, 1901.

EXAMINATIONS.	DATES.	Division	Class.	Number examined	Number passed.	Number failed.	Number appointed	Now employed
Copyist	1900—Mar. 14..	A . . .	I . . .	460	181	279	41	37
Sewer-cleaner	Mar. 30..	B . . .	I . . .	115	94	21	24	12
Court stenographer.	Apr. 2..	A . . .	II. . .	7	5	2	4	4
Stenographer-typewriter.	Apr. 2..	A . . .	II. . .	36	16	20	7	5
Ordinary clerks.	June 15..	A . . .	III. . .	436	152	284	147	20
Bricklayers.	Aug. 7..	B . . .	II. . .	24	11	13	8	7
Pavers	Aug. 10..	B . . .	III. . .	37	37	....	20	20
Rammers	Aug. 10..	B . . .	III. . .	39	35	4	18	16
Plumbers.	Aug. 14..	B. . .	V. . .	12	6	6	3	3
Painters.	Aug 17..	B. . .	VII. . .	*	....	....	....	....
Machinists	Aug. 21..	B. . .	IX. . .	14	11	3	4	3
Hod-carriers.	Aug. 24..	B . . .	IX. . .	10	10	....	5	5
Carpenters	Aug. 29..	B. . .	XI. . .	63	41	19	33	23
Book-keepers, Board of Public Works.	Sept. 7..	A . . .	IV. . .	37	22	15	2	2
Book-keepers, Sheriff's office.	Sept. 7..	A . . .	IV. . .	21	6	15	3	3
Policeman (physical).	Sept. 17 } to 27 }	F. . .	VI. . .	263	114	149	43	41
Policeman (mental)	Oct. 3..	F. . .	VI. . .	113	83	30		
Experienced clerks, Board of Health.	Sept. 15..	A . . .	V. . .	22	14	8	11	11
Experienced clerks, Tax Office.	Sept. 26..	A . . .	V. . .	129	84	45	26	20
Experienced clerks, Board of Public Works.	Oct. 12..	A . . .	V. . .	22	17	5	7	7
Experienced clerks, Auditor's Office.	Oct. 23..	A . . .	V. . .	13	10	3	8	7
Deputy, Auditor.	Oct. 26..	A . . .	VIII. . .	5	3	2	2	2
Deputy, Justices' Clerk.	Nov. 9..	A . . .	VIII. . .	10	....	....	....	....
Secretary, Board of Health.	Nov 14..	A . . .	IX. . .	3	3	....	2	1
Secretary, Fire Commission.	Nov. 14..	A . . .	IX. . .	3	3	....	1	1
Secretary, Police Commission	Nov. 14..	A . . .	IX. . .	2	1	1	1	1
Secretary, Fire Pension Fund.	Nov. 14..	A . . .	IX. . .	1	1	....	1	1
Secretary, Police Pension Fund.	Nov. 14..	A . . .	IX. . .	1	1	....	1	1
Assistant Plumbing Inspectors.	Nov. 16..	E . . .	II. . .	11	6	5	3	3

*Declared off.

EXAMINATIONS AND APPOINTMENTS—CONTINUED.

EXAMINATIONS.	DATES.	Division	Class	Number examined	Number passed...	Number failed....	Number appointed	Now employed....
Sanitary Inspectors.....	1900—Nov. 19..	E....	II.	10	8	2	6	6
Food Inspectors.....	Nov. 21..	E....	II.	21	11	10	8	8
Market Inspectors.....	Nov. 23..	E....	II.	14	9	5	6	6
Instrument-makers.....	Nov. 27..	E....	XIV.	4	4	....	4	4
Linemen.....	Nov. 27..	D...	III.	19	7	12	7	7
Repairers.....	Nov. 27..	D...	IV.	13	6	7	5	3
Operators.....	Nov. 30..	D...	IX.	9	7	2	7	7
Deputy, Tax Office.....	Dec. 4..	A...	VIII.	38	25	13	14	14
Deputy, Election Commission.....	Dec. 7..	A...	VIII.	25	23	2	17	17
Inspectors streets and sewers.....	Dec. 11..	C...	X.	48	12	36	12	9
Inspectors side sewers.....	Dec. 11..	C...	X.	3	2	1	1	1
Inspectors of buildings.....	Dec. 11..	C....	X.	14	4	10	3	
Painters.....	Dec. 28	B....	VII.	50	33	17	19	18
Inspector, Department of Electricity.....	1901—Feb. 12..	D...	VIII.	10	4	6	2	2
Chief, Department of Electricity.....	Feb. 12	C....	XI.	5	2	3	1	1
Office Deputy, Board of Public Works.....	Apr. 25..	A...	VIII.	11	4	7	2	2
Superintendent of Stone Pavements.....	May 21..	C...	XI.	10	4	6	1	1
Superintendent of Sewers.....	May 23..	C...	XI.	8	3	5	1	1
Field Deputy, Board of Public Works.....	May 27 } and 28 } June 18 }	A...	VIII.	16	3	13	....	....
Superintendent of Public Buildings.....	19, 20 }	C...	XI.	4	....	4	....	....
Totals.....				2241	1151	1090	546	365

CORONER'S REPORT.

SAN FRANCISCO, July 1, 1901.

To the Honorable Jas. D. Phelan, Mayor

Of the City and County of San Francisco—

DEAR SIR: Pursuant to the provisions of Section 9, Article XVI, of the Charter of the City and County of San Francisco, I herewith submit to you my report of the operations of the Coroner's office during the fiscal year ending June 30, 1901.

Yours, respectfully,

THOS. B. W. IELAND,

Coroner.

TABLE No. 1.

NUMBER OF DEATHS INVESTIGATED.

MONTHS.	Total Number.	Countersigned.	Number of Inquests.....	Number of Autopsies ..
1900—July.....	96	26	37	65
August.....	110	31	33	72
September	118	37	53	78
October.....	114	37	32	69
November.....	135	38	54	93
December.....	133	32	42	93
1901—January.....	155	53	50	95
February.....	167	52	61	109
March.....	155	47	42	98
April.....	153	61	46	84
May.....	154	64	32	84
June.....	104	36	30	60
	1,594	515	512	1,000

TABLE No. 2.

NATIVITY OF SUICIDES.

Austria.....	1	Italy.....	1
Bohemia.....	1	Japan.....	1
Canada.....	3	Norway.....	1
Chili.....	1	Poland.....	1
China.....	5	Portugal.....	1
Denmark.....	1	Russia.....	2
England.....	11	Scotland.....	4
Germany.....	25	Sweden.....	4
Holland.....	1	Switzerland.....	1
India.....	1	United States.....	54
Ireland.....	2	Unknown.....	19
Total.....			141

COLOR OF SUICIDES.

	NUMBER.	TOTAL.
Black.....	1	
White.....	134	
Yellow.....	6	
Total.....		141

CORONER'S REPORT.

CONDITION.

	NUMBER.	TOTAL.
Divorced	2	
Married	54	
Single	57	
Unknown	17	
Widow	3	
Widower	8	
Total.....		141

CAUSES.

	NUMBER.	TOTAL.
Business reverses.....	2	
Crime.....	1	
Despondency.....	23	
Domestic trouble.....	11	
Financial trouble.....	9	
Gambling.....	3	
Grief.....	2	
Intemperance.....	20	
Insanity.....	26	
Jealousy.....	6	
Melancholia.....	1	
Sickness.....	24	
Unrequited love.....	3	
Unknown.....	10	
Total.....	141	141

CORONER'S REPORT.

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SEX.

	NUMBER.	TOTAL.
Female.....	30	
Male.....	111	
Total.....	141	141

OCCUPATIONS OF SUICIDES.

OCCUPATIONS.	NUMBER.	OCCUPATIONS.	NUMBER.
Agent.....	1	Messenger.....	1
Awning-maker.....	1	Miner.....	1
Baker.....	4	Mining engineer.....	1
Balloon-maker.....	1	Motorman.....	2
Barber.....	1	Musician.....	1
Bartender.....	4	None.....	4
Bed-maker.....	1	Oyster vendor.....	1
Bookkeeper.....	1	Pawnbroker.....	1
Carpenter.....	1	Plumber.....	1
Cement-worker.....	1	Porters.....	2
Cigar dealer.....	3	Rancher.....	1
Cigar picker.....	1	Sailor.....	1
Clerks.....	7	Salesman.....	1
Contractor.....	1	Saloon keeper.....	1
Canvasser.....	1	Saw-filer.....	1
Dentist.....	1	School-girl.....	1
Doctor.....	2	Servant (Japanese).....	1
Domestics.....	2	Shoemaker.....	1
Engineer.....	1	Soldiers.....	2
Ex-hotel keeper.....	1	Stenographer.....	1
Ex-soldier.....	2	Stevedore.....	1
Gardener.....	1	Steward.....	1
General agent.....	1	Stonemasons.....	2
Gripman.....	2	Ship-caulkers.....	1
Grocer.....	2	Sea captain.....	1
Housewives.....	17	Tailor.....	1
Insurance broker.....	1	Tanner.....	1
Ironmoulder.....	1	Telegraph operator.....	1
Ivory turner.....	1	Tobacco dealer.....	1
Janitors.....	2	Unknown.....	14
Laborers.....	10	Vice-consul.....	1
Lacquerer.....	1	Waiter.....	4
Laundryman.....	1	Watchman.....	1
Master mariner.....	1	Water-ress gatherer.....	1
Merchants.....	4	Welgher.....	1

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RELIGION OF SUICIDES.

	NUMBER.	TOTAL.
Christian.....	80	
Infidel.....	25	
Jewish.....	8	
Pagan.....	5	
Unknown.....	23	
Total.....	141	141

TABLE No. 3.

MORTUARY TABLE FOR THE FISCAL YEAR ENDING JUNE 30, 1901.

CAUSE OF DEATH.	Justifiable Homicide	Murder....	Accident...	Suicides....	Natural...	Unknown..	Total.....
Abortion.....		18				1	19
Abortion (self-induced).....				4			4
Asphyxiation (gas).....			41	28		2	71
Asphyxiation (submersion).....			30	5		25	60
Asphyxiation (suffocation).....			7	1			8
Asphyxiation (strangulation).....			1	8			9
Burns.....		1	20				21
Concussion of brain.....			2			1	3
Cerebral hemorrhage.....			3				3
Crushing of limbs.....			46	2		3	51
Electric shock.....			4				4
Fracture of skull.....		2	79	4		3	88
Gunshot wound.....	2	1	3	35		1	52
Internal injuries.....		1	17			2	20
Improper treatment, neglect of midwife.....			4				4
Knife wounds.....		6		7		1	14
Shock (violence).....		2	7				9
Scalding.....			2				2
Traumatic erysipelas.....						1	1
Natural causes.....					573		573
Unknown.....						1	1
Poisons—							
Alcohol.....			1				1
Alcohol (wood).....			1				1
Arsenic.....			1	4			5
Carbolic acid.....			2	30			32
Cyanide of potassium.....				3			3
Nitric acid.....				1			1
Laudanum.....			1				1

TABLE NO. 3—CONTINUED.

CAUSE OF DEATH.	Justifiable Homicide...	Murder....	Accident..	Suicides... ...	Natural... ...	Unknown..	Total.....
Poisons—							
Lysol.....				1			1
Morphine....			1	3			4
Opium.....			2	3		1	5
Cocaine.....				1			1
Chloridine.....				2			2
Strychnine.....				1		1	2
Ammonia.....			1				1
Formalin.....				1			1
Kerosene.....				1			1
	2	41	280	141	573	43	1,080

STATEMENT OF EXPENSES.

Salaries.....	\$16,720 00
Stabling of horses.....	600 00
Horse-shoeing.....	60 00
Rent of offices.....	675 00
Incidental expenses.....	500 00
Recovering bodies.....	600 00
Total.....	\$19,155 00

REPORT

OF THE

BOARD OF FIRE COMMISSIONERS.

HEADQUARTERS FIRE DEPARTMENT,
OFFICE BOARD OF FIRE COMMISSIONERS }
CITY HALL.

SAN FRANCISCO, July 1, 1901.

To the Honorable Jas. D. Phelan, Mayor
Of the City and County of San Francisco—

Dear Sir: In compliance with Section 9 of Article XVI of the Charter of the City and County of San Francisco, the Board of Fire Commissioners herewith present and submit their report for the fiscal year ending June 30, 1901:

ORGANIZATION.

The Fire Department, as now constituted, consists of a Board of Fire Commissioners of four members, a Secretary, a Chief Engineer, one First Assistant Chief Engineer, one Second Assistant Chief Engineer, seven Battalion Chiefs, thirty-seven Engine Companies, nine Truck Companies, seven Chemical Companies, one Water Tower Company, two Monitor Batteries, two Relief Engine Companies and employees of the Corporation Yard and Department Stables, numbering in all 518 men, of whom 457 are uniformed.

REPORT OF THE BOARD

DETAILS OF ORGANIZATION.

(Salaries fixed by Charter.)

Number.	POSITION.	SALARY PER ANNUM.
OFFICE.		
4	Commissioners, each.....	\$1,200 00
1	Secretary Board of Fire Commissioners.....	2,400 00
UNIFORMED FORCE.		
1	Chief Engineer.....	4,000 00
1	First Assistant Chief Engineer.....	3,000 00
1	Second Assistant Chief Engineer.....	2,400 00
7	Battalion Chiefs, each.....	2,100 00
36	Captains of Engine Companies, each.....	1,440 00
37	Lieutenants of Engine Companies, each.....	1,200 00
37	Engineers of Engine Companies, each.....	1,350 00
37	Drivers of Engine Companies, each.....	1,080 00
37	Stokers of Engine Companies, each.....	1,080 00
137	Hoseman of Engine Companies, each.....	1,080 00
9	Captains of Hook and Ladder Truck Companies, each.....	1,440 00
9	Lieutenants of Hook and Ladder Truck Companies, each.....	1,200 00
9	Tillermen of Hook and Ladder Truck Companies, each.....	1,080 00
9	Drivers of Hook and Ladder Truck Companies, each.....	1,080 00
60	Truckmen of Hook and Ladder Truck Companies, each.....	1,080 00
7	Captains of Chemical Engine Companies, each.....	1,440 00
7	Lieutenants of Chemical Engine Companies, each.....	1,200 00
7	Drivers of Chemical Engine Companies, each.....	1,080 00
7	Hosemen of Chemical Engine Companies, each.....	1,080 00
1	Captain of Water Tower Company.....	1,440 00
1	Driver of Water Tower Company.....	1,200 00
2	Drivers of Monitor Batteries, each.....	1,080 00
2	Captains of Relief Engine Companies, each.....	1,440 00
2	Lieutenants of Relief Engine Companies, each.....	1,200 00
2	Hosemen of Relief Engine Companies, each.....	1,080 00

DETAILS OF ORGANIZATION—CONTINUED.

Number.	POSITION.	SALARY PER ANNUM.
CORPORATION YARD EMPLOYEES.		
1	Superintendent of Engines.....	\$1,800 00
1	Clerk and Commissary.....	1,500 00
4	Hydrantmen, each.....	1,080 00
2	Draymen, each.....	900 00
2	Watchmen, each.....	900 00
DEPARTMENT STABLES.		
1	Superintendent of Horses.....	1,200 00
5	Hostlers, each.....	720 00

Under the provisions of the Charter, drivers, stokers, tillermen, hosemen and truckmen receive \$960 per annum for the first year's service, \$1,080 for the second year and \$1,200 for the third year and thereafter.

MEMBERS AND EMPLOYEES.

 BOARD OF FIRE COMMISSIONERS.

ROLLA V. WATT, PRESIDENT.....	Term expires January 8, 1904
M. H. HECHT.....	Term expires January 8, 1905
JOHN H. GRADY.....	Term expires January 8, 1903
J. C. MCKINSTRY.....	Term expires January 8, 1902
J. W. MCCARTHY.....	Secretary of Board.

 OFFICERS.

D. T. SULLIVAN.....	Chief Engineer
JOHN DOUGHERTY.....	First Assistant Chief Engineer
P. H. SHAUGHNESSY	Second Assistant Chief Engineer
JOHN McCLUSKEY.....	Battalion Chief
JOHN WILLS	Battalion Chief
T. M. FERNANDEZ	Battalion Chief
E. F. MCKITTRICK.....	Battalion Chief
JOHN J. CONLON	Battalion Chief
M. J. DOLAN	Battalion Chief
WILLIAM WATERS.....	Battalion Chief

COMPANIES.

ENGINE COMPANY No. 1.

Location—No. 419 Pacific street.

NAMES.	RANK.
J. J. Callen.....	Captain
James Cumiskey.....	Lieutenant
Thomas Kelly.....	Engineer
Daniel Farren.....	Driver
Joseph H. O'Brien.....	Stoker
J. J. Murray.....	Hoseman
Thomas Coleman.....	Hoseman
David M. Capelli.....	Hoseman
Charles Tyson.....	Hoseman
Silvio Rocco.....	Hoseman

ENGINE COMPANY No. 2.

Location—No. 410 Bush street.

NAMES.	RANK.
Michael Boden.....	Captain
C. F. Ward.....	Lieutenant
Charles Murray.....	Engineer
John Johnson.....	Driver
Charles Schemel.....	Stoker
Matthew McLaughlin.....	Hoseman
Frank Dougherty.....	Hoseman
Myrtle Yehl.....	Hoseman
Joseph McNamara.....	Hoseman
W. J. Gallatin Jr.....	Hoseman

ENGINE COMPANY No. 3.

Location—No. 1317 California street.

NAMES.	RANK.
Thomas Magner.....	Captain
Walter Cline.....	Lieutenant
T. J. Canovan.....	Engineer
Joseph Stevens.....	Driver
William Byrnes.....	Stoker
Benjamin Currier.....	Hoseman
S. S. Powell.....	Hoseman
David Levy.....	Hoseman
Edward McConigle.....	Hoseman

ENGINE COMPANY No. 4.

Location—No. 144 Second street.

NAMES.	RANK.
John Wilson.....	Captain
N. N. Mathewson.....	Lieutenant
Michael O'Connell.....	Engineer
Maurice Hallinan.....	Driver
Edward Lennon.....	Stoker
A. Bacigalupi.....	Hoseman
Charles Dakin.....	Hoseman
Bernard Donnelly.....	Hoseman
Edward Downes.....	Hoseman
F. H. Kenny.....	Hoseman

ENGINE COMPANY No. 5.

Location—No.1219 Stockton street.

NAMES.	RANK.
J. J. Mahoney.....	Captain
David Harrison.....	Lieutenant
Thomas Coogan.....	Engineer
Robert Malberg.....	Driver
D. F. Buckley.....	Stoker
Paul De Martini.....	Hoseman
A. Isaacs.....	Hoseman
George Van Pool.....	Hoseman
Charles Gallatin.....	Hoseman
G. W. Dinan.....	Hoseman

ENGINE COMPANY No. 6.

Location—No. 311 Sixth street.

NAMES.	RANK.
John Conroy.....	Captain
T. J. Bean.....	Lieutenant
P. H. Brandon.....	Engineer
Joseph McDonald.....	Driver
Charles Nell.....	Stoker
John Titus.....	Hoseman
Edward Daunet.....	Hoseman
Joseph E. Dolan.....	Hoseman
Thomas Titus.....	Hoseman
Joseph Bailey.....	Hoseman

REPORT OF THE BOARD

ENGINE COMPANY No. 7.

Location—No. 3160 Sixteenth street.

NAMES.	RANK.
Arthur Welch.....	.....Captain
Samuel E. Kennard.....	.....Lieutenant
M. J. Rodrigues.....	.....Engineer
Lemuel Rudolph.....	.....Driver
John Allen.....	.....Stoker
Charles Malloy.....	.....Hoseman
J. M. Rojas.....	.....Hoseman
Edward Richardson.....	.....Hoseman

ENGINE COMPANY No. 8.

Location—No. 1648 Pacific avenue.

NAMES.	RANK.
Stephen Russell.....	.....Captain
W. W. Willis.....	.....Lieutenant
Edward Culligan.....	.....Engineer
M. J. Glennon.....	.....Driver
Robert McShane.....	.....Stoker
Frank Josephs.....	.....Hoseman
Stephen Balk.....	.....Hoseman
Daniel Coughlin.....	.....Hoseman

ENGINE COMPANY No. 9.

Location—No. 320 Main street.

NAMES.	RANK.
Charles Cullen.....	Captain
J. B. Cane.....	Lieutenant
C. J. Strouse.....	Engineer
Louis Walters.....	Driver
Charles Steiglitz.....	Stoker
W. D. Conroy.....	Hoseman
E. J. Shedly.....X	Hoseman
Charles Leter.....	Hoseman
James Bridgewood.....	Hoseman
James Reynolds.....	Hoseman

ENGINE COMPANY No. 10.

Location—No. 516 Bryant street.

NAMES.	RANK.
George Bailey.....	Captain
William Gill.....	Lieutenant
Thomas McElroy.....	Engineer
James Cronin.....	Driver
Dennis Quinlan.....	Stoker
John Lavaroni.....	Hoseman
C. E. Durning.....	Hoseman
John Leckie.....	Hoseman
Joseph Burke.....	Hoseman
E. L. Raffestin.....	Hoseman

REPORT OF THE BOARD

ENGINE COMPANY No. 11.

Location—No. 1632 Fifteenth avenue South.

NAMES.	RANK.
Charles Smith.....	Captain
Joseh Hoare.....	Lieutenant
C. H. Ferguson.....	Engineer
James Hagan.....	Driver
Christopher Windrow.....	Stoker
C. F. McTiernan.....	Hoseman
Peter Brady.....	Hoseman
Matthew Brown.....	Hoseman
W. F. Gernandt.....	Hoseman

ENGINE COMPANY No. 12.

Location—No. 101 Commercial street.

NAMES.	RANK.
Jeremiah Sullivan.....	Captain
Emil Gouvi.....	Lieutenant
Andrew Reid.....	Engineer
William Hensley.....	Driver
Frank Becker.....	Stoker
Thomas Lyon.....	Hoseman
George Spellman.....	Hoseman
Julius Phillips.....	Hoseman
J. D. Sullivan.....	Hoseman
Walter Creber.....	Hoseman

ENGINE COMPANY No. 13.

Location—No. 1458 Valencia street.

NAMES.	RANK.
Daniel Newell.....	Captain
John Pendergast.....	Lieutenant
William Heaney.....	Engineer
George McLaren.....	Driver
Thomas Barry.....	Stoker
Walter Nichols.....	Hoseman
Thomas Rennilson.....	Hoseman
S. H. Simons.....	Hoseman

ENGINE COMPANY No. 14.

Location—No. 1007 McAllister street.

NAMES.	RANK.
William Kenealey.....	Captain
John Bowland.....	Lieutenant
L. H. Barricks.....	Engineer
Daniel Lyons.....	Driver
Herbert Sorenson.....	Stoker
Hugh Powers.....	Hoseman
Leo Costillo.....	Hoseman
Frank Quinn.....	Hoseman

ENGINE COMPANY No. 15.

Location—No. 2114 California street.

NAMES.	RANK.
Frederick Whitaker.....	Captain
George Brøwn.....	Lieutenant
A. Imbrie.....	Engineer
Frank Lerman.....	Stoker
M. E. Wormuth.....	Hoseman
James Koopman.....	Hoseman
E. J. Moran.....	Hoseman
T. R. Walsh.....	Hoseman

ENGINE COMPANY No. 16.

Location—No. 1009 Tennessee street.

NAMES.	RANK.
William J. Byrne.....	Captain
Martin Duddy.....	Lieutenant
Samuel Rainey.....	Engineer
M. E. Gray.....	Driver
B. F. Jones.....	Stoker
William Moore.....	Hoseman
Philip Moholy.....	Hoseman
Michael Cusack.....	Hoseman

ENGINE COMPANY No. 17.

Location—No. 34 Mint avenue.

NAMES.	RANK.
John Doherty.....	.....Captain
William Nicholson.....	.....Lieutenant
William Kerrigan.....	.....Engineer
Claude Brownell.....	.....Driver
Frank McCluskey.....	.....Stoker
J. C. Crowley.....	.....Hoseman
Philip Danahy.....	.....Hoseman
Joseph Hayden.....	.....Hoseman
William Sawyer.....	.....Hoseman
John Ryan.....	.....Hoseman

ENGINE COMPANY No. 18.

Location—No. 317 Duncan street.

NAMES.	RANK.
H. H. Horn.....	.....Captain
Daniel Murphy.....	.....Lieutenant
Daniel McLaughlin.....	.....Engineer
John Scannel.....	.....Driver
Charles MacDonald.....	.....Stoker
J. P. Reimers.....	.....Hoseman
Thomas P. Jones.....	.....Hoseman
William Murphy.....	.....Hoseman

REPORT OF THE BOARD

ENGINE COMPANY No. 19.

Location—No. 1421 Market street.

NAMES.	RANK.
Charles J. Hogan.....	Captain
John Matheson.....	Lieutenant
S. P. Oppenheim.....	Engineer
John Little.....	Driver
Charles Bryan.....	Stoker
C. Kelleher.....	Hoseman
Henry Speckman.....	Hoseman
A. Jensen.....	Hoseman
H. H. Smith.....	Hoseman

ENGINE COMPANY No. 20.

Location—No. 2117 Filbert street.

NAMES.	RANK.
Henry Schmidt.....	Captain
J. J. Kelly.....	Lieutenant
Frank Crockett.....	Engineer
Edward O'Neill.....	Driver
James Tyrrell.....	Stoker
John Gavin.....	Hoseman
William Matheson.....	Hoseman
Patrick Canty.....	Hoseman

ENGINE COMPANY No. 21.

Location—No. 1152 Oak street.

NAMES.	RANK.
John Fay.....	.....Captain
James Feeney.....	.....Lieutenant
Henry Smith.....	.....Engineer
W. A. Frodsham.....	.....Driver
Joseph J. Cully.....	.....Stoker
Charles Cochran.....	.....Hoseman
Daniel Cooney.....	.....Hoseman
George H. Thomas.....	.....Hoseman

ENGINE COMPANY No. 22.

Location—No. 1348 Tenth avenue.

NAMES.	RANK.
John Kenny.....	.....Captain
Thomas Collins.....	.....Lieutenant
F. S. Hall.....	.....Engineer
M. J. O'Connor.....	.....Driver
Eugene Crummey.....	.....Stoker
Martin Spellman.....	.....Hoseman
Edward McDermott.....	.....Hoseman
W. P. Conlon.....	.....Hoseman

ENGINE COMPANY No. 23.

Location—No. 3022 Washington street.

NAMES.	RANK.
James Layden.....	.....Captain
William F. Curran.....	.....Lieutenant
Charles Hewitt.....	.....Engineer
J. J. McCarthy.....	.....Driver
W. J. Shields.....	.....Stoker
George McDonald.....	.....Hoseman
George Lawson.....	.....Hoseman
H. G. Root.....	.....Hoseman

ENGINE COMPANY No. 24.

Location—No. 449 Douglass street.

NAMES.	RANK.
Edward Skelly.....	.....Captain
Eugene McCormick.....	.....Lieutenant
B. J. McShans.....	.....Engineer
William O'Connor.....	.....Driver
Michael J. O'Connell.....	.....Stoker
Edward Toland.....	.....Hoseman
Fred J. Pope.....	.....Hoseman
William Mullaney.....	.....Hoseman

ENGINE COMPANY No. 25.

Location—No. 2547 Folsom street.

NAMES.	RANK.
James Radford.....	Captain
James Riley.....	Lieutenant
Joseph Finn.....	Engineer
Malachi Norton.....	Driver
John Hartford.....	Stoker
Howard Marden.....	Hoseman
William Swanton.....	Hoseman
P. F. Dugan.....	Hoseman

ENGINE COMPANY No. 26.

Location—No. 327 Second avenue.

NAMES.	RANK.
James H. Dever.....	Captain
Michael Drury.....	Lieutenant
Patrick Hughes.....	Engineer
Walter Lintott.....	Driver
Henry Welch.....	Stoker
M. Dougherty.....	Hoseman
J. E. Owens.....	Hoseman
Louis Andrews.....	Hoseman

ENGINE COMPANY No. 27.

Location—No. 621 Hermann street.

NAMES.	RANK.
R. H. Sawyer.....	Captain
Larry O'Neill.....	Lieutenant
E. P. Brennan.....	Engineer
C. H. Heinemann.....	Driver
Edward O'Donnell.....	Stoker
George F. Bunner.....	Hoseman
Edward Church.....	Hoseman
William Siewert.....	Hoseman
Edward O'Donnell.....	Hoseman

ENGINE COMPANY No. 28.

Location—No. 301 Francisco street.

NAMES.	RANK.
John Maxwell.....	Captain
William Everson.....	Lieutenant
Joseph Pendergast.....	Engineer
J. F. Sweeney.....	Driver
John Arata.....	Stoker
Augustus Banker.....	Hoseman
Austin Mogan.....	Hoseman
George Clancy.....	Hoseman
Michael Ryan.....	Hoseman

ENGINE COMPANY No. 29.

Location—No. 1305 Bryant street.

NAMES.	RANK.
Frederick Sayers.....	Captain
T. J. Murphy.....	Lieutenant
John Barry.....	Engineer
Thomas Hart.....	Driver
Thomas Parker.....	Stoker
J. A. O'Brien.....	Hoseman
Wallace Jameson.....	Hoseman
William Smith.....	Hoseman
James Flood.....	Hoseman
James Driscoll.....	Hoseman

ENGINE COMPANY NO. 30.

Location—No. 1737 Waller street.

NAMES.	RANK.
D. R. Sewell.....	Captain
Thomas Kelly.....	Lieutenant
Milton Morgan.....	Engineer
John Biophy.....	Driver
William Harvey.....	Stoker
Edward Kelleher.....	Hoseman
John Enright.....	Hoseman
Charles G. Harkins.....	Hoseman

REPORT OF THE BOARD

ENGINE COMPANY No. 31.

Location—No. 1214 Pacific street.

NAMES.	RANK.
Thomas Canty.....	.....Captain
James Walsh.....	.....Lieutenant
W. T. Welch.....	.....Engineer
John Cahill.....	.....Driver
John Fitzsimmons.....	.....Stoker
J. F. Shaughnessy.....	.....Hoseman
Edward King.....	.....Hoseman
M. J. O'Brien.....	.....Hoseman
James Matthews.....	.....Hoseman

ENGINE COMPANY No. 32.

Location—Holly Park and West Avenue.

NAMES.	RANK.
Eugene O'Connor.....	.....Captain
George Styles.....	.....Lieutenant
W. S. Casebolt.....	.....Engineer
John Blythe.....	.....Driver
L. A. Smith.....	.....Stoker
Thomas Connor.....	.....Hoseman
John Thompson.....	.....Hoseman
James Bohan.....	.....Hoseman

ENGINE COMPANY No. 33.

Location—No. 117 Broad street, Ocean View.

NAMES.	RANK.
R. T. Browne.....	.....Captain
John Caulley.....	.....Lieutenant
John Douglass.....	.....Engineer
Jeremiah McNamara.....	.....Driver
Peter Burke.....	.....Stoker
J. J. Casserly.....	.....Hoseman
Thomas Johnson.....	.....Hoseman

ENGINE COMPANY No. 34.

Location—No. 1119 Ellis street.

NAMES.	RANK.
Henry Mitchell.....	.....Captain
Anthony Phelan.....	.....Lieutenant
Louis Klehl.....	.....Engineer
Samuel Nelson.....	.....Driver
James Buckley.....	.....Stoker
Martin Burns.....	.....Hoseman
R. Oppenheim.....	.....Hoseman
William Hanton.....	.....Hoseman

REPORT OF THE BOARD

ENGINE COMPANY No. 35.

Location—No. 38 Bluxome street.

NAMES.	RANK.
William Danahy.....	.....Captain
W. F. Miskel.....	.....Lieutenant
Fred Orr.....	.....Engineer
William Tobin.....	.....Driver
James McGibbon.....	.....Stoker
James M. Handley.....	.....Hoseman
John Rudden.....	.....Hoseman
William Parry.....	.....Hoseman
Harry Newman.....	.....Hoseman
D. McAulliffe.....	.....Hoseman

ENGINE COMPANY No. 36.

Location—No. 720 Cliff avenue.

NAMES.	RANK.
J. W. Belden.....	.....Lieutenant
Joseph Mathews.....	.....Engineer
James H. Stroud.....	.....Driver
James Fitzgerald.....	.....Stoker
James Walsh.....	.....Hoseman

ENGINE COMPANY NO. 37.

Location—No. 2919 Twenty-third street.

NAMES.	RANK.
William Holmes.....	Captain
William O'Farrell.....	Lieutenant
Edawrd Dougherty.....	Engineer
Maurice Barrett.....	Driver
J. T. O'Donnell.....	Stoker
G. W. Lahusen.....	Hoseman
M. O'Neill.....	Hoseman
William Taylor.....	Hoseman

TRUCK COMPANY No. 1.

Location—No. 22 O'Farrell street.

NAMES.	RANK.
Eugene Crowe.....	Captain
R. H. Woods.....	Lieutenant
C. Connell.....	Driver
George Carew.....	Tillerman
Peter Gallagher.....	Truckman
Daniel Donovan.....	Truckman
Timothy Flynn.....	Truckman
W. F. Tracey.....	Truckman
John J. Quinn.....	Truckman
Thomas Gallagher.....	Truckman
Henry Donnadeau.....	Truckman
Jullus Gimmel.....	Truckman

TRUCK COMPANY No. 2.

Location—No. 627 Broadway street.

NAMES.	RANK.
W. E. Kelly.....	Captain
John Leahy.....	Lieutenant
Harry Wilson.....	Driver
Alfred Florence.....	Tillerman
Frank Cummings.....	Truckman
E. F. Cogger.....	Truckman
William Conniff.....	Truckman
Rinaldo Cuneo.....	Truckman
Frank Kruse.....	Truckman
John Crosby.....	Truckman
H. T. Heffernan.....	Truckman
James Corwell.....	Truckman

TRUCK COMPANY No. 3.

Location—No. 1421 Market street.

NAMES.	RANK.
William Schultz.....	Captain
Edward Kehoe.....	Lieutenant
Michael Hannan.....	Driver
Joseph Burnett.....	Tillerman
Ernest Cameron.....	Truckman
M. Bearwald.....	Truckman
William Hopkins.....	Truckman
Frank Carew.....	Truckman
Thomas McGlynn.....	Truckman
C. W. Heggum.....	Truckman

TRUCK COMPANY No. 4.

Location—No. 1648 Pacific avenue.

NAMES.	RANK.
T. B. Kentzell.....	Captain
Alfred Davis.....	Lieutenant
William Shackleton.....	Driver
John Finnigan.....	Tillerman
Patrick Sullivan.....	Truckman
George Donald.....	Truckman
George Davis.....	Truckman
Robert Powers.....	Truckman
J. E. Eckelman.....	Truckman
W. H. Kelly.....	Truckman

TRUCK COMPANY No. 5.

Location—No. 1819 Post street.

NAMES.	RANK.
Matthew Farley.....	Captain
William Otto.....	Lieutenant
Charles Mulloy.....	Driver
William Serens.....	Tillerman
T. J. Harrington.....	Truckman
Henry McMahon.....	Truckman
John J. Pyne.....	Truckman
Thomas Timmons.....	Truckman
Frederick Woods.....	Truckman
James Walsh.....	Truckman

TRUCK COMPANY No. 6.

Location—No. 1152 Oak street.

NAMES.	RANK.
John Dryer.....	.....Captain
Joseph Capelli.....	.....Lieutenant
J. P. Hayden.....	.....Driver
M. Fitzhenry.....	.....Tillerman
H. H. Casey.....	.....Truckman
Gustave Hain.....	.....Truckman
Frederick Grote.....	.....Truckman
Geo. M. Boyson.....	.....Truckman
James Franks.....	.....Truckman
Hugh Quinn.....	.....Truckman

TRUCK COMPANY No. 7.

Location—No. 3050 Seventeenth street.

NAMES.	RANK.
William Carew.....	.....Captain
Julius De Meyer.....	.....Lieutenant
Charles Thoney.....	.....Driver
J. J. O'Connor.....	.....Tillerman
Henry Sullivan.....	.....Truckman
W. J. O'Connor.....	.....Truckman
Frank Johnson.....	.....Truckman
T. D. O'Brien.....	.....Truckman
Michael Wright.....	.....Truckman
Frank Jordan.....	.....Truckman

TRUCK COMPANY No. 8.

Location—No. 38 Bluxome street.

NAMES.	RANK.
Frank Nichols.....	Captain
Walter Boynton.....	Lieutenant
Joseph Ryan.....	Driver
William Muentner.....	Tillerman
George T. Logan.....	Truckman
Henry Mulligan.....	Truckman
Joseph H. O'Brien.....	Truckman
Patrick Hogan.....	Truckman
James Dooley.....	Truckman
Andrew Chesney.....	Truckman
Thomas Fitzpatrick.....	Truckman
Michael Flannigan.....	Truckman

TRUCK COMPANY NO. 9.

Location—No. 2979 Twenty-fourth street.

NAMES.	RANK.
W. J. Bannon.....	Captain
Fred Ellenberger.....	Lieutenant
Charles F. Byrne.....	Driver
Charles Maguire.....	Tillerman
H. S. Morrison.....	Truckman
Joseph Collins.....	Truckman
C. J. Reinfeld.....	Truckman
Joseph Morse.....	Truckman
Reinhold Jones.....	Truckman
George F. Wells.....	Truckman

REPORT OF THE BOARD

CHEMICAL ENGINE COMPANY No. 1.

Location—No. 144 Second street.

NAMES.	RANK.
Michael O'Brien.....	.....Captain
Richard Allen.....	.....Lieutenant
James Minigan.....	.....Driver
John Fitzpatrick.....	.....Hoseman

CHEMICAL ENGINE COMPANY No. 2.

Location—No. 1819 Post street.

NAMES.	RANK.
John R. Mitchell.....	.....Captain
William Crawhall.....	.....Lieutenant
J. J. Mitchell.....	.....Driver
William Wanderlich.....	.....Hoseman

CHEMICAL ENGINE COMPANY No. 3.

Location—No. 112 Jackson street.

NAMES.	RANK.
Thomas Murphy.....	.....Captain
W. A. Cook.....	.....Lieutenant
M. J. Higgins.....	.....Driver
J. F. Meacham.....	.....Hoseman

CHEMICAL ENGINE COMPANY No. 4.

Location—No. 451 McAllister street.

NAMES.	RANK.
James Britt.....	.....Captain
Edward Gillig.....	.....Lieutenant
Thomas McGovern.....	.....Lieutenant
Timothy O'Brien.....	.....Hoseman

CHEMICAL ENGINE COMPANY No. 5.

Location—No. 627 Broadway.

NAMES.	RANK.
W. F. Gallatin.....	.....Captain
J. F. Riley.....	.....Lieutenant
William Newman.....	.....Driver
Frank Cassasa.....	.....Hoseman

CHEMICAL ENGINE COMPANY No. 6.

Location—No. 311 Sixth street.

NAMES.	RANK.
James Conniff.....	.....Captain
James Landtbum.....	.....Lieutenant
J. S. Brant.....	.....Driver
William Hart.....	.....Hoseman

CHEMICAL ENGINE COMPANY No. 7.

Location—No. 3050 Seventeenth street.

NAMES.	RANK.
George Ewing.....	.....Captain
John Devine.....	.....Lieutenant
Howard Holmes.....	.....Driver
A. C. Goddard.....	.....Hoseman

WATER TOWER COMPANY No. 1.

Location—No. 108 New Montgomery street.

NAMES.	RANK.
Peter Wralty.....	.....Captain
E. J. Shaughnessy.....	.....Driver
.....	.....Hoseman

MONITOR BATTERY No. 1.

Location—No. 516 Bryant street.

NAMES.	RANK.
N. Barbetta.....	.....Driver

MONITOR BATTERY No. 2.

Location—No. 22 O'Farrell street.

NAMES.	RANK.
Joseph Wales.....	.....Driver

RELIEF ENGINE COMPANY No. 1.

NAMES.	RANK.
Henry Gorter.....	.....Captain
D. R. Conniff.....	.....Lieutenant
Thomas Muldowney.....	.....Hoseman

RELIEF ENGINE COMPANY No. 2.

NAMES.	RANK.
Isador Gurmendez.....	.....Captain
John Doyle.....	.....Lieutenant
Alexander George.....	.....Hoseman

CORPORATION YARD EMPLOYEES.

NAMES.	RANK.
John W. Relly.....	Superintendent of Engines
P. H. Fleming.....	Clerk and Commissary
Henry Rice.....	Hydrantman
Phillp Brady.....	Hydrantman
Charles Claveau.....	Hydrantman
Edward Murray.....	Hydrantman
John Riley.....	Drayman
John Sheehan.....	Drayman
J. S. Farley.....	Watchman
Joseph Sawyer.....	Watchman
Thomas Bulger.....	Machinist
Luke Curry.....	Machinist
Frank Lester.....	Machinist
Alfred Girot.....	Machinist
George Knorp.....	Machinist
T. Harrington.....	Machinist
Daniel O'Neil.....	Blacksmith
William Ward.....	Blacksmith
Timothy Healy.....	Blacksmith
John Rafferty.....	Blacksmith
William Finnigan.....	Blacksmith Helper
J. McManus.....	Blacksmith Helper
G. F. Cullen.....	Blacksmith Helper
Frank Spearman.....	Blacksmith Helper
Thomas McLaughlin.....	Brass Finisher
William Kennedy.....	Wheelwright
L. A. Donovan.....	Wheelwright
Charles Healey.....	Painter
David McKibben.....	Painter
William Byrne.....	Painter
John Karney.....	Harness-maker
J. Meagher.....	Harness-maker
Thomas Buckley.....	Harness-maker
Edward Payne.....	Boiler-maker
William Brown.....	Machinist Apprentice
John Moholy.....	Machinist Apprentice
Frank Powers.....	Helper and Janitor
T. O'Neill.....	Helper and Janitor

DEPARTMENT STABLE EMPLOYEES.

NAMES.	RANK.
Patrick O'Connell.....	.....Superintendent of Horses
John O'Brien.....	.....Hostler
John Murphy.....	.....Hostler
Patrick McKenna.....	.....Hostler
Phillip Meehan.....	.....Hostler
P. Maloney.....	.....Hostler
W. F. Egan.....	.....Veterinary Surgeon
Frank Brown.....	.....Teamster

STATEMENT OF THE KIND OF APPARATUS, CLASS,
AND DUTY PERFORMED BY EACH COMPANY

KIND OF APPARATUS.	CLASS OF APPARATUS.	Number of Men in Com- pany.....	Number of Horses.....
Engine Company No. 1, American.....	First.....	10	5
Engine Company No. 2, Metropolitan, double..	Second.....	10	5
Engine Company No. 3, Clapp & Jones.....	Second.....	9	5
Engine Company No. 4, Metropolitan.....	First.....	10	5
Engine Company No. 5, Clapp & Jones, double	First.....	10	5
Engine Company No. 6, Clapp & Jones, double	First.....	10	4
Engine Company No. 7, La France, double....	Third.....	8	5
Engine Company No. 8, La France, double....	Second.....	8	5
Engine Company No. 9, Clapp & Jones.....	Second.....	10	4
Engine Company No. 10, La France.....	First.....	10	5
Engine Company No. 11, Amoskeag, double....	Second.....	9	5
Engine Company No. 12, Metropolitan.....	First.....	10	5
Engine Company No. 13, La France, double...	Second.....	8	5
Engine Company No. 14, American.....	Third.....	8	5
Engine Company No. 15, La France, double...	Third.....	9	5
Engine Company No. 16, Amoskeag.....	Second.....	8	5
Engine Company No. 17, American.....	First.....	10	5
Engine Company No. 18, La France, double...	Fourth.....	8	5
Engine Company No. 19, Metropolitan.....	Second.....	9	5
Engine Company No. 20, Clapp & Jones.....	Third.....	8	5
Engine Company No. 21, Clapp & Jones.....	Third.....	8	5
Engine Company No. 22, La France, double...	Third.....	8	5
Engine Company No. 23, La France, double...	Third.....	8	5
Engine Company No. 24, La France, double...	Fourth.....	8	5
Engine Company No. 25, Amoskeag, double...	Second.....	8	5
Engine Company No. 26, La France.....	Fourth.....	8	5
Engine Company No. 27, La France.....	Third.....	9	5
Engine Company No. 28, Clapp & Jones.....	Second.....	9	5

NUMBER OF MEN AND HORSES, ALARMS RESPONDED TO
FOR THE YEAR ENDING JUNE 30, 1901.

KIND.	HOSE. NUMBER OF FEET AND SIZES.	Number of Bell Alarms Responded to	Number of Fires Per- formed Duty at	Number of Still Alarms	TIME WORKED.	
					Hours	Minutes
Cotton	500 ft. 3 in., 900 ft. 2¾ in., 200 ft. 1½ in.	93	23	15	51	41
Cotton	1,400 ft. 2¾ in.	186	54	22	54	50
Cotton	1,400 ft. 2¾ in., 200 ft. 1½ in.	92	45	18	65	40
Cotton	500 ft. 3 in., 900 ft. 2¾ in., 200 ft. 1½ in.	147	29	3	37	35
Cotton	400 ft. 3 in., 1,000 ft. 2¾ in., 200 ft. 1½ in.	93	13	14	36	5
Cotton	500 ft. 3 in., 900 ft. 2¾ in., 200 ft. 1½ in.	132	33	6	76	51
Cotton	400 ft. 3 in., 1,000 ft. 2¾ in., 200 ft. 1½ in.	56	21	11	19	20
Cotton	1,400 ft. 2¾ in., 200 ft. 1½ in.	80	19	9	37	30
Cotton	500 ft. 3 in., 900 ft. 2¾ in., 200 ft. 1½ in.	75	17	15	41	10
Cotton	500 ft. 3 in., 900 ft. 2¾ in., 200 ft. 1½ in.	128	36	15	43	35
Cotton	1,800 ft. 2½ in., 200 ft. 1½ in.	8	9	6	16	20
Cotton	500 ft. 3 in., 900 ft. 2¾ in., 200 ft. 1½ in.	80	19	6	42	....
Cotton	1,500 ft. 2¾ in., 200 ft. 1½ in.	44	14	8	31	....
Cotton	525 ft. 3 in., 900 ft. 2¾ in., 200 ft. 1½ in.	53	12	18	24	15
Cotton	1,500 ft. 2¾ in., 200 ft. 1½ in.	69	32	19	28	30
Cotton	1,600 ft. 2¾ in., 200 ft. 1½ in.	17	6	6	15	5
Cotton	500 ft. 3 in., 900 ft. 2¾ in., 200 ft. 1½ in.	165	30	21	59	30
Cotton	1,600 ft. 2½ in., 200 ft. 1½ in.	36	12	6	25	50
Cotton	500 ft. 3 in., 900 ft. 2¾ in., 200 ft. 1½ in.	108	22	8	37	20
Cotton	1,600 ft. 2¾ in., 200 ft. 1½ in.	23	16	6	30	55
Cotton	1,400 ft. 2¾ in., 200 ft. 1½ in.	21	16	15	10	50
Cotton	1,800 ft. 2½ in., 200 ft. 2½ in.	49	33	21	31	5
Cotton	1,700 ft. 2¾ in., 200 ft. 1½ in.	45	22	16	30	15
Cotton	1,400 ft. 2¾ in., 200 ft. 1½ in.	18	11	4	19	....
Cotton	1,400 ft. 2¾ in., 200 ft. 1½ in.	47	34	18	29	35
Cotton	1,550 ft. 2½ in., 200 ft. 1½ in.	25	16	9	12	20
Cotton	500 ft. 3 in., 900 ft. 2¾ in., 200 ft. 1½ in.	35	24	18	20	35
Cotton	500 ft. 3 in., 900 ft. 2¾ in., 200 ft. 1½ in.	40	13	9	36	40

STATEMENT

KIND OF APPARATUS.	CLASS OF APPARATUS.	Number of Men in Com- pany.....	Number of Horses.....
Engine Company No. 29, Metropolitan.....	Second.....	10	5
Engine Company No. 30, La France.....	Third.....	8	5
Engine Company No. 31, Metropolitan.....	Third.....	9	5
Engine Company No. 32, La France.....	Third.....	8	5
Engine Company No. 33, Amoskeag.....	Third.....	7	5
Engine Company No. 34, La France, double..	Third.....	8	5
Engine Company No. 35, La France.....	First.....	10	5
Engine Company No. 36, Amoskeag.....	Second.....	5	3
*Engine Company No. 37, Amoskeag.....	Second.....	8	5
Truck Company No. 1, Rumsey Trussed.....	First.....	12	3
Truck Company No. 2, Straight Frame.....	First.....	12	3
Truck Company No. 3, Holloway Combination.	First.....	10	3
Truck Company No. 4, Straight Frame.....	Third.....	10	3
Truck Company No. 5, Straight Frame.....	Third.....	10	3
Truck Company No. 6, Straight Frame.....	Third.....	10	3
Truck Company No. 7, Straight Frame.....	Second.....	10	3
Truck Company No. 8, Hayes Extension.....	Third.....	12	3
*Truck Company No. 9, Hayes Extension.....	Third.....	10	3
Chemical Company No. 1, Champion, d'ble 80..	First.....	4	2
Chemical Company No. 2, Champion, d'ble 60..	First.....	4	2
Chemical Company No. 3, Champion, d'ble 80..	First.....	4	2
Chemical Company No. 4, Champion, d'ble 60..	First.....	4	2
Chemical Company No. 5, Champion, d'ble 60..	First.....	4	2
Chemical Company No. 6, Champion, d'ble 60..	First.....	4	2
Chemical Company No. 7, Champion, d'ble 100.	First.....	4	2
Water Tower No. 1.....	First.....	2	3
Monitor Battery No. 1.....	First.....	1	1
Monitor Battery No. 2.....	First.....	1	1

*Went into service May 11, 1901.

—CONTINUED.

HOSE.		Number of Bell Alarms Responded to.....	Number of Fires Performed Duty at.....	Number of Still Alarms	TIME WORKED.	
KIND.	NUMBER OF FEET AND SIZES.				HOURS.....	Minutes...
Cotton.....	1,450 ft. 3 in.	88	18	16	59	20
Cotton.....	400 ft. 3 in., 1,000 ft. 2¾ in., 200 ft. 1½ in..	18	7	11	20	15
Cotton.....	520 ft. 3 in., 900 ft. 2¾ in., 200 ft. 1½ in..	76	33	7	44	...
Cotton.....	1,800 ft. 2½ in., 200 ft. 1½ in..	34	19	5	34	40
Cotton.....	2,050 ft. 2½ in., 100 ft. 1½ in..	5	14	9	19	15
Cotton.....	500 ft. 3 in., 900 ft. 2¾ in., 200 ft. 1½ in..	95	17	4	32	50
Cotton.....	500 ft. 3 in., 900 ft. 2¾ in., 200 ft. 1½ in..	97	19	3	35	30
Cotton.....	3,000 ft. 2½ in., 200 ft. 1½ in..	5	5	5	4	30
Cotton.....	500 ft. 3 in., 900 ft. 2¾ in., 200 ft. 1½ in..	7	...	3	...	50
.....	.....	136	77	15	91	10
.....	.....	98	59	25	28	...
.....	.....	106	70	11	65	50
.....	.....	75	51	7	81	10
.....	.....	54	40	32	44	40
.....	.....	49	39	23	31	10
.....	.....	60	36	12	63	58
.....	.....	89	57	3	71	16
.....	.....	7	5	...	3	57
Rubber.....	250 ft. 1-in.....	101	49	43	53	25
Rubber.....	250 ft. 1-in.....	16	21	13	19	10
Rubber.....	250 ft. 1-in.....	51	28	15	36	35
Rubber.....	250 ft. 1-in.....	102	82	19	59	45
Rubber.....	250 ft. 1-in.....	85	70	25	67	20
Rubber.....	250 ft. 1-in.....	101	74	45	64	10
Rubber.....	250 ft. 1-in.....	46	48	19	37	5
.....	.....	74	1	...	2	30
.....	.....	101	1	...	2	...
.....	.....	103	...	...	...	...

FIRES.

During the year the department responded to 1,139 alarms of fire, 646 of which were from street and automatic boxes, 621 were first alarms, 21 second alarms and 4 third alarms, and 493 were silent alarms, received verbally or by telephone.

LOSSES BY FIRE, INSURANCE, AND AMOUNT PAID.

MONTH.	LOSSES.	INSURANCE.	INSURANCE PAID.
1900.			
July	\$76,916 96	\$797,316 43	\$66,712 97
August	28,514 08	380,550 00	18,114 08
September.....	33,639 81	307,200 00	28,432 81
October.....	48,354 34	478,150 00	47,807 34
November.....	20,743 97	149,750 00	19,643 97
December.....	46,149 55	255,589 00	36,468 55
1901.			
January.....	58,056 70	392,150 00	57,087 70
February	33,586 52	168,750 00	23,779 02
March.....	49,111 67	310,695 00	43,121 67
April	32,978 30	458,610 00	26,701 30
May.....	8,814 92	447,580 00	7,669 35
June.....	85,398 67	315,431 59	44,034 67
Total..	\$523,265 49	\$4,461,772 02	\$419,573 43

NUMBER OF FEET OF WATER MAINS LAID IN CITY FROM JULY 1, 1900,
TO JULY 1, 1901.

SIZE OF MAINS.	NUMBER OF FEET LAID.
4-inch.....	300
6-inch.....	.....
8-inch.....	5,600
12-inch.....	1,100
24-inch.....	6,400
37-inch.....	1,000
44-inch.....	2,000
Total number of feet laid.....	16,400

HYDRANTS.

New Hydrants set during the year.....	122
Hydrants reset.....	78
Hydrants removed.....	8
4-inch hydrants replaced by 5-inch.....	88

NUMBER OF HYDRANTS IN SERVICE.

Spring Valley Water Works.....	3,767
Olympic Salt Water Company.....	28
Visitacion Water Company.....	8
Total number of hydrants.....	3,798

APPROPRIATION AND EXPENDITURES

FISCAL YEAR 1900-1901.

	AMOUNT.	TOTAL.
Total appropriation.....		\$688,718 00
EXPENDITURES.		
Repairs to apparatus (including salaries)—		
Corporation yards	\$44,066 10	
Paint shop.....	4,668 45	
Power.....	577 85	
	\$49,312 40	
Department stables.....	8,267 60	
Harness and repairs.....	6,096 38	
Forage.....	30,152 17	
Fuel.....	10,727 85	
Furniture.....	1,586 41	
Hose.....	12,327 50	
Apparatus, new.....	15,407 52	
Horses.....	5,795 00	
Rent.....	1,160 00	
Horseshoeing.....	5,575 87	
Hydrants, castings, setting, etc.....	13,668 93	
Supplies.....	8,086 14	
Removal of garbage.....	625 00	
Office (sundries).....	601 85	
Stationery and printing.....	17 90	
Salaries (uniform force and office).....	518,747 26	
Total expenditures.....		688,155 78
Surplus remaining.....		\$562 22

HORSESHOEING.

On May 19, 1900, the Board of Fire Commissioners advertised for bids for horseshoeing and received bids, as follows:

NAME OF BIDDER.	Shoeing, per horse..	Pads, per horse.	Bar shoes, per pair...	Tar, leather and oakum
Fred Hoffman.. .. .	\$1 94	\$2 00	\$1 30	30c.
J. F. Kennedy	1 93	1 80	1 30	*
Paul Friedhofer.....	2 50	1 75	2 00	50c.
T. J. Crowley.....	2 50	*	*	*
Nicholas Murrisey.....	2 50	*	*	*
Thomas McGee.....	2 50	*	*	*
John O'Rourke.....	2 00	*	*	*
E. M. Graney.....	2 50	*	*	*
James F. Mooney....	2 50	*	*	*

* No extra charge.

In order to determine which of these bids was the lowest it became necessary for the Board to make an estimate of the probable number of bar shoes and rubber pads which would be required. After the fullest consideration and investigation of this matter the Board reached the conclusion that John O'Rourke was the lowest bidder, and so awarded the contract to him.

Suit was instituted by John F. Kennedy to compel the Board to award the contract to him on the ground that he was the lowest bidder, alleging conspiracy and fraud on the part of the Board in awarding the contract to O'Rourke. The action was tried before the Hon. J. C. B. Hebbard, and while his Honor declared that the charges of fraud and conspiracy were without foundation, he concluded that said Kennedy was the lowest bidder, and instructed the Board of Fire Commissioners to award the contract for the unexpired term to the said Kennedy. Whereupon the Board of Fire Commissioners so awarded the contract to the said Kennedy.

A detailed statement of the actual cost of shoeing horses from June 1, 1900, to May 1, 1901, may be found on file in the office of the Board of Fire Commissioners.

The actual cost under the Kennedy contract averaged a fraction over \$2 03 per horse, as against \$2 per horse under the O'Rourke contract.

This matter is mentioned in this report simply as a justification of the position of the Commissioners, who were at all times convinced that they had let the contract to the lowest bidder when they awarded it to O'Rourke.

APPARATUS.

The following apparatus is in good condition and in regular service in the department: 37 steam fire engines, 37 hose wagons, 1 combination hose and chemical

wagon, 9 hook-and-ladder trucks, 7 chemical engines, 2 water towers, 2 monitor batteries, 25 officers' buggies (including relief buggies), 6 hydrantman carts, 10 delivery wagons, 2 supply wagons, 1 crane-neck truck, 1 horse ambulance, 50 babcock hand chemical extinguishers and 79,500 feet of cotton hose.

The following apparatus is in good condition and ready to do relief and emergency work, but because of old style and having been long in use is not capable of the highest efficiency nor of regular service: 15 steam fire engines, 16 hose wagons, 2 hose carriages and 1 hose cart.

NEW APPARATUS.

During the year the following new apparatus and equipments were purchased: Two steam fire engines, 2 hook-and-ladder trucks, 2 trussed extension ladders, 20 pompier or scaling ladders, 210 respirators, a life net, etc., the hook-and-ladder trucks being thoroughly equipped with the most modern life-saving devices.

A new water tower, entirely constructed at the machine shops of the department, has also been completed, and, after two most thorough and satisfactory tests, has also been added to the equipments of the department.

NEW HOSE.

During the year 16,000 feet of 2¾-inch and 1,000 feet of 1½-inch cotton hose was purchased.

HORSES.

There are at present in the department 285 horses, including those kept for relief purposes, and two colts.

With the exception of five that are now under treatment at the hospital, all are in good condition.

During the year 35 horses were purchased and 31 were condemned as being unfit for service, 19 of these were sold at public auction and the remainder transferred to other departments of the municipality requiring the same.

Three horses were killed on account of injuries, etc. There were 500 treatments of sick horses at the hospital and engine houses, and but four deaths, making a total of seven deaths during the year.

NEW COMPANIES ORGANIZED.

On May 1st Engine Company No. 37 was organized and went into service in temporary quarters at 2919 Twenty-third street, and Truck Company No. 9 at 2779 Folsom street, pending the erection of suitable quarters in that vicinity for the permanent housing of these two companies.

ENGINE HOUSES.

All of the engine houses are in good condition with the exception of Engine Houses Nos. 5, 8, 9, 24 and Truck House No. 5.

Plans and specifications have been prepared for a new house on Howard street, near Third, and when the same is completed Engine Company No. 4 will be transferred thereto and the Water Tower, which is at present occupying rented quarters on New Montgomery street, will be transferred to the house vacated by Engine Company No. 4 on Second street.

REAL ESTATE ACQUIRED.

The following real estate has been transferred to the department by the Board of Supervisors, at the request of this Board:

Lot on west side of San Bruno avenue, 100 feet south of Twenty-fifth street, size of lot 100x200 feet.

Lot on northwest corner of San Jose avenue and road leading to Branch County Jail, size of lot 100x150 feet.

MEMBERS RETIRED ON PENSION.

The following members were retired on pension during the year on account of physical disability:

Joseph Hogan, Hoseman Engine Company 31, retired July 1, 1900.

John T. Crummey, Hydrantman, retired November 1, 1900.

Joseph Wolf, Truckman Truck Company 2, retired January 1, 1901.

Patrick Barry, Lieutenant Engine Company 23, retired April 1, 1901.

DONATIONS RECEIVED.

Voluntary donations, in recognition of excellent services rendered by members of the department in the performance of their duties, were received by the Chief Engineer, for the benefit of the firemen's benevolent fund:

Fulton Engineering and Shipbuilding Company, August 3, 1900....\$100

J. Techau, proprietor Techau's Tavern, November 15, 1900..... 50

J. Noonan Furniture Company, January 29, 1901..... 100

New houses are urgently needed for the following companies, their present quarters being in poor condition:

Engine Company No. 5, 1219 Stockton street.

Engine Company No. 8, 1648 Pacific avenue.

Engine Company No. 9, 320 Main street.

Engine Company No. 24, 448 Douglass street.

Truck Company No. 5, 1819 Post street.

Owing to the limited appropriation to the Board of Public Works for this purpose, only one house can be built, namely, the house on Howard street, near Third, already referred to in this report.

The department needs a first-class fire boat for the better protection of the valuable and ever-increasing water front property and shipping interests, and we again most earnestly recommend that ample provisions be made for this purpose in the next tax levy.

We further recommend that provisions be made for putting in an auxiliary salt water system in the downtown districts, for the better protection of the enormous values found in that section of our city.

The department is in excellent condition. All the companies in the business portion of the city have a full complement of men, and in the outlying districts the companies have been increased and strengthened as far as our appropriation would admit.

CONSTRUCTION, TOPOGRAPHY AND ISOLATION.

The construction of buildings, the topography and the isolation of San Francisco make it imperative that our department be maintained to the highest point of efficiency.

REPORT OF THE BOARD

The following table will show the relative number of frame and brick buildings in the cities named:

	San Francisco ..	Boston	Chicago	St Louis.....	Philadelphia....
Brick.....	3,881	25,200	69,849	85,498	226,245
Frame.....	50,494	55,739	51,808	18,498	13,885

It will be observed that in San Francisco about 7 per cent. of the buildings are brick and 93 per cent. frame; in Boston, 30 per cent. brick and 70 per cent. frame (this includes the extensive suburban districts of the city of Boston); in Chicago, 56 per cent. brick and 44 per cent. frame; in St. Louis, 80 per cent. brick and 20 per cent. frame; in Philadelphia, 94 per cent. brick and 6 per cent. frame. San Francisco has the largest percentage of frame buildings of any of the cities named.

Our city is also located upon many hills, over which it is difficult to drag our apparatus, hence we must have many stations so located as to reach the most difficult points. Every other city named is built upon level ground, where the heaviest apparatus can be carried with great rapidity from one part of the city to another.

San Francisco is practically limited to its own apparatus, for there are only 14 steam fire engines all told in other cities and towns within 75 miles of San Francisco. We are therefore compelled to rely almost exclusively upon our own protection. The city of Boston, for illustration, aside from having a very large fire department of its own, and auxiliary salt water mains running from the bay into the center of the city, and to which fire boats of great power may be attached, may call for assistance from cities and towns located within a radius of 50 miles 160 steam fire engines in event of a great conflagration. For these reasons it is obviously the part of wisdom to make the most liberal provisions for this branch of our city government.

In an appendix hereto will be found a list of the persons, firms and corporations from whom the department has purchased apparatus, materials and supplies during the fiscal year 1900-1901.

Respectfully submitted,

ROLLA V. WATT, President;

M. H. HECHT,

JOHN H. GRADY,

J. C. McKINSTRY,

BOARD OF FIRE COMMISSIONERS.

J. W. McCARTHY, Secretary.

D. T. SULLIVAN, Chief Engineer.

PERSONS AND FIRMS FROM WHOM SUPPLIES WERE PURCHASED DURING YEAR 1900-1901.

Arctic Oil Works, oils, etc.....	\$783 22
Alexander, L. & M. & Co., typewriter.....	117 50
American Fire Engine Company, engines.....	9,498 52
Abner Doble, hardware.....	20 45
Ames & Harris, flags.....	43 00
Bauer Lamp and Reflect. Co., lamps.....	358 20
Boesch Lamp Co., lamps.....	82 88
Bremerer, A., tool sharpening.....	6 00
Buswell, G. F., patterns.....	418 90
Buchanan Bros., brushes.....	68 88
Betts Spring Co., spring repairing.....	495 52
Bennett, E. W., metal polish.....	252 00
Burke, Thos., wood.....	1,003 10
Birch, W. H. & Co., welding.....	276 10
Brandenstein, H. & Co., rent water tower.....	720 00
Bloom, Samuel & Sons, leather, etc.....	304 44
Brown & Power, stationery.....	8 25
Bowers Rubber Co., hose and rubber goods.....	12,681 42
Boston Woven Hose and Rubber Co., hose and rubber goods	367 38
Belmont Supply Co., salt bricks.....	135 00
Coffin, Alonzo, patterns.....	205 40
Crane Co., hardware.....	456 60
Chapman, R. S., pomplier ladders, etc.....	1,214 00
Cumming, George, forge.....	50 00
Clayburgh & Gelcher, masks for respirator.....	6 00
Cowell, Henry & Co., lime.....	2 50
Clawson, L. E., patent chimneys.....	55 50
Cal. Perforated Screen Co., screen fittings.....	15 62
Central Mill & Lumber Co., hydrant posts.....	8 50
Carew & English, gloves funeral detail.....	12 50
Dallam, F. B. & Co., supplies.....	252 08
Dunham, Carrigan & Hayden Co., hardware.....	1,523 10
De Lano Bros., copper work.....	12 50
Doyle, J. J., horses.....	5,000 00
Degan, L. P., leather belting.....	13 92
Driver, Aber & Co., ladders.....	160 00
Doyle, Henry & Co., twine, etc.....	57 16
Eaton, W. L. & Co., rubber goods.....	9 36
Eagle Rubber Co., rubber goods.....	10 40
Fuller, W. P. & Co., paints, brushes and supplies.....	2,488 83
Fuller, Geo. H. Desk Co., furniture.....	295 35
Flint Carriage Hardware Co., hardware.....	170 20
Fulda Planing Mills, redwood tanks.....	28 00
Globe Brass and Bell Foundry, brass goods.....	740 27
Greenberg, M. Sons & Co., brass goods.....	8,777 31
Goodyear Rubber Co., rubber goods.....	844 42
Gas Consumers' Association, meter test.....	6 00
Gibbs, Geo. W. & Co., hardware.....	228 14
Garratt, W. T. & Co., brass goods.....	167 40
Guthrie, Samuel, respirator device.....	60 00

Holbrook, Merrill & Stetson, hardware.....	\$1,114 51
Hayes, Thos. R., harness and supplies.....	2,773 02
Hayes, D. D., settlement patent claim.....	250 00
Holt Bros. & Co., hardwood.....	556 68
Horan, J. D., horses.....	495 00
Heins, Alex., leather belting.....	39 80
Howe Scale Co., scale.....	7 50
Haselbacher, J. A., floor brushes.....	155 00
Henshaw-Bulkeley Co., blowers.....	30 00
Hasssfurther, E. J., furniture.....	190 96
Herrman Safe Co., lock repairing.....	3 00
Irvine, J. C., badges.....	97 50
Cunningham, Curtiss & Welch, stationery.....	8 90
Jensen, George C., rubber tires.....	447 92
Johnson, J. C. & Co., harness, etc.....	2 50
Keefe, D., forage.....	25,482 39
Kingwell, V., brass goods.....	211 80
Kennedy, J. F., horseshoeing.....	3,318 87
Lloyd-Scovel Iron Co., hardware.....	816 18
Langley-Michaels Co., drugs.....	94 62
Levenson & Co., supplies.....	56 70
Levi Strauss & Co., supplies for parade.....	14 00
Liberty Iron Works, hydrant bends.....	24 00
Lewis Covering Co., pipe covering.....	45 59
Leege & Haskins, supplies.....	6 90
Mack & Co., supplies and drugs.....	1,449 35
Montague, W. W. & Co., stoves.....	54 60
Montanya, J. de la Est. of, hardware.....	28 00
Marwedel, C. F., hardware.....	126 78
McGrath, J., horse.....	150 00
Moynihan, T. J., boiler work.....	234 00
Miller, Sloss & Scott, hardware.....	1,093 76
Murphy, J. W., stable hire.....	720 00
Morton, Thos., fuel.....	9,948 65
Main & Winchester, harness, etc.....	327 28
Market-street Railway Co., power.....	356 75
Morrison, David, rent of Truck No. 9.....	80 00
Nason, R. N. & Co., paints.....	156 95
Nathan, Dohrman Co., supplies.....	230 33
Neville & Co., canvas goods.....	4 00
Nugent, Richard, wagon.....	175 00
O'Rourke, John, horseshoeing.....	2,242 00
Osborn, C. M., canvas goods.....	69 72
Pacific Tool and Supply Co., tools.....	340 37
Peters & Cowie, forage.....	3,276 14
Payot, Upham & Co., filing cabinet, etc.....	128 75
Parke & Lacey, tools.....	53 00
Picetti, G., garbage removal.....	625 00
Plum, Chas. M., furniture, carpets.....	231 00
Parcells-Greenwood Co., scale.....	162 50
Punnet Bros., map mounting.....	4 50
Quadt, John, papering, etc.....	60 00
Redington & Co., drugs.....	167 47
Robinson Chemical Co., harness dressing.....	52 00
Rubber Tire Wheel Co., tire repairs.....	6 00

Rumsey & Co., trucks.....	\$4,550 00
Spring Valley Water Works, hydrant setting.....	5,272 50
S. F. Gas and Electric Co., power.....	219 60
Scott & Magner, forage.....	1,060 72
Smith, C. W., copper work.....	25 00
Smith, H. P. & Son, forage.....	332 92
Sanborn, Vail & Co., stationery, etc.....	41 64
Selby Smelting and Lead Works, metal.....	9 40
Searly Furniture Co., furniture.....	95 70
Smith, A. B. Furniture Co., furniture.....	501 15
Shelby Electric Co., light globes.....	54 00
Steiger & Kerr, castings.....	232 83
Schouten, J. W. & Co., lumber.....	39 00
Snell, E. L., lime.....	8 85
Stone, L. D. & Co., harness, etc.....	10 00
Simonds Saw Co., hardware.....	7 24
Sundries (horseshoeing case).....	129 35
Santa Clara Milk Co., horse.....	150 00
S. F. Candle Co., candles.....	17 00
Scott & Van Arsdale Co., lumber.....	14 69
Singer Manufacturing Co., machine.....	32 25
Taylor, P. T. & Co., gear cutting.....	24 00
Taylor-Spottswood Co., hardwood, etc.....	169 10
Union Iron Works.....	140 00
Umbsen, G. H., Agents, rent Engine No. 37.....	100 00
Van Winkle, L. E., hardware.....	169 04
Vanderslice Co., badges.....	66 64
Whittier-Coburn Co., paints.....	69 90
Will & Finck Co., tool sharpening.....	6 00
Waterhouse & Lester, hardwood and wagon material.....	125 88
Western Transfer and Storage Co., rent Engine No. 6....	260 00
White Bros., hardwood.....	336 15
Yates & Co., paints.....	1,121 27
Young, James, millwork.....	102 75

Total

\$124,872 63

RULES AND REGULATIONS GOVERNING THE SAN FRANCISCO FIRE DEPARTMENT.

RULE 1.

Subdivision 1. The office of the Board of Fire Commissioners shall be the headquarters of the San Francisco Fire Department. Office hours for the transaction of business shall be from 8:30 o'clock a. m. to 5 o'clock p. m. (Sundays and legal holidays excepted).

2. The Secretary of the Board of Fire Commissioners shall have his office at the office of the Board of Fire Commissioners, and shall be in attendance there daily during office hours. He shall keep a record of all official actions of said Board. He shall keep and be held responsible for the accuracy of the book accounts of the Department. He shall devise and enforce, with the approval of the Board, such rules and regulations for checking the receipt and use of material, supplies, forage, etc., as will insure absolute accuracy in compliance with contracts or agreements of purchase, and the proper use of such articles. He shall have the custody of and preserve all records, books, documents and papers belonging to the Department, and do and perform such other duties as may be required of him by the Board of Fire Commissioners.

3. The headquarters of the Chief Engineer shall be, during office hours, at the office of the Board of Fire Commissioners, where he shall be in attendance, when not otherwise engaged in the business of the Department. After office hours his headquarters shall be at the house of Engine Company No. 2, on Bush street, west of Kearny.

4. The headquarters of the First Assistant Chief Engineer shall be, during office hours, at the office of the Board of Fire Commissioners, where he shall be in attendance, when not otherwise engaged in the business of the Department. After office hours his headquarters shall be in the house of Engine Company No. 17, at No. 34 Mint avenue, except when otherwise ordered.

5. The headquarters of the Second Assistant Chief Engineer shall be in the house of Engine Company No. 19, at 1425 Market street (except when otherwise ordered), and he shall be in attendance there when not otherwise engaged in business of the Department.

RULE 2.

1. The Department shall be divided into eight Districts, each of which Districts shall be under the immediate supervision of an Assistant or a Battalion Chief, with headquarters in his District. Said Districts and headquarters shall be as follows:

District No. 1 shall comprise Engine Companies 1, 5, 28, Truck 2, Chemical Engines 3, 5, with headquarters at 1804 Stockton street.

District No. 2 shall comprise Engine Companies 2, 4, 9, 12, 17, Truck 1, Chemical Engine 1, Monitor Battery 2, Water Tower, with headquarters at 410 Bush street, Engine House 2.

District No. 3 shall comprise Engine Companies 6, 10, 16, 35, Truck 8, Chemical Engine 6, Monitor Battery 1, with headquarters at Engine House 10, 516 Bryant street.

District No. 4 shall comprise Engine Companies 11, 13, 18, 25, 32, 33, 37, and Truck Company 9, with headquarters at Engine House 25, 2547 Folsom street.

District No. 5 shall comprise Engine Companies 3, 8, 20, 31, Truck 4, with headquarters at Engine House 3, 1317 California street.

District No. 6 shall comprise Engine Companies 15, 23, 26, 34, 36, Truck 5, Chemical Engine 2, with headquarters at Engine House 15, 2114 California street.

District No. 7 shall comprise Engine Companies 14, 21, 22, 24, 27, 30, Truck 3, with headquarters at Engine House 27, 621 Hermann street.

District No. 8 shall comprise Engine Companies 7, 19, 29, Trucks 3, 7, Chemical Engines 4, 7, with headquarters at Engine 19, 1749 Market street.

2. There shall be two Divisions of the Department, viz:

Division No. 1—Comprising Districts Nos. 1, 2, 3 and 5.

Division No. 2—Comprising Districts Nos. 4, 6, 7 and 8.

3. One of said Divisions shall be under the immediate supervision of the First Assistant Chief Engineer, and the other under the Second Assistant Chief Engineer.

4. Assignments of the First Assistant Chief Engineer and of the Second Assistant Chief Engineer to Divisions and of Battalion Chiefs to Districts, shall be made by the Board of Fire Commissioners, on the recommendation of the Chief Engineer. Such assignments may be changed from time to time, as the Board may determine.

RULE 3—THE CHIEF ENGINEER.

1. The Chief Engineer shall be the Chief Executive Officer of the Fire Department, and shall have and exercise supreme command at all fires over the officers and employees of the Department, and over all the apparatus and appurtenances belonging thereto.

2. He shall take all measures which he may deem expedient for the extinguishment of fires and protection of property and saving of life, and shall see that all laws and ordinances of the City and County, and all orders, rules and regulations made by the Commissioners, concerning the Fire Department, are enforced.

3. The Chief Engineer shall cause to be kept in the office of the Commission a complete record of all complaints lodged with him by the Battalion Chiefs, and may suspend any subordinate officer, member or employee of the Department for incompetency, or for any violation of the rules and regulations of the Department, and shall forthwith report in writing such suspension, with his reasons therefor, to the Commission.

4. He shall diligently observe the condition of the men and apparatus, and general condition of the Department, and report in writing thereon at least once a month, and whenever required to do so, to the Commission, and make such recommendations and suggestions respecting the same as he may deem proper.

5. He shall see that proper discipline is maintained by the officers and men, and shall report to the Commissioners any officer, member or employee of the Department who, by reason of age, disease, accident, incompetency, insubordination or other cause, cannot or does not fully, energetically, promptly and properly perform his duties in the Department.

6. He shall also perform such other duties as the Commissioners may direct.

RULE 4—FIRST ASSISTANT CHIEF ENGINEER.

1. The First Assistant Chief Engineer shall rank next to the Chief Engineer, and shall attend all fires within the division to which he is assigned, and such other fires as he may be assigned or summoned to by the Chief, and, in the absence or inability to act of the Chief Engineer, shall have and exercise the duties and powers of that officer.

2. He shall visit all the houses and companies of the Department at least once a month, and shall report the condition of each to the Chief Engineer.

3. He shall see that good order and proper discipline is maintained among the members of the Department, and that all laws and ordinances of the City and County, and all orders, rules and regulations of the Department, are enforced.

4. He shall inspect the uniforms of all officers, and require strict compliance with the specifications therefor hereinafter given.

5. He shall also perform such other duties as the Commissioners or Chief Engineer may direct.

RULE 5—SECOND ASSISTANT CHIEF ENGINEER.

1. The Second Assistant Chief Engineer shall rank next to the First Assistant Chief Engineer, and shall attend all fires within the division to which he is assigned, and such other fires as he may be assigned or summoned to by the Chief or First Assistant Chief Engineer, and in the absence or inability to act of the Chief or First Assistant Chief Engineer, shall have and exercise the duties and powers of the First Assistant Chief Engineer.

2. He shall see that good order and discipline is maintained by the members of the Department in his Division; that all laws and ordinances of the City and County, and all orders, rules and regulations of the Department, are enforced.

3. He shall examine all buildings assigned to him in such district and report to the Chief Engineer concerning the same. He shall forthwith report in writing to the Board of Public Works such buildings or structures as are found to be in dangerous, defective or unsafe condition, and a duplicate of such report shall be forwarded to the Chief Engineer.

4. He must, for practice, communicate once each day with the Fire Alarm Office by means of the telegraph key or appliance in the nearest fire alarm box to his headquarters.

5. He shall also perform such other duties as the Commissioners or Chief Engineer may direct.

RULE 3—CHIEFS OF BATTALIONS.

1. The Chiefs of Battalions shall respond to all alarms of fire within the respective districts to which they are assigned, and on arriving thereat shall immediately report to the commanding officer in charge of the fire.

2. In the absence of the Chief Engineer or Assistant Chief Engineer at fires, the command of the force will devolve upon the Chief of Battalion who first arrives, and he shall remain in charge until the arrival of a superior officer.

3. They shall visit each alternate day each company house under their charge, inspect its condition, and see that the horses, apparatus, hose and equipments are in proper condition for efficient service. They shall obtain a written report concerning the same from the captain of each company, and upon returning to headquarters, prepare and forward to the Chief Engineer a written report of the result of such visit and inspection.

4. He shall examine all buildings assigned to him in such districts and report to the Chief Engineer concerning the same.

5. He shall forthwith report in writing to the Board of Fire Wardens, who shall report to the Board of Public Works, and keep a record of the same in a book kept for that purpose, such buildings or structures as are found to be in dangerous, defective or unsafe condition.

6. They shall be held responsible for the discipline of all companies under their respective commands, they shall also enforce all laws and ordinances of the City and County, and a strict compliance with all orders, rules and regulations of the Department, and report promptly to the Chief Engineer every infraction of such rules.

7. They shall report promptly to the Chief Engineer any accident or other circumstance calling for prompt attention.

8. They shall inspect the uniforms of the officers and men under their supervision before they are worn, and reject all not in conformity with the specifications hereinafter given.

9. They shall be constantly on duty at their respective headquarters, except when necessarily engaged elsewhere on Department business, and shall not leave their districts except in case of fire or by permission of the Chief Engineer.

10. They must, by way of practice, communicate once each day with the Fire Alarm Office, by means of the telegraph key or appliance in the nearest fire alarm box to their respective headquarters.

11. They shall also perform such other duties as the Commissioners or Chief Engineer may direct.

RULE 7—THE BOARD OF CHIEFS.

1. The Chief Engineer, the Assistant Chief Engineers and the Battalion Chiefs of the Department shall compose the Board of Chiefs.

2. The Board of Chiefs shall hold regular meetings each month, or as often as is necessary.

3. The regular monthly meetings shall be held at the Fire Warden's rooms on the third Monday of each month at 10 o'clock a. m.

4. The Chief of Department shall be ex-officio chairman of the Board and one of its members shall be elected secretary, whose duty it shall be to make and keep a proper record of the proceedings.

5. The Board of Chiefs shall consider the interests of the Fire Department as to its personnel, discipline, occupation of the men while in their company houses, location of houses and the apparatus to be kept or placed therein, the character of the apparatus, hose, nozzles, etc., noting those giving best use and satisfaction, and all other matters relating to the development and perfecting of the San Francisco Fire Department, to the end that it may reach the highest efficiency.

6. The Board of Chiefs will transmit to the Board of Fire Commissioners such recommendations as they may agree upon from time to time.

RULE 8—CAPTAINS.

1. Captains shall have and exercise command over their respective companies, and shall be responsible for the discipline and condition thereof, and shall see that the houses under their control, and everything pertaining thereto, horses, harness, apparatus and equipments, are at all times kept in proper order.

2. They shall enforce a strict compliance with the rules and regulations of the Department and the orders of the Chief Engineer, and report to their Battalion Chiefs any infractions thereof.

The Captain of each company shall keep three books, to be designated as follows:

(a) The Property Book, (b) The Supply Book. These two may be combined in one. (c) The Journal.

4. In the Property Book shall be entered a complete list of all the property in the company house under his control, furniture, horses, apparatus, hose, tools, etc., as it is received by him from time to time, and such as may become useless, or is destroyed, or that may be returned to the corporation yards, stables, shops, or the persons or firms from whom purchased. At the end of each fiscal year each Captain shall report in full in writing all the property in his possession belonging to the Department.

5. In the Supply Book shall be kept an accurate memorandum of all perishable supplies received, such as forage, fuel, etc., the date of receipt, the name of the

party from whom received, and the quality of such supplies. A receipt shall be given in every case for supplies received and a written statement thereof forwarded to the Commissioners monthly.

6. In the Journal shall be entered a brief history of each day's happenings.

- (a) Particulars of all alarms responded to.
- (b) Accidents to men, horses or apparatus.
- (c) Special duty performed by officers or men or company.
- (d) Delinquencies and insubordination.
- (e) Orders received how and from whom received.
- (f) Unusual occurrences.

7. Captains shall, with their companies, respond promptly to alarms of fire, according to directions issued from time to time by the Chief Engineer, and upon their arrival at a fire immediately report to the officer in command; or if first to arrive, assume and exercise command until the arrival of a superior officer, and if deemed necessary, shall order a second alarm before the arrival of a superior officer. The apparatus shall, immediately upon arrival at a fire, be placed in position for service.

8. They shall not permit racing going to or returning from a fire, nor permit their apparatus to pass other apparatus (unless disabled) going to the same fire, nor shall they permit their apparatus to be driven at a rate of speed likely to cause accidents.

9. They shall politely receive visitors and answer all proper questions civilly, explaining when requested to do so the apparatus, alarms, etc., in their charge, but shall not allow habitual lounging or visiting in or about quarters, nor permit children therein unless accompanied by parents or attendants.

10. They shall devote one hour each Friday to reading and explaining to the members of their companies the rules and regulations of the Department pertaining to the duties of the men.

11. They shall justly apportion among the members of the company the work required about the house, and shall see that the same is completed and that everything is in readiness for inspection daily at 10 o'clock a. m. sharp, at which time all members of the company will appear in uniform, except in case of working fire during previous night, or on days when detailed for tower drill.

12. They shall, after inspection, make out and deliver to the Battalion Chief on each alternate day a report of the condition of the house, horses, apparatus, hose and other equipments of their respective companies.

13. They shall make such disposition of the men under their command as will enable them to attend their respective places of worship every Sunday, if possible, but at least once on every alternate Sunday, or other day of the week which the man or men affected are accustomed to recognize as the day of public worship. Such "offs" will be so arranged as not to impair the service, and members availing themselves of this privilege will be required to attend service in uniform.

14. They shall report to their Battalion Chiefs without delay all accidents resulting in injury to or loss of life, or of damage to property, whether happening to members of the Department, or its apparatus, or horses, or to the person of citizens or their property, in connection with the operation of this Department.

15. They shall promptly report in writing to their Battalion Chiefs every breach of discipline or violation of the rules and regulations of the Department. A failure to do so will be regarded by the Commissioners as "cause" for suspension or removal.

16. They shall perform such other duties as may be required of them by their superior officers and the rules and regulations of the Department.

17. They shall see that the wheels are taken off the different pieces of apparatus and vehicles that may be under their charge and control, at least once in

every week, and that the axles and wheel-boxes are carefully inspected and the condition thereof noted in the house journal of that day.

18. They shall also carefully instruct the members of their companies as to the Rules and Regulations in regard to responding to alarms of fire and the changing of locations, as set forth in the assignment book, and it shall also be their duty to see that all of them are thoroughly familiar with the "pegging-up" of companies on the record boards.

RULE 9—LIEUTENANTS.

1. Lieutenants shall respond to all alarms of fire prescribed for their company and promptly and cheerfully obey the orders of the Captain and assist him in the performance of his duties, and shall also perform the duties required of hosemen or truckmen, as the case may be, and such other duties as may be required of them by their superior officers and by the rules and regulations of the Department.

2. Lieutenants shall, in the absence of the Captain, perform his duties and exercise the authority of said officer.

RULE 10—HOSEMEN AND TRUCKMEN.

1. Hosemen and Truckmen shall respond to all alarms of fire prescribed for their respective companies, and in every case they shall conform to and promptly and cheerfully obey all rules and regulations of the Department, and perform such other duties in connection with the Department as their superior officers may require of them.

RULE 11—ENGINEERS.

1. Engineers shall, under their commanding officer, have the care and management of their engine, and shall be held responsible for its condition. They shall see that it is kept clean, in good order, and ready for immediate service at all times.

2. Engineers who respond to boxes along the water front will each day ascertain from the daily papers the condition of the tide, and note the time of high and low water on the blackboard for immediate reference in event of fire.

3. When additional fuel is required at a fire the stoker or driver of the company shall be sent to the nearest engine house for a fresh supply. The Engineer's orders in such cases shall be obeyed by the stoker or driver.

4. Where engines have been disconnected from the heaters long enough to allow the water in the boilers to become cool, engineers will light the fire under the boiler and keep the water at least at scalding heat.

5. All Engineers must have their apparatus in good order before a relief Engineer may take charge. A thorough examination by both Engineers must be made immediately before the relief Engineer receipts to the Engineer reporting off. Such receipt must be given at once to the Captain of the company, and by him turned over to the Battalion Chief.

6. The fires of engines shall not be dumped upon pavements of bituminous rock or asphaltum.

7. On receiving relief, or other engines in place of their own, Engineers will thoroughly clean and refill the boiler thereof, if necessary, and otherwise see that the engine is in a proper and serviceable condition.

8. Engineers will open and close by hand the snap valves connecting the engine with the heater at least once every twenty-four hours; see that the stems are well lubricated and springs properly adjusted, so as to insure their closing when the engine leaves its position. Slip-joints shall be removed from floor

stuffing-boxes and cleansed and oiled daily. He shall also see that the snap-valves are closed every time the engine pulls away from the heater connections.

9. They will test the working qualities of their respective engines monthly, under the same pressure allowed at fires. When draughting with pumps is not convenient, Engineers will take the nearest hydrant to quarters, generate the regulation amount of steam; run water pressure up to 120 pounds by partially closing the discharge gate (if by leaving it open and playing a full stream the street and surrounding property would be damaged); leading off sufficient hose to reach the nearest cesspool. Engineers will report the result of such monthly test, in writing, to the Superintendent of Engines upon his visit after each said test.

10. They will thoroughly cleanse their boilers once every fourteen days by removing all plugs from around the bottom of the boiler, using bent pipe, which will be furnished upon requisition. Such cleansing must be done immediately after return from exercising horses. After washing out boilers connect the same to heater pipes and fill from that source, making use of the hot water in the heater and boiler, where there is one in use. Heaters shall also be emptied and cleaned every fourteen days, but not upon the same day that boilers are cleansed. When an engine has been working an hour or more, the same precautions shall be observed as on regular boiler cleaning days, and the same noted in daily report, together with such other remarks on the condition of the boiler as may be deemed proper.

11. They will carefully examine their shut-off nozzles after every fire and drill at which said nozzle has been used; see that all parts are lubricated, and monthly, screw nozzles into nearest hydrant, open and close the same and see that all parts are in perfect working order.

12. They will inform their Captain whenever their engine may need any material or repairs.

13. They shall not allow their engines to carry steam higher than eighty pounds pressure while in service at fires, nor more than one hundred pounds pressure per square inch on the hose, without an order from the officer in command at a fire.

14. They shall have their apparatus clean and ready for inspection daily at 10 o'clock a. m.

15. Whatever work is done on apparatus other than cleaning must be fully noted in the company journal.

16. They shall perform such other duties as may be required by their superior officers and the rules and regulations of the Department.

17. They shall have charge and care of heaters, engine, etc., during the day time, from 6 a. m. to 6 o'clock p. m., and shall carefully instruct the other members of their companies in such charge and care of heaters, engine, etc., as may be necessary during the night watches, and shall report to their respective Captains any neglect or violation of rules in regard to care of heaters, engine, etc., which they may find to have occurred during night watches.

RULE 12—DRIVERS.

1. Drivers shall take proper care of their horses, exercise the greatest caution in their keeping and management, keep the stables clean and see that everything pertaining to their department is in perfect order and in readiness for immediate service.

2. They shall not run their horses while responding to or returning from alarms of fire, nor shall they pass other apparatus of the department, unless such apparatus or horses be disabled (except that Drivers of Chemicals may pass other apparatus, except Chemicals, if the same can be done with safety), but all proper dispatch, consistent with safety, must be used in responding to alarms of fire.

3. Drivers of Chemical Engines are expected to get their apparatus to a fire at the earliest possible moment, and in so doing will drive at as rapid a gait as is consistent with the safety of the public and the apparatus. Chemical Companies may pass other companies, except other Chemical Companies, when it can be done with safety.

4. In returning from a fire all driving shall be at a moderate rate of speed.

5. Drivers shall exercise their horses one hour each day (Sundays excepted) when the horses have not performed any work after 1 o'clock a. m.

6. Drivers of hill companies when responding to alarms that take their apparatus off the hills, will be careful to slow up as much as possible at crossings and look up and down each street, so as to avoid passing the fire.

7. Drivers will see that bells or gongs are rung at short intervals when proceeding to a fire.

8. Drivers of engines shall not pass a fire to take a hydrant, unless by so doing they can obtain a closer position to the fire without shutting out another company that may be seen coming from another direction.

9. Drivers of trucks, chemicals, towers and batteries, must not stop their apparatus in front of a hydrant.

10. They shall not drive their apparatus over hose except when absolutely necessary.

11. They shall perform such other duties as are required by their superior officers and the rules and regulations of the Department.

RULE 13—STOKERS.

1. The duties herein imposed upon Drivers shall as far as practicable apply to Stokers, and upon the completion of such duties, they shall assist, when necessary, the Engineer in caring for the engine and apparatus.

2. They shall always, in response to alarms of fire, follow the engine with the hose wagon, unless otherwise ordered.

3. They shall perform such other duties as are required by their superior officers and the rules and regulations of the Department.

RULE 14—TILLERMEN.

1. Tillermen shall be at the tiller in going to and returning from fires, and upon all other occasions when their services in that capacity are required.

2. They shall also perform such other duties as are required by their superior officers and by the rules and regulations of the Department.

RULE 15—CHEMICAL ENGINE, WATER TOWER AND MONITOR BATTERY COMPANIES.

1. Officers and members of Chemical Engine, Water Tower and Monitor Battery Companies will be subject to the same rules governing other officers and members of the Department, so far as applicable, and shall perform such other duties as may be required of them by their superior officers, and the rules and regulations of the Department.

2. Drivers of Monitor Batteries shall be under the supervision and subject to the orders of the Captain of the company in whose quarters they may be located.

RULE 16—HOUSES AND HOUSE WATCH.

1. Members and employees of the Department are prohibited from using the telephones in service therein for any other purpose than on business connected with the Department. And no other person or persons shall be allowed to use the

same, except public officials, and then only on official business connected with their respective offices.

2. The house should be kept at an even temperature of about sixty degrees; thorough ventilation must be maintained, in order that a good supply of pure air may be secured with as little draught as possible.

3. Houses must be washed twice a month, weather permitting. The use of chloride of lime or any like substance on the floors of houses is prohibited, except on stall floors.

4. Members receiving forage, fuel, etc., will only receipt for the actual amounts received by them. Coal, 2,249 pounds to the ton; wood, per cord, 4x4x8—128 cubic feet; feed, per 100 pounds or fraction thereof.

5. Engineers will carefully instruct their assistants in the engine house in the care and management of the apparatus, heater, syphon, etc., while in quarters; the house watchman, or assistant house watchman, each being held personally and solely responsible for said apparatus after having assumed charge of the floor.

6. A continuous watch shall be maintained in the apparatus rooms of all company houses of the Department during the whole twenty-four hours of the day. The day and night will be divided up into watches by the Battalion Chiefs of the respective districts and the men to stand the same shall be designated by the Captain, unless otherwise provided. No watch between the hours of 6 o'clock p. m. and 6 o'clock a. m. shall be for a longer time than four hours, and no member shall be called upon to keep more than one night watch in twenty-four hours.

7. There shall be in all Engine and Truck houses at least two men constantly on watch (excepting engine companies composed of eight men or less and truck companies composed of ten men or less, wherein the first evening watch shall consist of but one man); they shall be designated house watchman and assistant house watchman. Where an engine and truck company occupy the same house, two men from each company shall constitute the house watch, and the men from the engine company shall have care of heaters and engine on their watch.

8. It shall be the duty of the house watchmen to take charge of the telegraphic instruments, answer all telephone calls, correctly receive all alarms of fire, sound the gong for all alarms to which the company responds, and immediately report the location thereof to the Captain of the company. They shall keep the company journal while on duty, make all proper entries therein, and shall not cause, permit or allow it to be tampered with.

9. In no case shall the men on watch, or either of them, leave their post until relieved, except in case of fire. In the event of failure on the part of their successors to relieve them, after being called, the Captain of the company shall be promptly summoned and advised of the fact.

10. They shall not permit visitors after 10 o'clock at night, except by consent of the Captain, or a superior officer.

11. No changing or trading of "offs" or any watch duty in companies will be allowed without the consent of the Captain.

12. If any member of the company, not on leave of absence, goes out of quarters after 10 o'clock at night, the house watchman shall report the fact to the Captain of the company as soon as practicable.

13. Watchmen shall not doze or sleep while on watch, nor permit any violation of these rules or regulations by any one in or in front of quarters, and shall at once call the Captain if any disturbance occurs in or about quarters which he cannot control.

14. Captains or Acting Captains of Companies will at the end of each day sever the tape connected with the register in their respective houses on which alarms of fire are registered, thoroughly familiarize themselves with each box register thereon, and then safely keep and store the same away in some convenient place for at least one week. Whenever there is anything wrong with the

tapper, gong or register, or anything in connection therewith, they will immediately report the same to the Fire Alarm Office.

15. Whenever, after one alarm has been received from any station, another alarm is received from the same, or from any other station, before the first alarm has been tapped out, the house watchman shall immediately call the Captain or Acting Captain, in order that he may supervise the "pegging" on the record board.

RULE 17—ACTS OF VALOR TO BE REPORTED.

The officer in charge at a fire will report to the Board of Fire Commissioners the names of such officers and members of the Department as may distinguish themselves in the discharge of their duties, by saving human life at the risk of their own, and give a full and correct statement of the facts.

RULE 18—LEAVES-OF-ABSENCE.

1. Except as herein provided, all leaves-of-absence must be obtained from the Board of Fire Commissioners, upon proper written application made therefor.

2. The Battalion Chiefs are authorized to and may grant leaves-of-absence to the officers and members of companies within their respective districts for a period not to exceed four days, and in all such cases must put on substitutes at the expense of the man given leave. All such substitutes must be taken from the "temporarily discharged" list, where possible, except that if drivers or engineers cannot be found among the men on said list, they may be taken from the list of "Relief Drivers" or "Relief Engineers," as the case may be.

3. Leaves-of-absence not to exceed four days may be granted by the Chief Engineer to the Assistant Chiefs, Chiefs of Battalion and other members of the Department not mentioned in the foregoing section.

4. The President of the Board of Fire Commissioners may grant leaves-of-absence to the Chief Engineer.

5. When any member of the Department is sick, he shall report or cause the fact to be promptly reported to his Captain and Battalion Chief. The Battalion Chief shall verify the statement and grant a leave-of-absence "on account of sickness," and shall put a substitute in his place.

6. All leaves-of-absence granted, with the time and cause for granting the same, must be reported to the Board of Fire Commissioners at the first regular meeting held after such leave is granted.

RULE 19—SUPERINTENDENT OF ENGINES.

1. The Superintendent of Engines shall be directly responsible to the Board of Fire Commissioners for the conduct and management of the repair shop. He is charged with the control and direction of the employees assigned to duty under him, and shall see that their time is employed to the greatest advantage to the Department.

2. He shall keep a detailed record of all the work done, and shall make and keep a record in a book provided for that purpose, of any and all apparatus which becomes injured, broken or in any way disabled, together with the date of such occurrence, the company or place to which it belongs, the nature of the injury or disability, the cause, if known, and such other and further information regarding the same as may be necessary.

3. He shall visit the quarters of each company once a week, or as often as occasion may require, and inspect the apparatus in service in the Department, and report at least once each month the condition of the same to the Board of Fire Commissioners, and make such recommendations as he may deem advisable.

4. He shall see that the apparatus is at all times kept in good repair and ready for immediate service.
5. He shall attend all fires for which third alarms are sent in.
6. He shall also perform such other duties as may be required or prescribed by the Commissioners or Chief Engineer.

RULE 20—CLERK AND COMMISSARY CORPORATION YARD.

1. He shall be directly responsible to the Board of Fire Commissioners and shall be on duty at his office at Corporation Yard No. 1 of this Department from 8 o'clock a. m. to 5 o'clock p. m., daily (Sundays and legal holidays excepted), and at such other times as the Chief Engineer may direct.
2. He shall have the care and management of the supply department, and have charge of all hose and apparatus and supplies purchased by order of the Commissioners.
3. He shall, upon written orders from Captains, deliver to the various companies the necessary supplies and stores for said company.
4. He shall keep the books and accounts of the supply department in a systematic manner, showing the supplies received by him, the amount delivered to each company and the amount remaining on hand, and report monthly to the Board of Fire Commissioners.
5. It shall be his duty to keep in a book provided for that purpose an account of the quantity, kind and condition of the hose in the Department, and in each company thereof, with such other record as may be required to insure at all times full knowledge of the condition of the same.
6. He shall not deliver any supplies or stores of the Fire Department except upon an order signed by the Chief Engineer and the Secretary of the Commissioners (except during a conflagration supplies or apparatus may be delivered on the order of the Chief Engineer, Assistant Chief Engineer, Battalion Chiefs or Captains), and shall procure a written receipt for all such stores or supplies delivered and report the same on the following day to the Secretary of the Commissioners.
7. He shall answer third alarms of fire and perform such other duties as the Commissioners or Chief Engineer may direct.

RULE 21—VETERINARY SURGEON.

1. The Veterinary Surgeon shall be responsible to the Chief Engineer, and shall visit the hospital or stables daily. He shall also tend to all sick or injured horses belonging to the Department at any time of the day or night that such services may be needed. He shall give instructions to the attendants in charge of such horses, and shall report to the Chief Engineer and Board of Fire Commissioners any neglect of duty of same.
2. Each person attending to horses under treatment of Veterinary Surgeon shall report to him the condition of horses in his care, and obey all orders given by the Veterinary Surgeon as to their treatment.
3. He shall carefully examine the condition of the hoofs of the animals, and report as to their condition. He shall inspect the shoeing of each immediately upon the work being done, and certify to its efficiency in writing to the Chief Engineer or Board of Fire Commissioners.

RULE 22—SUPERINTENDENT OF HORSES.

1. He shall be directly responsible to the Board of Fire Commissioners for the performance of his duties in the general care and treatment of all horses of the Department.

2. He shall instruct his men to give such medical, surgical, and other attention to the horses of the Department as may be ordered by the Veterinary Surgeon, regulate their feed, and give such direction to those in charge of horses as in his judgment is necessary.

3. He shall report all deaths of horses, and recommend the sale or other disposition of horses which becomes unfitted for service in the Department.

4. It shall be his duty, at least twice each month, to visit each company quarters and inspect the horses and the forage furnished, give advice and direction as to feeding, and to report to the Chief Engineer any willful neglect and to the Commissioners any undergrade forage found.

5. In case of sickness or injury to any horse, it shall be the duty of Captains to promptly report the same to the Superintendent of Horses and he shall see that measures are taken for the relief of such horse.

6. He shall keep an accurate, numerical and descriptive record of horses in the Department, containing date of purchase, age, color; record of accidents, sickness, and date of final sale, death or transfer, together with such other information concerning the same as may be useful.

7. He shall have the control and direction of the hostlers assigned for duty at the stables, and shall prescribe their duties.

8. When not otherwise engaged on Department business he shall always be in attendance at the Department stables.

9. He shall have and assume charge of the stables and see that everything appertaining thereto is kept in proper order and condition.

10. He shall perform such other duties as may be required or prescribed by the Commissioners or the Chief Engineer.

RULE 23—HOSTLERS.

They shall devote their entire time and attention to the stable work assigned them, and shall perform such duties as may be prescribed by the Superintendent of horses.

RULE 24—HYDRANTMEN.

1. Hydrantmen shall attend to all hydrants and cisterns in their respective districts, see that the same are in good condition and ready at all times for immediate use.

2. They shall see that the hydrants are at all times kept free from obstructions of every character so that access thereto may be readily had by the engines of the Department.

3. They will visit and inspect the cisterns in their respective districts once in each week, keep the same filled with water and see that they are in proper condition and ready for immediate use at all times. They will report the condition of the several cisterns once in each week to the Battalion Chief of the district wherein said cisterns are located, but if for any reason a cistern becomes useless the fact shall be immediately reported to the proper Battalion Chief.

4. They shall register in books provided for that purpose the exact location of all hydrant gates in their respective districts and shall see that said gates are conspicuously exposed and not covered over or hidden in any way by pavement, bitumen or other material or substance used for street purposes.

5. They shall perform such other duties as may be required of them by the Commissioners or Chief Engineer.

RULE 25—WATCHMEN.

1. They shall be in attendance daily at the Corporation Yard of the Department to which they may be assigned for duty from 6 o'clock p. m. until 7 o'clock

a. m. the following morning, and shall carefully guard and protect the property entrusted to their care.

2. They shall perform such other duties as may be required of them by the Superintendent of Engines or Clerk of the Yard.

RULE 26—CARE AND USE OF HOSE, APPARATUS, HORSES, HARNESS, IMPLEMENTS, ETC.

HORSES—1. All horses of the Department must be watered at 5 o'clock a. m. and fed at 6 o'clock a. m. with the regular allowance of cooked grain; the allowance of grain will be set aside by the driver, and the assistant house watchman will, about 1 o'clock each morning, pour boiling water over the same in a bucket provided for that purpose. and then fix the cover on tight so as to prevent the escape of the heat or steam therein. On feeding said allowance, another allowance will be immediately prepared. At 11 o'clock a. m. the horses will be watered and given a small quantity of hay, and at about 12 o'clock m. fed the regular allowance of prepared grain. At 6 o'clock p. m. water and bed the horses, give them their allowance of hay, then give a few carrots, or other feed which may be ordered by the Superintendent of Horses.

2. All horses must be exercised daily (Sunday excepted) for one hour, unless a run was had after one o'clock a. m. In wet weather exercising will be done, if possible, between showers.

3. In good weather, during the spring and summer months, the horses will be permitted to stand outside the houses from 9:45 to 11 a. m.

4. Any horse which neglects to eat or shows any signs of being sick or lame, and any horse losing a shoe, will be immediately reported to the Superintendent of Horses, and a relief horse will be provided.

5. Teasing or annoying horses or teaching them any tricks is prohibited.

6. No gas or electric light shall be placed or kept directly in front of a horse's eyes.

7. Muzzles are strictly prohibited on horses between the hours of 6 p. m. and 6 a. m., except while standing on the street.

8. On cold or stormy nights, when it is necessary to remain at a fire for a long time, the drivers will blanket their horses well, and exercise them every half hour for ten minutes. If possible putting them in some sheltered place.

9. A horse must never be given water or grain while he is hot after a run, except that his mouth and nostrils must be sponged out with cold water and he may be given two or three swallows only. Sweat must be wiped from around the eyes and under the tail with a damp sponge.

10. Horses must be blanketed when standing in the open air.

11. If a horse be under medical treatment, the driver must be careful to follow the instructions of the Veterinary Surgeon in administering the medicines and otherwise attending to the horse. If a driver lays off while attending to a sick horse, he must instruct his substitute as to how the horse is to be attended to.

12. After returning from exercise or an alarm, horses' feet (not legs) must be washed out and examined for nails, loose shoes, etc., then rubbed down and if warm, blanketed (in houses that have no heater). The back door must be kept shut and draughts avoided as much as possible.

13. In cold weather the chill must be taken off drinking water, or only a small quantity of cold water given at one time.

14. A bucket must not be used to catch the horse's urine in. If a horse is straining to urinate and afraid to do so, straw must be shaken under him, which will encourage him to pass it. The stall must be rinsed out or washed down immediately. Manure should also be removed immediately.

15. The mane and tail must be washed once a week with soap and warm water, weather permitting, and the sheath once every two weeks.

16. Horses predisposed to scour must get small quantities of water often, instead of a large drink at one time.

17. Grey or white horses stained on quarters, etc., may have spots sponged off with warm water and soap, but must be thoroughly dried with a "rubber" immediately. White legs may be treated likewise when necessary; otherwise the legs must never be washed, except by order of the Superintendent of Horses.

18. Rain, sweat and mud must be removed immediately on getting into the house; first with a scraper and afterwards with a wad of straw or sack, care being taken to dry out the hollow of the heels thoroughly; what is left can be washed or brushed off when dry; use no water to remove it. Washing horses is prohibited.

19. The feet should be stuffed every other night in dry weather.

20. Musty or overdried hay, or musty food of any kind must be rejected, as it is injurious to the horse's wind.

21. Clipping horses must be done under the directions of the Superintendent of Horses, but the mane and legs must be clipped clean at all times.

22. Bedding should be removed for ventilation from the house in dry weather where it is convenient to do so.

23. Drivers are strictly prohibited from using a twitch or other like appliance upon the horses while clipping the legs, cutting the manes, washing the tails, etc. If a horse cannot be handled without the use of said appliances, the driver will rotify the Superintendent of Horses.

HARNESS—24. No hot or warm water shall be used in cleaning harness.

25. The use of emery cloth in polishing the points and bells of Hale or Berry hames is strictly prohibited. Nothing but oil shall be used.

APPARATUS—26. No alterations shall be made in trace or pole chains other than the necessary adjustments.

27. The use of water in and around the furnace of fire engines for removing sparks or other evidence of fire is prohibited. A dry broom shall only be used for said purpose.

28. On returning from a run, the apparatus will be left outside of the house. the horses blanketed, and the running gear thoroughly washed with small hose. Companies having a yard may wash their apparatus therein.

HOSE—29. Cotton hose must not be allowed to remain on the wagon more than twenty-four hours in a wet or damp condition unless unavoidable. The hose must be changed every fifteen days unless the same has been in actual service during said time, and when said change is made, a note thereof shall be entered in the company journal.

30. Cotton hose, after being used at a fire, and when returned to quarters, if only wet or damp, will be immediately hung up in the tower. If any hose is in a dirty condition from mud, etc., it shall be thoroughly cleaned, with a broom and water if necessary.

31. When changing hose, before it is taken from the wagon or reel, there must be lowered down from the tower all the hose that is to be put on, and the lengths coupled together, care being taken to see that the coupling and swivels are in perfect order and that all have proper washers. A small quantity of tallow or oil should be used on the threads and swivels, but not enough to run on the fabric or rubber, as grease will injure either. What hose is necessary can then be removed from the wagon or reel and the dry hose placed thereon; the wet hose then holsted in the hose tower. If any of the lengths of hose are injured, they must not be rolled up and set aside, but must be marked and hung up until called for by the supply wagon.

32. Hose covers must not be folded. The inner or go-between cover must be rolled and stored under the seat; the outer cover of hose wagons and carriages, when not in use, must be hung at full length or width in a dry place, and not creased in any manner.

GENERAL RULES.

1. All persons hereafter appointed in positions in this Department must comply with the following conditions:

(a) Pass civil service examination for position desired.

(b) Furnish certificate of the Medical Examiner of the Department that applicant is in sound bodily health.

(c) For position of hoseman or member of engine or chemical company weight must not be less than one hundred and thirty-five pounds, stripped.

(d) For position of Truckman or member of Truck, Water Tower or Monitor Battery company, weight must not be less than one hundred and fifty pounds, stripped.

2. No person dismissed from the Police Department, or from this Department subsequent to January 8th, 1900, or who has resigned from either department at any time under charges, shall be eligible to membership in this Department. Nor shall any person be eligible to membership herein who has been convicted of a felony or misdemeanor.

3. All officers and members of the Department must devote their entire time and attention to the service of the Department, and must not engage in any other business or calling.

4. No political, social or other organization shall be formed or maintained in the houses of the Department; no meetings of any character will be permitted, and no officer, member or employee of the Department shall take any part whatever in any political convention, canvass or campaign, except to vote, and no interference in the free exercise of this right by every member of the Department will be tolerated. Any violation of this rule will be deemed sufficient cause for removal of any officer or member of the Department.

5. The officers and members of the Department are prohibited from forming or maintaining any society, company or organization supported by assessments upon or contributions from the members or employees of the Department, without specific authorization of the Board of Fire Commissioners.

6. Officers shall be just, dignified and firm in their intercourse with subordinates, being careful to abstain from violent, abusive or immoderate language in giving orders and directions, as well as in conversation with them; see that all rules and regulations of the Department are carried out and obeyed, and promptly report any infraction thereof to superior officers.

7. Members of the Department shall not enter saloons or places where liquor is sold while wearing their uniforms or while on duty, except in the legitimate discharge of their duties.

8. No intoxicating liquors shall be kept or drunk in or about any of the houses or premises of the Department; gambling of all kinds is prohibited. Any member of the Department who, while in uniform, or about the premises of the Department, or in the discharge of his duties, becomes intoxicated, or who absents himself from his post of duty because of drink, shall be subject to dismissal, or such other penalty as the Board of Fire Commissioners, after trial, shall impose.

9. The smoking of cigarettes shall not be permitted in or about the houses of the Department, and smoking on apparatus or vehicles is at all times prohibited.

10. Congregating on the sidewalk in front of or adjacent to company houses is prohibited.

11. Officers and members must at all times conduct themselves in a gentlemanly manner, and refrain from using vulgar, profane or improper language.

12. No member or employee shall sell or assign or discount his salary warrant or demand on the Treasury, and all members and employees must promptly pay their just and lawful debts, contracted or incurred while in the service. A failure to do so will be considered cause for suspension, and if this rule is persistently disobeyed, for dismissal.

13. No officer, member or employee shall, at any time, be guilty of any act or omission which impedes, injures or hinders, or tends to impede, injure or hinder the progress, welfare, discipline, efficiency or good name of this Department.

14. Members of the Department, as a mark of respect, must rise and salute the Commissioners and ranking officers of the Department, or any other public officer visiting their headquarters.

15. The members of the Department must at all times address their superior officers by their proper titles and in all cases use the word without any abbreviation whatever. The "Chief Engineer," "Assistant Chief Engineers" and "Battalion Chiefs," when addressed verbally by any member of the Department of inferior rank, shall be addressed as "Chief," but when addressed in writing the full title of the officer addressed must be used.

16. Each member will provide himself with the regulation uniform within thirty days after his appointment, but such uniform must not be worn on duty until inspected and approved by the Battalion Chief. It shall be the duty of the members of the Department to wear the prescribed uniform at all times, except from the time of retiring until 10 o'clock a. m. All members of the Department, while at a fire, shall wear their official badge in a conspicuous place on the left breast of their coat or outer garment, and shall wear their regulation fire hat.

17. Members of the Department shall conduct themselves quietly at fires; shouting or boisterous conduct will not be permitted. Water will be turned on by order of a commanding officer and not otherwise. Members who are on the pipe leading into a fire above the ground floor will shut the nozzle off immediately upon connecting the same to the hose.

18. No exchange of badges will be permitted except when it becomes necessary in cases of promotion or transfer; nor shall the same be loaned to any person, or used for any but the legitimate purposes of the Department. No officer, member or employee shall ride or attempt to ride on any street car on his official badge and without paying his fare, except in responding to an alarm of fire, and in so doing he must show such badge and give the number thereof to the conductor.

19. Members of the Department, when resigning or upon dismissal or suspension, must immediately surrender to the commanding officer of their company their official badge, insignia of membership—for which they will be reimbursed—and their property in their possession belonging to the Department.

20. Members of companies must sleep in their company houses, and while sleeping shall not be unnecessarily disturbed.

21. The hours for meals for the various companies will be designated by the Captain, each man being entitled to one hour at each meal where three meals are taken during the day, or one and one quarter hours at each meal where only two meals are taken; provided that the total time for all the men at each meal shall not be more than three and one-half hours. The number of men to meals at one time shall be in accordance with these hours, taking into consideration the number of men in the company.

22. Members must notify the Captain of the address of their eating place and residence, and of any change therein, and said officer will keep a record of these particulars concerning every man under his charge.

23. Visitors to houses shall be courteously treated and their questions civilly

answered, and any proper information given them. Visitors will not be allowed in houses after 10 o'clock, p. m., without the permission of the Captain.

24. No member of the Department shall receive any reward or present of any kind for services rendered in the discharge of his duties without the permission of the Board of Fire Commissioners, and no member shall give or contribute towards the giving of any present or thing of value to any member or officer of superior rank.

25. Applications for transfers must be made in writing to the Board of Fire Commissioners, with the reasons therefor fully given.

26. No officer or member of the Fire Department shall wantonly or maliciously make any false report of any other member, nor fail to report any real violation of the rules.

27. Department property must not be loaned, sold or given away, but must be carefully protected from waste and abuse.

28. The various companies of the Department shall have and attend such drills as their commanding officers may prescribe, and the required duties thereof shall be properly and faithfully performed.

29. Any officer, member or employee violating any of the rules or regulations governing the Department shall, upon conviction, be punished by fine, suspension or dismissal, as the Board of Fire Commissioners may determine, after a trial.

30. No officer or member of any company shall be absent from duty except at meal hours and regular "offs," unless by order of the Chief Engineer.

31. The duties imposed on members of the Department shall also apply to substitutes when on duty.

32. All substitutes of this Department shall, until otherwise ordered, be appointed from the list of temporarily discharged members (except as provided in Rule 18, Sub. 2), in such order as may be designated by the Board of Fire Commissioners.

33. All companies covering-in for alarms will report by telephone to the Fire Alarm office immediately upon arriving at the house where due, and shall again report to the same office upon their return to quarters.

34. On returning from a fire or an alarm of fire, the Captains or Acting Captains will, before allowing the fires to be pulled from their respective engines, and before entering the house with the apparatus, ascertain from the register if any alarm has been sent in during their absence. Captains or Acting Captains of Truck, Chemical, or Water Tower companies and Drivers of Monitor Batteries will do likewise before entering the house.

35. All assignments of companies for answering alarms and attending fires, and the movements of companies in covering-in, shall be made under the direction of the Chief Engineer.

36. No work or labor not absolutely necessary shall be performed on Sunday.

37. Hosemen and Truckmen will wear the regulation helmet, while going to and returning from an alarm of fire, and while working thereat.

38. The First Assistant Chief Engineer, Second Assistant Chief Engineer and Battalion Chiefs may suspend any subordinate officer, member or employee of the Department for violation of the Rules and Regulations of the Department, and shall forthwith report in writing such suspension and the reasons therefor to the Chief Engineer, who shall report thereon to the Board of Fire Commissioners.

39. Members of companies shall not go beyond the limit of their respective districts for their meals, nor for any other purpose while on duty, without obtaining permission from their superior officers, and while absent at meals they must immediately respond to all alarms of fire to which their respective companies respond, either for service or for the purpose of covering-in to other quarters.

VIOLATION OF RULES.

The Captain, or in his absence the officer in charge of the Company, shall report to the Battalion Chief every infraction of these rules and the circumstances connected therewith, and the Battalion Chief must thereupon report the same in writing to the Chief Engineer, who shall have said report placed on file and the circumstances thereof noted in a book to be kept for that purpose. If such infraction amounts to a willful breach of discipline, the matter shall be brought to the attention of the Board of Fire Commissioners by the Chief Engineer. Any failure to report to the Commissioners cases of drunkenness, breach of discipline, or flagrant violation of any of these rules, will be considered as an offense on the part of the officer failing to so report.

INSIGNIA OF RANK.

CHIEF ENGINEER—Five trumpets, measuring one and three-sixteenths inches each, crossed with the bells outward, and projecting beyond mouthpieces, so as to form a design $1\frac{1}{2}$ inches in diameter, and all to be made of gilt metal and worn on the front of the cap.

FIRST ASSISTANT CHIEF ENGINEER—Same as above, with the exception that there shall be but four trumpets.

SECOND ASSISTANT CHIEF ENGINEER—Same as above, with the exception that there shall be but three trumpets.

BATTALION CHIEFS—Same as above, with the exception that there shall be but two trumpets.

CAPTAINS OF ENGINE, CHEMICAL ENGINE AND WATER TOWER COMPANIES—Two trumpets, one three-sixteenths inches long; made of white metal; trumpets placed perpendicularly, bells downward; letter and number designating company on same. To be worn in the center of cap front.

LIEUTENANTS OF ENGINE, CHEMICAL ENGINE AND WATER TOWER COMPANIES—Same as above, with the exception that there shall be but one trumpet, placed perpendicularly.

CAPTAINS OF TRUCK COMPANIES—Two axes, one and three-sixteenths inches long; made of white metal; axes to be placed crosswise; letter and number designating company on same. To be worn in center of cap front.

LIEUTENANTS OF TRUCK COMPANIES—Same as above, with the exception that there shall be but one axe, placed perpendicularly.

ENGINEERS, DRIVERS, STOKERS, TILLER MEN, TRUCK MEN AND HOSEMEN—White metal Maltese cross badge, one and five-eighths inches each way, with the Department number of the wearer in figures three-eighths of an inch long. To be worn in the center of the cap front.

REGULATION UNIFORM, S. F. F. D. CHIEF ENGINEER.

COAT to be double-breasted, square cut; to button to the neck, with rolling collar, made to be worn open or closed; seam in back, raw edge, $\frac{1}{2}$ inch double stitched, two lower, one upper pockets with scalloped flaps $3\frac{1}{4}$ inches deep at points; two inside, cut crosswise; two rows of buttons, 8 in each row, to be placed in pairs. Sleeves to be stitched to a point from $3\frac{1}{2}$ to 6 inches; four buttons on sleeve. Buttons to be gilt and set in with rings. Length to be to the middle of first finger. Lining to be of heavy Italian cloth and striped sateen sleeve lining.

VEST single-breasted; no collar; raw edge; double-stitched one-half edge; four pockets outside, none inside. The pockets to have scalloped flaps $2\frac{1}{4}$ inches deep

at points, $1\frac{1}{4}$ inches between points. Vest to be opened no more than 14 inches from center of back and closed with 6 gilt buttons.

TROUSERS two top, two hip and one fob or watch pocket; sewed down lap seam $\frac{3}{8}$ of an inch; width of trousers to be 1 inch smaller at bottom than at knee.

SHIRT linen or muslin, with standing collar.

CRAVAT a narrow neck tie or bow of black silk, not less than $\frac{3}{4}$ of an inch in width, tied in a flat knot in front, the ends to extend not more than 3 inches from the knot.

FIRST AND SECOND ASSISTANT CHIEF ENGINEERS AND BATTALION CHIEFS.

Same as above, with the exception that there shall be two rows of buttons, 6 in each row, and sleeves to be stitched to a point from $3\frac{1}{2}$ to 5 inches; four buttons on sleeves of coat.

CAPTAINS AND LIEUTENANTS OF COMPANIES.

Same as above, with the exception that there shall be two rows of buttons, 5 in each row, placed equi-distant to within $8\frac{1}{2}$ inches of bottom of coat. Buttons to be of white metal; no outside pockets; 3 buttons on each sleeve; coat to be made to be worn buttoned up.

VEST same as specified for officers, with the exception that the two upper pockets are finished with welts 1 inch deep.

SHIRTS same as specified below.

ENGINEERS, DRIVERS, STOKERS, HOSEMEN, TILLERMEN AND TRUCKMEN.

COAT to be single-breasted, square cut, buttoned close to neck, with 6 buttons; to be finished raw edges, double-stitched $\frac{1}{2}$ inch, plain seams, also seam down the center of back. Prussian collar, turned down to 2-3 inches deep in center of back, and $2\frac{3}{8}$ inches deep at points in front; no pockets outside, two inside cross-ways. Sleeves to be stitched to a point $3\frac{1}{2}$ inches from edge up to 5 inches, double-stitched; 3 buttons, facing inside, raw edged and single-stitched. Buttons to be of white metal. The length of coat to be to the middle knuckle of first finger.

TROUSERS same as specified for officers.

VEST same as specified for officers, with the exception that the two upper pockets are finished with welts 1 inch deep. All buttons on coat and vest to be fastened with rings.

SHIRTS blue flanneled, collar $4\frac{1}{2}$ inches deep at points, $2\frac{1}{2}$ inches at back when finished; 3 rows of stitching. Collar band $\frac{3}{4}$ inch at front and $1\frac{1}{2}$ inches at back. Breast-piece 13 inches long, $2\frac{1}{2}$ inches wide, open $11\frac{1}{2}$ inches; 3 rows of stitching; 4 buttons and buttonholes. Yoke 2 points, 3 rows of stitching. Body and sleeves double-stitched. Cuffs open 5 inches; long points $7\frac{1}{2}$ inches; short points $5\frac{1}{2}$ inches. Two buttonholes, 3 buttons, 3 rows of stitching. Silk to be used in all top stitching and buttonholes. Buttons to be first grade white pearl; 4 holes, 24 line. Buttonholes to be hand-made.

CRAVAT long black tie, ordinary length. All linings must be same as samples in Chief Engineer's office. See plate of coats for all uniform men at Chief Engineer's office or at headquarters of Chiefs of Battalions. Sample shirt can be seen at Chief Engineer's office.

CAPS.

CHIEF ENGINEER, ASSISTANT CHIEF ENGINEERS, BATTALION CHIEFS, CAPTAINS AND LIEUTENANTS OF ENGINE COMPANIES, CAPTAINS AND LIEUTENANTS OF TRUCK COMPANIES.

CAPS to be of regulation Fire Department pattern; made of 20-ounce navy blue cloth, pure indigo dyed, $3\frac{1}{2}$ inches deep, with welt around tip of cap; the welt to cover steel wire; welt of $\frac{1}{8}$ -inch width, $\frac{1}{8}$ of an inch above the base of cap; band 1-5 inches wide above base welt; crown above band $1\frac{1}{8}$ inches, cut in four parts with seam in front and back and on each side of cap; visor to be unbound, of plain solid black patent leather 2 inches wide, with round corners; $\frac{1}{2}$ -inch leather chin straps, with leather slides fastened to the cap on each side with brass Fire Department buttons. Captains and Lieutenants of Engine and Truck Companies, Chemicals and Water Towers buttons to be of white metal. Real mohair black braid on band of cap; inside band of cap to be of solid leather; lining to be of genuine hair cloth, covered with satin, sweatband to be of dark Japan leather 2 inches wide; two japanned metal eyelets on each side of cap for ventilation. The insignia of office to be of gilt metal in center of front above the welt.

ENGINEERS, DRIVERS, STOKERS, TILLERMEN AND TRUCKMEN.

CAP to be same as above, except that there be no mohair braid on the same and the badge of office and buttons on the side shall be of white metal. Badge to be made in shape of Maltese cross, with the number and monogram of the Department thereon.

All insignia of office and cap devices shall be placed half way between the top of cap and the row of stitching at upper edge of cap band.

Rain covers required for each cap to be made of rubber gossamer to fit the cap.

REGULATION FIRE HELMET.

CHIEF ENGINEER—White leather helmet with twelve cones, having a gilded leather front, depending from a gilt-edge head, and attached to the front of the helmet, with the insignia of his rank and the words "Chief Engineer" painted upon it upon a scroll of gold.

FIRST ASSISTANT CHIEF ENGINEER—Same as above, with the words "First Assistant Chief" thereon.

SECOND ASSISTANT CHIEF ENGINEER—Same as above, with the words "Second Assistant Chief" thereon.

BATTALION CHIEFS—Same as above, with the words "Battalion Chiefs" and number of battalion district designated thereon.

CAPTAINS OF ENGINE COMPANIES—Black leather helmets, with eight cones, with number of company and rank of office on white leather front.

LIEUTENANTS OF ENGINE COMPANIES—Same as above.

HOSEMEN—Black leather helmets, with eight cones, and name of company on black front.

TRUCK COMPANIES—Red and white leather hats, with eight cones.

REPORT OF THE BOARD
OF
FIRE PENSION FUND COMMISSIONERS.

SAN FRANCISCO, July 1, 1901.

*To the Honorable Jas. D. Phelan, Mayor
Of the City and County of San Francisco—*

Dear Sir: In compliance with Article XVI, Section 9 of the Charter of the City and County of San Francisco, the Board of Fire Pension Fund Commissioners herewith present and submit their report for the fiscal year ending June 30, 1901.

ORGANIZATION.

The Board of Fire Pension Fund Commissioners, as now constituted, consists of four members and a Secretary, viz:

Rolla V. Watt, President.....Term expires January 8, 1904
M. H. Hecht.....Term expires January 8, 1905
John H. Grady.....Term expires January 8, 1903
Jas. C. McKinstry.....Term expires January 8, 1902

S. W. NICOLL, Secretary of the Board.

MEMBERS OF THE FIRE DEPARTMENT RETIRED ON PENSION.

During the year the widow of a member of the Fire Department who lost his life was pensioned under the provisions of Article IX, Chapter 7, Section 5, of the Charter, viz:

Mrs. Jennie Sweeney, July 1, 1900, widow of John Edward Sweeney, Hoseman of Engine Company No. 29, who lost his life June 20, 1900, through injuries received while rescuing a man from a burning building.

During the year four members of the Fire Department were retired under the provisions of Article IX, Chapter 7, Section 4, of the Charter, viz:

Joseph H. Hogan, Hoseman of Engine Company No. 31, October 1, 1900.
John T. Crummey, Hydrantman, November 1, 1900.
Joseph Wolf, Truckman of Truck Company No. 2, January 10, 1901.
Patrick Barry, Lieutenant of Engine Company No. 23, April 1, 1901.

REPORT OF FIRE PENSION FUND COMMISSIONERS. 149

LIST OF PENSIONERS JUNE 30th, 1901.

NAME.	DATE PENSIONED.	AMOUNT PER QUARTER.
Chapman, John E.....	December 5, 1891	\$135 00
Byron, Michael.....	January 9, 1892.....	52 50
Bell, Charles	February 14, 1892.....	135 00
O'Neil, John.....	April 23, 1892.....	67 50
Burns, William.....	July 16, 1892.....	135 00
Fleming, P. H.....	October 29, 1892.....	210 00
Johnson, Benjamin.....	December 3, 1892.....	52 50
Finn, D. A.....	January 14, 1893.....	52 50
O'Neill, John.....	February 18, 1893.....	52 50
Brady, James W.....	April 15, 1893.....	52 50
Meagher, Thomas.....	May 16, 1893.....	52 50
Jackson, John S.....	July 15, 1893.....	210 00
Shine, Cornelius.....	July 29, 1893.....	67 50
Colvin, H. J.....	July 31, 1894.....	210 00
Robinet, H. J.....	July 28, 1894.....	52 50
McCue, Hugh.....	February 2, 1895.....	112 50
Ryder, Henry.....	February 2, 1895.....	52 50
Kennard, George W.....	June 13, 1895.....	225 00
Minton, Thomas.....	February 1, 1896.....	52 50
Murphy, J. J.....	April 9, 1896.....	52 50
Cunningham, William.....	April 13, 1896.....	210 00
Sheehan, Michael.....	December 24, 1896.....	135 00
Lawrence, B. B.....	February 4, 1897.....	135 00
Toomey, Dennis.....	April 21, 1897.....	52 50
Kennedy, Hugh.....	May 27, 1897.....	67 50
O'Neil, Edward.....	June 6, 1897.....	52 50
Clements, John.....	August 27, 1897.....	52 50
Grady, James.....	December 16, 1897.....	67 50
Mason, James.....	August 11, 1898.....	210 00

150 REPORT OF FIRE PENSION FUND COMMISSIONERS.

LIST OF PENSIONERS—CONCLUDED.

NAME.	DATE PENSIONED.	AMOUNT PER QUARTER.
Mulcahy, William H.....	December 15, 1898.....	\$52 50
McCormack, Patrick.....	February 17, 1899.....	67 50
O'Sullivan, Edward.....	September 14, 1899.....	52 50
Murphy, John J.....	November 9, 1899.....	210 00
Desmond, Felix.....	November 16, 1899.....	52 50
Sweeney, Mrs. Jennie.....	July 1, 1900.....	120 00
Hogan, Joseph H.....	October 1, 1900.....	120 00
Crummey, John T.....	November 1, 1900.....	120 00
Wolf, Joseph.....	January 10, 1901.....	120 00
Barry, Patrick.....	April 1, 1901.....	150 00

DEATH.

During the fiscal year the following death occurred:
Michael Sheehan died June 16, 1901, of consumption.

APPROPRIATION AND EXPENDITURES FISCAL YEAR 1900-1901.

Appropriated by the Board of Supervisors July 1, 1900.....	\$20,000 00
Fines imposed on members of the Fire Department on account of violation of rules and regulations, as per Article IX, Chapter 1, Section 8 of the Charter.....	246 70
Total	\$20,246 70

PENSIONS PAID.

First quarter, ending September 30, 1900.....	\$3,570 00
Second quarter, ending December 31, 1900.....	3,770 00
Third quarter, ending March 31, 1901.....	3,919 30
Fourth quarter, ending June 30, 1901.....	4,059 19
Salary of Secretary, July 1, 1900, to June 30, 1901.....	600 00
	<u>15,918 49</u>
Surplus	\$4,328 21

Respectfully submitted,
BOARD OF FIRE PENSION FUND COMMISSIONERS.

S. W. NICOLL, Secretary.

REPORT OF THE PUBLIC LIBRARY.

SAN FRANCISCO, July 1, 1901.

*To the Honorable Jas. D. Phelan, Mayor
Of the City and County of San Francisco—*

Sir: In accordance with the provisions of the Charter of the City and County I submit the following report on behalf of the Trustees of the Public Library for the year ending June 30, 1901.

The reports of the Secretary and Librarian incorporated herewith give in detail an account of all moneys received and expended and a record of the work of the library, and to them I would call attention. Cards showing that holders thereof are entitled to draw books from the library are issued on applications properly signed for a period of two years. The number of cards so issued during the year is 17,550, while there expired during the same period 15,319. Hence the increase in card-holders, that is, in the number of people taking books from the library for home use, is 2,231 for the twelve months. The number of cards in force is 33,249, but the actual number of people availing themselves of library privileges in one way or another is even greater, for there are many visitors to the reference and reading rooms who do not hold library cards. The statistics appended to the Librarian's report show that 711,409 books were issued for home reading, an increase for the year of 73,159 volumes. The steady and continuous growth in popularity and usefulness which these figures imply is all the more gratifying for the reason that it indicates a normal and healthful condition. The Secretary's report shows disbursements to the amount of \$61,392, of which the sum of \$14,064 was spent for books and periodicals, while the cost of maintenance and administration amounted to \$47,338.

The six branch libraries continue to do excellent service, especially Nos. 1 and 6, on Mission and Fillmore streets respectively. From the books on its shelves the former has circulated 124,144 volumes for home reading, and the latter 93,219 volumes. The aggregate home circulation of all the branches for the year is 335,308. Although the collections in the branches are comparatively small, they are composed of books carefully selected. In so far as possible the shelves are kept free from the inactive and antiquated material which necessarily accumulates in larger libraries. The Trustees look upon the branches as being of the greatest value, inasmuch as they place within easy reach of all the means for healthful recreation and self-improvement. In our last report we announced with much pleasure the proposed gift by Mayor James D. Phelan of a building for the Harrison branch. It is extremely gratifying to know that this building is now in course of construction and will be completed at an early date.

As stated in my last report a special committee was appointed to proceed in the matter of finding ways and means for the erection of a library building. The present accommodations are very inadequate and further provision for our growing needs cannot be long deferred. Fortunately the offer of Mr. Carnegie to give the City the sum of \$750,000 for library buildings has come very opportunely, and there

can now be no valid reason why the erection of suitable structures for the main and branch libraries should be delayed beyond the time required for the arrangement of the preliminaries and for securing the necessary sites. New buildings will be a great stimulus to library activity, and we look forward with assurance to an institution with a greatly enlarged capacity for usefulness and approaching more nearly than is now possible the complete fulfillment of the wise purposes for which it was established.

The Board has sustained a great loss by the death of one of its members, Mr. John S. Hittell, which occurred March the 8th, 1901. Mr. Hittell had been a Trustee since January, 1894. His long service was characterized by a constancy and capability rarely excelled. The vacancy thus caused has been filled by the election of Mr. Sheldon G. Kellogg.

In closing allow me to express to you our deep sense of gratitude for your continued interest in the welfare of the library, and to the other officers and departments of the municipality with whom we are brought in contact for the cordial relations they have helped to maintain.

JOHN H. WISE,
President Board of Trustees.

BOARD OF TRUSTEES.

JOHN H. WISE (President).....	212 Sansome street
P. N. LILIENTHAL.....	Anglo-Californian Bank
A. L. MANN.....	2222 Clay street
EDWARD R. TAYLOR.....	530 California street
JOSEPH O'CONNOR.....	Mission High School
GEO. T. SHAW....	Grand Secretary, Grand Lodge, I. O. O. F., Odd Fellows' Bldg.
RALPH C. HARRISON.....	Supreme Court Chambers, Parrott Bldg.
COLIN M. BOYD.....	411 California street
HORACE DAVIS.....	134 California street
SHELDON G. KELLOGG.....	Crocker Bldg.
THOMAS B. BISHOP.....	532 Market street

The Mayor, ex-officio.

GEORGE A. MULLIN, Secretary.

MISS M. T. TYLER, Asst. Sec'y.

 COMMITTEE CHAIRMEN.

RALPH C. HARRISON.....	Books
JOSEPH O'CONNOR.....	Building
COLIN M. BOYD.....	Rules
EDWARD R. TAYLOR.....	Finance
A. L. MANN.....	Branches
P. N. LILIENTHAL.....	Municipal Relations
GEORGE T. SHAW.....	Printing and Binding
THOMAS B. BISHOP.....	Law

 LIBRARIAN.

GEORGE T. CLARK.

ASSISTANT LIBRARIAN.

JOY LICHTENSTEIN.

SECRETARY'S REPORT.

To the Trustees of the San Francisco Public Library—

GENTLEMEN: Following is a statement showing the receipts and expenditures for the year ending June 30, 1901:

	AMOUNT.	TOTAL.	
RECEIPTS.			
Balance in Treasury June 30, 1900.....		\$6,713 59	
Cash on hand (with Secretary) June 30, 1900.....		159 60	
From Taxes.....	\$62,193 96		
Fines collected.....	2,550 85		
Books lost and paid for.....	118 25		
Bindings injured and paid for.....	6 75		
Catalogues sold.....	23 00		
Reserve postals sold.....	187 50		
Advertisements in Monthly Bulletin.....	81 00		
Old newspapers sold.....	6 00		
Old boxes sold.....	1 00		
Old buildings, Fourth and Clara streets, sold.....	95 00		
Witness fee.....	2 00		
Donation from Miss Allen.....	1 00		
Total receipts.....		64,966 31	
DISBURSEMENTS.			
Salaries.....	\$34,871 60		
Books.....	12,010 83		
Periodicals.....	2,044 46		
Printing.....	1,740 98		
Binding.....	5,041 91		
Stationery.....	125 46		
			\$71,839 50

RECEIPTS AND DISBURSEMENTS—CONTINUED.

	AMOUNT.	TOTAL.	
Electric power for elevator.....	\$508 18		
Telephone.....	67 50		
Furniture and repairs.....	1,189 96		
Expense—Sundry.....	598 70		
Fire insurance.....	475 35		
Gas for branches.....	304 92		
Rent of branches.....	2,124 00		
Fuel for branches.....	109 00		
Total disbursements.....		\$61,392 35	
Balance in Treasury June 30, 1901.....		10,266 25	
Cash on hand (with Secretary) June 30, 1901.....		180 90	
			\$71,839 50

RECORD OF DELINQUENTS.

	AMOUNT.	TOTAL.
FINES.		
27,536 Fines collected, amounting to.....	\$2,250 85	
608 Fines uncollected, amounting to.....	114 35	
28,144 Total Fines imposed, amounting to.....		\$2,365 20
BOOKS LOST AND BORROWERS' CARDS CANCELED.		
Main Library, 10 volumes, amounting to... ..	\$17 10	
Branch No. 1, 2 volumes, amounting to.....	1 10	
Branch No. 3, 4 volumes, amounting to.....	2 85	
Branch No. 4, 1 volume, amounting to.....	50	
Branch No. 5, 3 volumes, amounting to.....	2 50	
Branch No. 6, 1 volume, amounting to.....	1 00	
Total..... 21 volumes, amounting to.....		\$25 05
BOOKS LOST AND PAID FOR.		
119 volumes, amounting to.....		\$118 25

STATEMENT OF EXPENSES FOR BRANCHES.

	BRANCH 1.	BRANCH 2.	BRANCH 3.	BRANCH 4	BRANCH 5.	BRANCH 6.	DEPOSIT COLLECTION.	TOTAL.
Salaries	\$2,232 45	\$1,364 55	\$1,573 90	\$1,333 15	\$1,370 65	\$1,601 95	.....	\$9,476 65
Rent,.....	420 00	312 00	420 00	252 00	240 00	480 00	.....	2,124 00
Gas.....	96 94	45 37	50 70	29 17	51 57	121 08	.....	394 92
Furniture and repairs.....	53 35	33 50	18 36	23 97	17 85	76 50	.....	223 53
Expense, sundry.....	34 05	24 75	29 10	21 05	22 10	27 35	.....	158 40
Fuel.....	33 00	22 00	22 00	22 00	10 00	.....	.....	109 00
Insurance	19 40	7 90	17 00	6 55	21 00	37 50	.....	109 35
Daily papers.....	63 60	36 90	53 70	32 70	33 70	34 70	.....	355 30
Periodicals.....	97 00	52 90	90 70	74 50	74 50	97 45	.....	487 05
Books.....	972 61	*184 60	447 55	*213 25	*312 67	782 76	\$381 38	3,194 82
Binding.....	577 71	74 03	255 86	96 80	162 44	485 96	.....	1,652 80
Totals.....	\$4,600 11	\$2,158 50	\$2,978 96	\$2,105 14	\$2,316 48	\$3,745 25	\$381 38	\$18,185 82

* Books of Deposit Collection have been distributed in Branches 2, 4 and 5.

Respectfully submitted,

GEORGE A. MULLIN,
Secretary.

REPORT OF THE LIBRARIAN.

To the Trustees of the Public Library—

I have the honor to submit herewith, in accordance with the rules of your Honorable Board, the annual report of the Librarian for the year ending June 30, 1901.

Although our income has not been sufficient to warrant the establishment of another branch library or to otherwise extend our field of usefulness, the records for the year show a substantial growth in almost every department. We have added as largely to the permanent value of the collection as the funds available would permit after providing for the urgent demands upon them. With the approval of the Board the book committee has placed orders for books to the amount of \$11,692 81. Of this sum, \$3,199 68 were for books for branches, \$2,862 80 for replacements in the main library, \$1,397 28 for fiction and books for the young and \$4,233 05 for historical and scientific works and books in other departments. The item for replacements grows from year to year, notwithstanding our efforts to prolong the life of the much-used books. It is reassuring to know, however, that the cause of the larger outlay lies in the increasing popularity and usefulness of the library. A table showing by classes the number of volumes ordered and the approximate cost of the same is printed as Appendix VII to this report. Through the courtesy of Mayor Phelan and the Clerk of the Board of Supervisors, Mr. John A. Russell, the municipal publications heretofore on file in their respective offices, numbering in the aggregate some 1,300 volumes, have been given to the library. These, together with the reports already on hand, form an important collection of great value to the student of municipal affairs.

CATALOGUE DEPARTMENT.

According to the statement of accessions forming part of the first appendix to this report there have been received during the year 14,323 volumes, including replacements and books for branches. All have passed through the catalogue department, and for the most part the time of the force there employed has been occupied in disposing of them. In addition to this current work a good deal has been accomplished in revising the entries of the "900" classes, that is, books of history, biography and travel. The entire collection of municipal publications has been catalogued and the titles thereof have been printed in the November number of the Library's Bulletin. A catalogue has also been prepared and printed covering the periodicals, newspapers and other serial publications in the library and the books in the Reference Room.

BINDING.

The cost of binding, as shown by the Secretary's statement, is considerably in excess of the charge for any previous year. The increase is due to the greater quantity of work done and also to the higher rates under the new contract in force since October, 1900. The contract being about to expire, bids were called for from the leading binders of the city. The house which has done our work since 1895 offered the most favorable terms, but even these were equivalent to an in-

crease of 10 per cent. on the former rates. In so far as practicable we have used heavy cloths and art canvas for the cheaper grades of work, where formerly the books were bound in roan or buffing, to offset the advance in price. Of original work, that is, periodicals and other matter received in paper form, we have had bound 972 volumes for the main library and 359 volumes for the branches, while of the rebound work 6,925 volumes have been done for the main library and 4,271 volumes for the branches, making a total for the year of 12,527 volumes.

CIRCULATION.

The number of card-holders on June 30th was 33,249, or 9.7 per cent. of the city's population according to the census of 1900. Although the number has been increasing steadily for several years and continues to enlarge from month to month, there are still a great many who do not avail themselves of their right to use the library. A careful study of the localities represented by the card-holders shows that a majority of the people do not find it convenient to use a library situated at a greater distance than one-half or three-quarters of a mile. For this reason we have comparatively few readers in the district extending from Turk street on the north to Market street on the south and westerly from Fillmore street, not to mention other localities, which, although less thickly populated, are even more remote from libraries of any kind. An extension of our system to these outlying portions of the city would add greatly to the number of its patrons and thereby to its usefulness. Appended to this report are the usual statistics of circulation. A considerable increase is apparent in the number of books issued for home use, 711,409 having been given out this year as against 638,250 last year. The home circulation at the main library has increased 27,677 volumes, at the Mission branch 17,239 volumes, and the Fillmore branch completes the second year of its existence with a circulation of 98,219 volumes, a gain of 21,131. All of the branches, in fact, have made satisfactory progress in this respect.

SCHOOL WORK.

Teachers' cards, entitling the holders thereof to draw a number of books at a time for use in connection with their class work, have been issued to the number of 266, and 7,802 volumes have been drawn thereon. The books taken seem to fall into three divisions, (1) books which the teachers are expected to read, (2) books to which pupils are referred in connection with the study of given topic and (3) books which the children are desired to read for recreation and to develop a taste for good literature. In many cases the children draw from the library on their own personal cards books of the latter class which have been recommended to them by their teachers, but in other instances, on account of distance from the library or in order to exercise a more careful supervision over their pupils' reading, the teachers take the books on their cards and in turn loan them to the children. This system is cumbersome and involves the transportation of many books to and from the schools. At an early date I hope to submit a plan to the committee on administration by which some of the difficulties may be overcome.

BRANCH LIBRARIES.

As previously stated, the branches have made satisfactory gains in the volume of work performed. New books have been added in as large numbers as the funds available would permit. A system has been adopted which will permit us to supply a larger selection to the smaller branches than has been possible heretofore. A "deposit collection" has been formed from which books will be sent to each of these branches. When a given lot has been at one branch for a sufficient length of time, it will be transferred to another branch and another lot will take its place

REPORT OF THE TRUSTEES

at the first branch. These transfers will be made from time to time, so that eventually all the books in the collection will have made the round of the branches. This system does not exclude the placing of desirable books likely to be in continued demand permanently in the branch libraries as heretofore, but on the other hand it enables us to place before the users of the smaller libraries books, the purchase of which would not have been justified by the demand had their use been confined to the readers of one library.

Under a resolution of your Honorable Board the Branch Librarians meet with the Librarian at stated times for consultation and interchange of ideas. Through their co-operation a handbook has been prepared covering in detail the routine work of the branches. Although it is impossible to prescribe definite rules of action for all cases which may arise, and much must necessarily be left to the judgment and discretion of the Branch Librarian, the use of the handbook insures uniformity of method and enables each of the Librarians to profit by the experience of the rest.

In closing this summary of the year's work I desire to express my high appreciation of the hearty endeavors of all members of the staff to maintain the service at the highest standard of usefulness.

Respectfully submitted,

GEORGE T. CLARK, Librarian.

July 23, 1901.

APPENDIX I.

STATEMENT OF ACCESSIONS.

Volumes in Main Library July 1, 1900.....	105,776
Added by purchase.....	7,515
Added by gift.....	2,059
Continuations and pamphlets bound by Library.....	663
Total.....	10,237
Less volumes withdrawn.....	4,107
Net increase.....	6,130
Volumes in Main Library June 30, 1901.....	111,906
Volumes in Branch Libraries July 1, 1900.....	22,276
Added.....	3,800
Less volumes withdrawn.....	1,873
Net increase.....	1,927
Volumes in Branch Libraries June 30, 1901.....	24,203
Volumes in Branch Deposit Collection.....	286
Total volumes received, 1900-01.....	14,323
Volumes in Main Library and Branches, June 30, 1901.....	136,395

USE OF BOOKS.

Volumes issued at Main Library for home use.....	376,101
Volumes issued at Branch Libraries for home use.....	*335,308
	711,409
Volumes issued at Main Library for library use.....	161,775
Volumes issued at Branch Libraries for library use.....	69,739
Total.....	231,514
	942,923
Borrowers' cards issued 1899-1900.....	15,744
Borrowers' cards issued 1900-01.....	17,550
Total issue for two years.....	33,294
Borrowers' cards canceled (two years).....	45
Cards in force June 30, 1901.....	33,249

* Not including volumes sent from Main Library.

APPENDIX II—

(MAIN

CLASS.	1900.					
	July.....	August.....	September..	October.....	November...	December...
General Works.....	313	499	390	400	483	439
Philosophy.....	397	525	470	622	602	679
Religion.....	472	583	699	667	620	658
Sociology.....	976	1,164	1,346	1,531	1,436	1,529
Philology.....	313	433	330	358	363	316
Natural Sciences.....	1,073	1,101	1,031	1,474	1,498	1,385
Useful Arts.....	1,927	1,866	1,632	2,166	2,041	2,137
Fine Arts.....	863	919	772	1,224	1,182	1,120
Miscellaneous literature.....	1,196	1,809	1,691	1,928	1,615	1,585
Poetry and drama.....	503	981	959	1,159	1,036	963
Geography and Travel.....	1,243	1,501	1,220	1,576	1,378	1,333
Biography... ..	997	1,179	1,114	1,304	1,365	1,141
History.....	1,341	2,849	2,668	2,666	2,547	1,843
Bound magazines.....	2,577	2,749	2,552	3,701	3,513	3,580
Current magazines.....	688	747	621	786	756	861
Juvenile fiction.....	5,301	5,008	4,831	5,972	5,443	5,123
English fiction.....	18,039	18,452	16,535	19,148	18,453	18,442
French and German fiction.....	1,239	1,262	1,166	1,158	1,191	1,218
Totals.....	39,458	43,627	40,027	47,840	45,522	44,357

CLASSIFIED USE OF BOOKS.

LIBRARY.)

1901.						TOTAL VOLUMES.	PER CENT.
January ...	February ...	March.....	April.....	May.....	June.....		
553	422	398	363	374	299	4,933	.92
767	537	517	530	452	486	6,584	1.22
839	634	739	547	561	514	7,533	1.40
1,764	1,333	1,598	1,508	1,099	1,008	16,292	3.03
391	350	347	332	464	467	4,464	.83
1,895	1,358	1,724	1,527	1,487	1,373	16,926	3.15
2,596	2,248	2,129	1,971	2,097	1,810	24,620	4.58
1,559	1,010	1,175	956	929	1,039	12,748	2.37
1,880	1,854	1,584	1,631	1,415	1,379	19,567	3.64
1,268	1,211	937	1,183	867	676	11,743	2.18
1,781	1,495	1,639	1,503	1,402	1,390	17,461	3.25
1,575	1,254	1,374	1,469	1,236	1,014	15,022	2.79
2,877	2,655	2,742	2,818	1,898	1,328	28,237	5.25
3,656	3,615	3,647	3,670	3,352	2,999	39,611	7.36
847	761	718	663	743	643	8,834	1.64
5,739	5,568	6,221	5,556	5,525	5,071	65,358	12.15
20,358	18,240	19,568	18,610	18,215	18,503	222,563	41.38
1,501	1,394	1,435	1,368	1,249	1,199	15,380	2.86
51,846	45,939	48,492	46,505	43,365	41,198	537,876	100.00

APPENDIX III—MAIN

	1900.					
	July	August.....	September.....	October.....	November.....	December.....
Books Issued—						
Home use.....	29,029	30,699	28,431	33,374	31,788	30,445
Library use.....	10,429	12,928	11,596	14,466	13,734	13,912
Total	39,458	43,627	40,027	47,840	45,522	44,357
Days open.....	30	31	26	31	28	30
Average daily delivery.....	1,496	1,547	1,731	1,693	1,789	1,653
Visitors—						
Reference Room	3,457	4,814	4,035	4,759	4,809	4,757
Periodical Room.....	4,882	5,232	4,508	5,887	5,907	6,913
Newspaper Department.....	14,661	9,582	13,807	17,715	18,230	17,032
Cards Issued -						
1900-1901.....	1,357	1,588	1,643	1,861	1,481	1,178
1899-1900.....	1,263	1,344	1,290	1,279	1,311	1,112

LIBRARY STATISTICS.

1901.						TOTAL.
January.....	February.....	March.....	April.....	May.....	June.....	
34,363	31,633	33,943	31,918	30,948	29,530	376,101
17,483	14,306	14,549	14,287	12,417	11,668	161,775
51,846	45,939	48,492	46,205	43,365	41,198	537,876
30	27	31	30	30	30	354
1,897	1,884	1,777	1,711	1,586	1,561	
5,765	4,981	5,272	5,155	4,297	3,601	55,702
7,611	6,122	6,548	6,506	6,143	5,417	71,676
18,153	14,872	17,450	17,240	18,256	15,957	192,949
1,726	1,405	1,468	1,246	1,180	1,417	17,550
1,626	1,296	1,526	1,274	1,054	1,369	15,744

APPENDIX IV—CIRCULATION

	1900.					
	July.....	August.....	September.	October....	November..	December..
BRANCH LIBRARY NO. 1.						
Home use, Books from Branch.....	10,276	9,902	9,416	10,562	9,692	9,781
Home use, Books from Main Library	218	230	201	234	245	249
Library Use	1,321	1,539	1,374	1,440	1,231	1,166
Total	11,815	11,671	10,991	12,236	11,168	11,196
Daily Average.....	435	409	464	423	434	412
BRANCH LIBRARY NO. 2.						
Home use, Books from Branch.	749	816	661	832	786	768
Home use, Books from Main Library	31	77	54	42	53	50
Library Use	599	667	586	804	707	549
Total	1,379	1,560	1,301	1,678	1,546	1,367
Daily Average.....	47	53	52	55	50	48
BRANCH LIBRARY NO. 3.						
Home use, Books from Branch.....	3,958	3,940	3,742	4,584	4,312	3,991
Home use, Books from Main Library	251	249	242	287	285	368
Library Use	969	1,263	1,079	1,380	1,455	1,418
Total.....	5,178	5,452	5,063	6,251	6,052	5,777
Daily Average.....	194	167.	218	220	237	178

OF BRANCH LIBRARIES.

1901.						TOTAL.
January...	February..	March.....	April.....	May.....	June.....	
11,042	10,425	11,249	10,550	10,807	10,442	124,144
363	277	283	225	229	217	2,971
1,349	1,013	1,048	1,079	1,097	863	14,520
12,754	11,715	12,580	11,854	12,133	11,522	141,635
462	474	455	432	441	430	
962	917	856	800	734	606	9,487
45	44	61	47	53	45	602
749	697	657	479	470	549	7,513
1,756	1,658	1,674	1,326	1,257	1,200	17,602
53	65	55	48	45	40	
4,501	4,128	4,416	4,421	4,245	3,860	50,098
469	415	492	538	557	493	4,646
1,549	1,320	1,277	1,240	1,320	1,330	15,600
6,519	5,863	6,185	6,199	6,122	5,683	70,344
205	204	224	229	225	214	

APPENDIX IV—

	1900.					
	July.....	August.....	September..	October.....	November..	December..
BRANCH LIBRARY No. 4.						
Home use, Books from Branch.....	1,521	1,449	1,331	1,651	1,606	1,603
Home use, Books from Main Library	70	60	49	80	68	89
Library Use	349	346	271	322	328	292
Total	1,940	1,855	1,651	2,053	2,002	1,984
Daily Average.....	64	59	59	66	72	66
BRANCH LIBRARY No. 5.						
Home use, Books from Branch.....	2,872	2,688	2,429	2,933	2,731	2,748
Home use, Books from Main Library	76	94	97	115	103	129
Library Use	1,373	1,169	997	1,297	1,310	1,457
Total.....	4,321	3,951	3,523	4,345	4,144	4,334
Daily Average.....	160	138	149	153	160	159
BRANCH LIBRARY No. 6.						
Home use, Books from Branch.....	7,355	7,844	7,560	8,714	8,019	7,804
Home use, Books from Main Library	252	275	269	389	382	386
Library Use.....	753	845	841	971	1,023	994
Total.....	8,360	8,964	8,670	10,074	9,424	9,184
Daily Average.....	315	315	369	355	368	341

CONTINUED.

1901.						TOTAL.
January....	February..	March....	April.....	May.....	June.....	
1,840	1,563	1,567	1,580	1,497	1,418	18,626
88	84	65	64	77	56	850
368	316	359	337	305	261	3,853
2,296	1,963	1,991	1,981	1,879	1,734	23,329
76	72	64	66	62	57	
3,345	2,980	3,107	3,075	2,983	2,843	34,734
131	124	104	111	98	93	1,275
1,758	1,357	1,744	1,454	1,667	1,473	17,056
5,234	4,461	4,955	4,640	4,748	4,409	53,065
188	180	180	169	171	164	
8,829	8,056	8,704	8,521	8,592	8,221	98,219
449	454	456	425	394	345	4,476
1,182	1,005	944	978	912	749	11,197
10,460	9,515	10,104	9,924	9,898	9,315	113,892
381	387	355	364	362	352	

APPENDIX V.

STATISTICS OF BRANCH LIBRARIES, 1900-1901.

	Branch No. 1. (Mission)	Branch No. 2. (Potrero)	Branch No. 3. (N. Beach)	Branch No. 4. (Richmond)	Branch No. 5. (Harrison)	Branch No. 6. (Fillmore)	TOTAL.
Books used.....	141,635	17,602	70,344	23,329	53,065	113,892	419,867
Cards issued.....	2,760	298	1,338	350	744	2,082	7,572
Cards in force.....	4,974	533	2,366	667	1,386	3,976	13,902
Volumes in Library July 1, 1900.....	7,078	1,821	3,817	1,962	3,080	4,518	22,276
Volumes added.....	1,107	283	660	311	452	987	3,800
Volumes withdrawn.....	859	120	334	70	209	281	1,873
Net increase.....	248	163	326	241	243	706	1,927
Volumes in Library June 30, 1901...	7,326	1,984	4,143	2,203	3,323	5,224	24,203

APPENDIX VI.

BOOKS ISSUED FOR HOME USE, 1880-1901.

	Main Library...	Branch No. 1...	Branch No. 2...	Branch No. 3...	Branch No. 4...	Branch No. 5...	Branch No. 6...	Total.....
1880-1.....	137,360							137,360
1881-2.....	194,112							194,112
1882-3.....	201,114							201,114
1883-4.....	183,719							183,719
1884-5.....	186,268							186,268
1885-6.....	150,373							150,373
1886-7.....	151,007							151,007
1887-8.....	89,313							89,313
1888-9.....	92,192	5,359	4,726	7,163				109,440
1889-90.....	121,429	13,199	5,890	9,713				150,231
1890-1.....	134,622	17,706	3,978	11,517				167,823
1891-2.....	139,630	18,592	5,321	13,767				177,310
1892-3.....	147,957	18,961	7,225	18,031	6,877			199,051
1893-4.....	140,863	21,260	7,038	18,470	5,851			193,482
1894-5.....	189,309	25,272	5,586	18,992	5,324			244,483
1895-6.....	203,987	29,925	7,145	17,883	4,625			263,565
1896-7.....	249,971	45,424	12,990	31,656	7,987	17,916		365,944
1897-8.....	268,734	59,615	13,426	35,268	12,453	25,515		415,011
1898-9.....	340,524	90,395	10,887	48,037	16,410	31,221	7,045	544,519
1899-1900.....	348,424	106,905	8,454	47,617	15,929	33,833	77,088	638,250
1900-01.....	376,101	124,144	9,487	50,098	18,626	34,734	98,219	711,409

APPENDIX VII.

BOOKS ORDERED, JULY 1, 1900, TO JUNE 30, 1901.

CLASS.	VOLUMES.	COST.
General works, encyclopedias, bound periodicals, etc.....	89	\$240 40
Philosophy and theology.....	121	247 62
Sociology, including education.....	139	178 16
Science and useful arts.....	339	832 66
Fine arts, including architecture and ornament.....	110	418 72
Language and literature.....	642	871 00
English fiction.....	1,063	978 81
Books for the young.....	574	418 47
Geography and travel.....	129	296 97
History and biography.....	498	1,147 52
Replacements, Main Library.....	3,688	2,862 80
For Branch Library No. 1.....	1,041	886 31
For Branch Library No. 2.....	236	180 52
For Branch Library No. 3.....	597	492 05
For Branch Library No. 4.....	281	215 05
For Branch Library No. 5.....	412	333 13
For Branch Library No. 6.....	846	782 72
For Deposit Collection (Branches 2, 4 and 5).....	300	309 90
Total	11,105	\$11,692 81

APPENDIX VIII.

GIFTS TO THE LIBRARY, 1900-1901.

FROM WHOM RECEIVED.	Books	Pamphlets.	Serials.
Aberdeen (Scotland) Public Library.....		1	
Abrams, Dr. A.....	2		
Academy of Natural Sciences, Philadelphia.....		1	
Adler, Mrs. C.....	3		
American Humane Association.....		1	
American Museum of Natural History, New York City....		2	
Ames, P. W.....		1	
Amherst College, Amherst, Mass.....		2	
Ancient and Honorable Artillery Co. of Boston.....		2	
Andover Theological Seminary.....		1	
Anonymous.....	3		
Armour Institute of Technology, Chicago.....		1	
Associated Charities, San Francisco.....	8		
Australia, Commonwealth of.....	1		
Balch, T. W.....	1		
Baltimore Sun.....		1	
Bank of California, San Francisco.....	22		
Barnstein, Henry.....	1		
Barton, Lieut. W.....	1		
Barton, Rev. W. E.....		4	
Batchellor, A. S.....		1	
Bates, L. W.....		1	
Belleville (Ill.) Public Library.....		1	
Bennett College.....		1	
Boston. City Council.....	5		
Department of Statistics.....	1	30	
Public Library.....	1	2	12
Boston Port and Seamen's Aid Society.....		1	
Bowdoin College, Brunswick, Me.....		2	

GIFTS TO THE LIBRARY—CONTINUED.

FROM WHOM RECEIVED.	Books.....	Pamphlets	Serials.....
Brockton (Mass.) Public Library.....		1	5
Brookline (Mass.) Public Library.....	1	1	6
Brooklyn (N. Y.) Public Library.....		1	6
Brooks, C. E.....	1		
Brown, Enos.....	1		
Brown, Lida Briggs.....	1		
Brown University, Providence, R. I.....	1		
Browne, T. C.....	1		
Buffalo, N. Y.....	3		
Buffalo (N. Y.) Public Library.....		1	
Bunker Hill Monument Association.....	1		
Burlington, Vt.....	1		
Burrows, E. G., M. D.....		1	
California. Commissioners of Building and Loan Associations.....	1		
State Board of Railroad Commissioners.....		1	
State Controller.....	1		
State Library.....		5	3
California Academy of Sciences.....		13	
California Miners' Association.....	1	4	
California State Dental Association.....	1		
California Society of the Sons of the American Revolution.....		1	
Cambridge (Mass.) Public Library.....		1	10
Canada. Department of Agriculture.....	2		
Geological Survey.....	13	1	
Carnegie Library, Allegheny, Pa.....		2	
Carnegie Library, Atlanta, Ga.....		1	
Carnegie Library, Pittsburg, Pa.....	1	1	12
Cedar Rapids.....		1	
Chicago. City Council.....		1	

GIFTS TO THE LIBRARY—CONTINUED.

FROM WHOM RECEIVED.	Books. . .	Pamphlets.	Serials.....
Chicago Civil Service Commission.....	1		
Municipal Library.....		1	
Public Library.....		3	
Chicago Historical Society.....		3	
Church, Seymour R.....	1		
Cincinnati Public Library.....		5	2
Clark, C. C. P.....	1		
Clark, J. G.....	1		
Clark University, Worcester, Mass.....		2	
Cleveland Public Library.....		4	4
Colby College, Waterville, Me.....		1	
Columbia University, New York City.....		2	
Commonwealth Co.....	1		
Concord (N. H.) Free Public Library.....		1	
Cornell University, Ithaca, N. Y.....	1	2	
Cornell University Library.....	1		
Council Bluffs (Ia.) Public Library.....		1	
Curtis, Miss M.....		1	
Damon, S. M.....	1		
Dartmouth (N. H.) College.....	1	1	
David, E. J.....		1	
Davis, A. B.....	40		
Davis, Gherardi.....	1		
Davis, Horace.....	13	16	
Dayton (O.) Public Library and Museum.....		2	
Democratic State Central Committee.....		20	
Detroit, City of.....	1		
Detroit (Mich.) Public Library.....		1	
Dish, Rev.....	1		

GIFTS TO THE LIBRARY—CONTINUED.

FROM WHOM RECEIVED.	Books.....	Pamphlets.	Serials
Doubleday, Page & Co.....	1		
Dryden, J. D.....	1		
Dunn & Allberger.....	1		
Enoch Pratt Library, Baltimore, Md.....		6	4
Eureka Benevolent Society.....		1	
Evanston (Ill.) Public Library.....		1	
Fall River (Mass.) Public Library.....		1	
Field, Marshall.....	1		
Field Columbian Museum, Chicago, Ill.....		8	
Fiske Free Public Library, New Orleans.....		3	
Fletcher Free Library, Burlington, Vt.....		1	
Forbes Public Library, Northampton, Mass.....		2	
Frasar, M. A. C.....	1		
Friends' Free Library, Germantown, Phila.....		1	
Fuller, W. S.....	1		
Fullerton, A.....	1		
Galesburg (Ill.) Public Library.....			2
General Society of Mechanics and Tradesmen, New York.....		1	
Gloucester, Mass.....	1		
Grand Rapids Public Library.....		1	
Green, J.....		1	
Grosvenor Public Library, Buffalo, N. Y.....		2	
Hamilton College, Clinton, N. Y.....		1	
Hart, Horace.....	1		
Hartford (Conn.) Public Library.....		1	
Hartford (Conn.) Theological Seminary.....		3	
Harvard Medical Alumni.....		1	
Harvard University, Cambridge, Mass.....	3	2	
Haverhill (Mass.) Public Library.....		1	

GIFTS TO THE LIBRARY—CONTINUED.

FROM WHOM RECEIVED,	Books.....	Pamphlets.	Serials.....
Healdsburg College, California.....		1	
Hessling, B.....	1		
Hoffmann, John.....	1		
Hollingsworth, C. B.....	1		
Hotchkins, L. S.....	1		
Howard Memorial Library, New Orleans, La.....	1		
Independent Order of Odd Fellows, San Francisco.....	1		
Indian Rights Association.....		2	
Iowa Masonic Library.....			4
Iowa State Library.....		1	
Jersey City Public Library.....		1	5
Knights of Pythias, San Francisco.....	1	1	
Kruger, L. J.....	1		
Lake Mohonk Arbitration Conference.....		1	
Lawrence (Mass.) Public Library.....		1	4
League of American Municipalities.....	1		
Library Company of Philadelphia.....		7	
Lichtenstein, J.....	1		
Lincoln (Neb.) Public Library.....		1	
London Times.....	1		
Los Angeles (Calif.) Public Library.....		2	6
Louisville, City of.....	1		
Love, James.....	1		
Lowell (Mass.) City Library.....			1
McEwen, J. W.....	1		
McKenzro, A.....	1		
Madison (Wis.) School Board.....	1		
Malden (Mass.) Public Library.....			3
Manchester (N. H.) Public Library.....		3	

GIFTS TO THE LIBRARY—CONTINUED.

FROM WHOM RECEIVED.	Books	Pamphlets.	Serials.....
Marburg, T.....	1	1	.....
Martens, Miss J.....	1	.....	.....
Marwedel, Miss C. D.....	1	.....	.....
Massachusetts. Secretary of Commonwealth.....	1	.....	.....
Massachusetts Horticultural Society.....	.....	3	.....
Massachusetts Institute of Technology.....	.....	2	.....
Mechanics' Institute, San Francisco.....	.....	1	12
Medhurst, Miss Ilda.....	1	.....	.....
Melville, Mrs. E.....	2	.....	.....
Mercantile Library, New York.....	.....	2	.....
Mercantile Library, Philadelphia.....	.....	6	.....
Merchants' Association, San Francisco.....	1	.....	72
Millroy, J. J.....	1	.....	.....
Milwaukee (Wis.) Public Library.....	.....	1	4
Minneapolis. Board of Park Commissioners.....	.....	1	.....
Public Library.....	1	1	3
Mount Holyoke College, South Hadley, Mass.....	1	1	.....
Mutual Life Insurance Co. of New York.....	1	.....	.....
Murray, T. H.....	1	.....	.....
National Civil Service Reform League.....	.....	3	.....
National Educational Association.....	1	.....	.....
New Bedford (Mass.) Public Library.....	.....	1	8
New Britain Institute, New Britain, Conn.....	.....	2	.....
New Britain Institute Library.....	.....	.....	1
New England Educational League.....	.....	1	.....
New Haven (Conn.) Public Library.....	.....	8	12
New South Wales.....	1	.....	.....
New York Civil Service Reform Association.....	.....	1	.....
New York City. Department of Education.....	2	1	.....

GIFTS TO THE LIBRARY—CONTINUED.

FROM WHOM RECEIVED.	Books.....	Pamphlets.	Serials..
New York Free Circulating Library.....		1	
New York Public Library.....			12
New York State Library, Albany.....	8	10	
New Zealand.....	6		
Newark (N. J.) Public Library.....		1	10
Newberry Library, Chicago.....		1	
Newton (Mass.) Free Library.....		1	
Nolan, Mrs. J.....	41		
North Indiana Historical Society.....		1	
Northwestern University, Evanston, Ill.....		1	
Oakland (Calif.) Public Library.....		1	
Ohio State University.....		1	
Omaha (Neb.) Public Library.....			6
Otis Library, Norwich, Conn.....			12
Palmer, L. A.....	1		
Paris. Conseil Municipal.....		6	
Paris Exposition. United States Commissioner-General....		2	
Pasadena Public Library.....			5
Pennsylvania Prison Society.....		1	
Peabody Institute, Baltimore, Md.....		1	
Peoria (Ill.) Public Library.....		2	
Philadelphia. City Controller.....	1		
Philadelphia City Institute.....		1	
Philadelphia Free Library.....		2	2
Philadelphia Public Ledger.....		1	
Philippine View and Adv. Co.....	1		
Portland, Or.....	1		
Portland (Or.) Library Association.....			10
Pratt Institute, Brooklyn, N. Y.....		7	

GIFTS TO THE LIBRARY—CONTINUED.

FROM WHOM RECEIVED.	Books.....	Pamphlets.	Serials.....
Providence (R. I.) City of.....	1		
Providence (R. I.) Athenaeum.....		1	
Providence (R. I.) Libraries.....			10
Providence (R. I.) Public Library.....		1	
Reading, Pa. Water Department.....		1	
Redwood Library and Athenaeum, Newport, R. I.....		2	
Republican State Central Committee.....		30	
Reynolds Library, Rochester, N. Y.....		2	
Royal Society of Canada.....	1		
Ryan, F. J.....	1		
St. Giles Public Library, London, Eng.....		1	
St. Ignatius College, San Francisco.....		2	
St. Joseph (Mo.) Public Library.....		3	1
St. Louis Mercantile Library.....		1	
St. Paul, City of.....	1		
St. Paul (Minn.) Public Library.....		2	
Salem (Mass.) Public Library.....		5	10
San Francisco. Board of Education.....	12		
Clerk of Board of Supervisors.....	793	230	
Mayor's Office.....	494		
San Francisco Chamber of Commerce.....	2		
Scranton (Pa.) Public Library.....		3	
Seattle (Wash.) Public Library.....			6
Seligman, E. R.....		1	
Seward, G. F.....		2	
Shepard & St. John.....	1		
Sifton, C.....	1		
Silas Bronson Library, Waterbury, Conn.....		1	3
Silk Association of America.....		2	

GIFTS TO THE LIBRARY—CONTINUED.

FROM WHOM RECEIVED.	Books.....	Pamphlets	Serials.....
Smithsonian Institution, Washington, D. C.....	3	2	.....
Society of California Pioneers, San Francisco.....	.....	2	.....
Somerville (Mass.) Public Library.....	.....	.....	9
Spencer, M.....	1	.....	.....
Springfield (Mass.) City Library Association.....	.....	1	11
Stevens, B. F.....	2	.....	.....
Sturtevant, B. F. G.....	.....	1	.....
Sullivan, John.....	1	.....	.....
Swan, C. H.....	1	.....	.....
Syracuse (N. Y.) Public Library.....	.....	1	.....
Tacoma (Wash.) Public Library.....	.....	1	1
Taunton (Mass.) Public Library.....	.....	1	.....
Trinity College, San Francisco.....	.....	1	.....
Tufts College, Somerville, Mass.....	1	3	.....
Turner, H. W.....	1	1	.....
United Devon Association.....	5	.....	.....
United States Government, Washington, D. C.—	.....	.....	.....
Agricultural Department.....	8	12	.....
Census Commissioner.....	1	.....	65
Coast Survey.....	1	.....	.....
Education Bureau.....	1	.....	.....
Fish Commission.....	1	.....	.....
Government Printing Office.....	.....	81	.....
House of Representatives.....	1	.....	.....
Interior Department.....	8	29	.....
Interstate Commerce Commission.....	1	1	.....
Labor Department.....	1	2	.....
Library of Congress.....	1	5	.....
Navy Department.....	3	1	.....

GIFTS TO THE LIBRARY—CONTINUED.

FROM WHOM RECEIVED.	Books.....	Pamphlets.....	Serials.....
Patent Office.....	1		
State Department.....	3	2	
Superintendent of Documents.....	171	87	
Treasury Department.....	10		
War Department.....	14	1	
University Club, New York City.....	1		
University of California, Berkeley.....	1	9	
University of California, Dental Department.....		2	
University of Colorado, Boulder, Colo.....		1	
University of Illinois, Champaign.....		1	
University of Michigan, Ann Arbor.....		2	
University of Pennsylvania, Philadelphia.....	3	2	
University of the State of New York, Albany.....		3	
University of the State of New York, Library.....		15	
University of Rochester, Rochester, N. Y.....		2	
University of Vermont, Burlington.....		2	
University of Wisconsin, Madison.....		4	
Utah. State Agricultural College, Logan.....		1	
Valentine, J. J.....		10	
Vandegrift Land Co.....		1	
Very, Miss M.....	3		
Vett, Carl.....	1		
Voorsanger, Rev. Dr. J.....	1		
Warren County Library, Monmouth, Ill.....			3
Weber, J. E.....	1		
Wesleyan University, Middletown, Conn.....		2	
Western Australia. Registrar-General.....	2	8	
Wiley, W. Hong Kong.....		1	
Wilmington (Del.) Institute Free Library.....		1	

GIFTS TO THE LIBRARY—CONCLUDED.

FROM WHOM RECEIVED.	Books.....	Pamphlets.....	Serials.....
Wilson, M. C. C.....	1		
Wisconsin. Free Library Commission.....		5	
State Superintendent of Schools.....		3	
Wisconsin State Historical Society.....	1		
Worcester Polytechnic Institute, Worcester, Mass.....	1	1	
Worcester (Mass.) Public Library.....			10
Wright, I. A.....		10	
Yale University, New Haven, Conn.....	1	2	
Young Men's Hebrew Association of New York.....		1	
Zabriski, Miss.....	9		

REPORT

OF THE

SUPERINTENDENT OF INTERMENT OF DECEASED U. S. SOLDIERS AND SAILORS,

SHOWING THE NUMBER OF APPLICATIONS, REJECTIONS AND INTERMENTS
DURING THE FISCAL YEAR ENDING JUNE 30, 1901.

SAN FRANCISCO, July 1, 1901.

*To the Honorable James D. Phelan, Mayor
Of the City and County of San Francisco—*

DEAR SIR: I have the honor to make the following report, in carrying out the provisions of the Act of the Legislature of the State of California, entitled, "An Act to provide for the burial of ex-Union soldiers and sailors who may hereafter die without leaving sufficient means to defray funeral expenses," approved March 15, 1889, and amended March 23, 1901.

The following is a record of applications, rejections and burials for the year ending June 30, 1901, viz:

Total number of applications for interment.....	78
Applications for interments allowed.....	54
Applications for interments rejected.....	24
	— 78

The cases rejected were for the following causes:

Left sufficient means to defray funeral expenses.....	11
Insufficient military or naval record.....	9
Died outside this City and County.....	4
	— 24

Ordinarily there are no receipts to my department, but on the 15th of June, 1901, collected from the United States Treasury the sum of \$47 60, being the accrued pension of one James Clune, an ex-Union sailor (who was buried under the Act), which I remitted to the Board of Supervisors to reimburse the City, in part, for the burial expenses of said deceased sailor.

Very respectfully,

EDWARD A. BULLIS.

AUDITOR'S REPORT.

SAN FRANCISCO, September 2, 1901.

*To the Honorable James D. Phelan, Mayor
Of the City and County of San Francisco—*

DEAR SIR: I have the honor to submit herewith, in accordance with Section 9, Article XVI of the Charter, and Resolution No. 1643 of the Board of Supervisors, my annual report, consisting of the full operations of the Auditor's department for the fiscal year ending June 30, 1901.

I desire to call your attention to the fact that the amount of work in this office has increased over 100 per cent., as compared with any previous year, in consequence of the adoption of the New Charter. As an illustration—under the head of "Audited demands," amounting to \$5,635,644 77, as hereinafter set forth, and is represented by over 60,000 demands on the Treasury—being equivalent to over 120,000 separate entries in the books of this office.

Very respectfully,

ASA R. WELLS,

Auditor City and County of San Francisco.

DEMANDS AUDITED

DURING THE FISCAL YEAR 1900-1901, ENDING JUNE 30, 1901.

PURPOSE.	AMOUNT.	TOTAL.
ON THE GENERAL FUND.		
ADVERTISING		\$15,067 81
ALMSHOUSE—		
Ambulance	\$475 00	
Directory	5 00	
Disinfectants	71 50	
Drugs and surgical instruments.....	1,223 40	
Dry goods and clothing.....	3,528 94	
Electrical material.....	117 62	
Farming implements.....	49 13	
Forage	2,479 44	
Forgings and castings.....	11 85	
Fuel	6,860 85	
Furniture and carpets.....	490 35	
Groceries and provisions.....	34,665 75	
Hardware	1,747 61	
Harness and repairs.....	164 05	
Horseshoeing	371 80	
Hose	13 50	
Ice	103 35	
Incidentals	105 25	
Lamps and repairs.....	51 65	
Leather and findings.....	694 47	
Lumber and millwork.....	58 73	
Carried forward.....		\$15,067 81

DEMANDS AUDITED—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Amount brought forward.....		\$15,067 81
Machinery, etc.....	3 10	
Musical instruments.....	2 00	
Paints, oils and glass.....	56 45	
Patent chimneys.....	26 25	
Plans for tower.....	40 00	
Repairs to safe.....	5 10	
Repairs to vehicles.....	718 35	
Rubber goods.....	166 23	
Seeds, etc.....	99 12	
Veterinary's service.....	20 00	
Wines and liquors.....	1,160 49	
Salaries of employees.....	24,312	79,898 33
BURIAL OF INDIGENT DEAD—		
Alms-house	\$288 32	
Head boards.....	139 00	
Health Department.....	703 84	
Hospital, City and County.....	640 24	
Morgue	852 24	
Mount St. Joseph.....	428 20	
Zinc-lined coffins.....	33 00	
		3,084 84
BERNAL PARK.....		2,441 02
COURT ORDERS, MISCELLANEOUS.....		1,694 51
Carried forward.....		\$102,186 81

DEMANDS AUDITED—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Amount brought forward.....		\$102,186 81
CORONER'S EXPENSES—		
Disinfectants	\$8 75	
Horsekeeping	600 00	
Horseshoeing	57 00	
Incidentals	475 60	
Lamps and repairs.....	6 00	
Photographing unknown dead.....	100 00	
Recovering bodies from San Francisco Bay.....	510 00	
Repairs to vehicles.....	2 50	
		1,759 85
COUNTY JAILS, MAINTENANCE—		
Brooms and brushes.....	\$9 13	
Blacksmithing	283 75	
Carpenter work.....	297 71	
Carpets and furniture.....	764 71	
Clocks and repairs.....	4 00	
Drugs and surgical instruments.....	124 42	
Dry goods and clothing.....	4 20	
Farming implements.....	2 50	
Firearms, etc.....	145 05	
Forage	523 98	
Groceries and provisions.....	8 30	
Hardware	242 06	
Harness and repairs.....	343 85	
Horseshoeing	447 75	
Carried forward.....	\$3,201 41	\$103,946 06

DEMANDS AUDITED—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Amount brought forward.....	\$3,201 41	\$103,946 66
Ice	18 20	
Horse	175 00	
Kitchen furniture.....	22 75	
Locksmithing	19 85	
Lumber and millwork.....	211 94	
Paints, oils, etc.....	319 92	
Plastering	125 00	
Plumbing	383 74	
Rent of Filter.....	35 00	
Repairs to boiler, etc.....	386 40	
Scales	50 00	
Tank	43 35	
		4,992 56
DEPARTMENT OF ELECTIONS—		
Advertising	\$991 42	
Blue prints.....	7 50	
Ballot paper.....	402 50	
Binding books.....	454 50	
Brooms and brushes.....	2 90	
Building and repairing booths.....	3,968 97	
Candles and candle-sticks.....	47 50	
Canvas	4 03	
Carriage and horse hire.....	569 00	
Clocks	16 00	
Constructing macadamized road.....	96 00	
Collation for clerks.....	10 80	
Carried forward.....	\$6,571 12	\$108,939 22

DEMANDS AUDITED—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Amount brought forward.....	\$6,571 12	\$108,939 22
Directories	10 00	
Dry goods.....	3 13	
Electrical work.....	22 50	
Expressage	937 50	
Furniture and carpets.....	377 45	
Hardware	165 47	
Incidentals	7 00	
Locksmithing	8 85	
Lamps and repairs.....	1,092 28	
Lumber and millwork.....	1,067 54	
Paints and oils.....	294 30	
Postage stamps.....	868 00	
Printing ballots.....	300 50	
Printing and stationery.....	4,219 29	
Printing Great Register.....	6,258 30	
Rent of polling places.....	3,440 00	
Repairs to vault.....	15 00	
Rubber goods.....	8 84	
Rubber stamps.....	141 58	
Stoves, etc.....	30 00	
Signs	65 00	
Storing booths.....	356 58	
Telephone service.....	142 50	
Typewriting material, etc.....	30 20	
Towel service.....	4 50	
Carried forward.....	\$26,437 43	\$108,939 22

DEMANDS AUDITED—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Amount brought forward.....	\$26,437 43	\$108,939 22
*Salaries of Commission, Registrar and assistants and compensation of election officers.....	79,328 54	108,765 97
DEPARTMENT OF ELECTRICITY—		
Bluestone	\$140 54	
Brooms and brushes.....	2 85	
Castings and forgings.....	591 66	
Carpets and furniture.....	106 53	
Cement, rock and lime.....	412 75	
Drugs and chemicals.....	224 40	
Dry goods.....	54 70	
Electrical material.....	3,256 67	
Fire and police alarm boxes.....	876 39	
Fuel	7 00	
Gas fixtures.....	10 50	
Hardware	1,401 85	
Harness and repairs.....	194 45	
Horsekeeping	1,683 00	
Horseshoeing	140 00	
Horses	300 65	
Iron and steel.....	87 44	
Lamps and repairs.....	31 50	
Locksmithing	5 00	
Lumber and millwork.....	988 36	
Machinery and metal work.....	222 18	
Carried forward.....	\$10,688 42	\$214,705 19

DEMANDS AUDITED—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Amount brought forward.....	\$10,688 42	\$214,705 19
Paints, oils, etc.....	278 45	
Pattern work.....	15 75	
Plumbing and material.....	78 31	
Repairs to vehicles.....	424 25	
Rent of typewriter and supplies.....	155 68	
Rubber goods.....	45 13	
Rubber stamps.....	13 15	
Sewer pipe.....	40 00	
Time furnished.....	225 00	
Washing	39 50	
Wire	1,112 85	
Salaries	36,811 30	
		49,927 82
FIREMEN'S RELIEF AND PENSION FUND.....		15,918 49
FOURTH OF JULY AND MEMORIAL DAY.....		2,886 85
FURNITURE FOR PUBLIC BUILDINGS.....		4,864 56
FISCAL YEAR OF 1899-1900 ACCOUNT.....		8,393 21
FURNISHING HALL OF JUSTICE.....		30,346 46
GRAND JURY EXPENSES—		
Card cases.....	\$9 50	
Carried forward.....	\$9 50	\$327,042 58

AUDITOR'S REPORT.

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DEMANDS AUDITED—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Amount brought forward.....	\$9 50	\$327,042 58
Carriage hire, etc.....	125 00	
Expert services.....	30 00	
Incidentals	70 00	
Meals furnished.....	17 10	
Stationery	44 50	
Stenographer	1,109 20	
		1,405 30
FIRE DEPARTMENT RUNNING EXPENSES—		
Apparatus	\$4,558 52	
Badges, etc.....	164 05	
Baseball masks.....	6 00	
Brass and copper work.....	2,160 60	
Brooms and brushes.....	943 68	
Canvas and cord.....	61 18	
Castings and forgings.....	2,650 13	
Cement, lime and brick.....	201 85	
Directory	5 00	
Drugs and chemicals.....	1,771 44	
Dry goods and clothing.....	145 22	
Engines	4,940 00	
Expenses in-re Kennedy vs. Commission.....	129 35	
Forage	30,152 17	
Fuel	10,951 75	
Furniture and carpets.....	1,224 38	
Gas regulator, rent of.....	1 50	
Carried forward.....	\$61,066 80	\$928,447 88

DEMANDS AUDITED—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Amount brought forward.....	\$61,066 80	\$328,447 88
Glass and glazing.....	52 45	
Groceries	17 00	
Hardware	5,399 93	
Harness and repairs.....	2,135 28	
Hook and ladder trucks.....	4,550 00	
Houses, repairs to.....	30 00	
Horsekeeping	720 00	
Horses	5,795 00	
Horseshoeing	5,560 84	
Hose	13,252 52	
Hydrants	7,144 50	
Hydrants set and re-set.....	2,430 00	
Incidentals	161 65	
Iron and steel.....	796 42	
Ladder outfits.....	900 00	
Lamps and repairs.....	798 67	
Leather, etc.....	995 76	
Lumber and millwork.....	979 88	
Life-saving nets.....	299 00	
Machinery	938 81	
Metal polish.....	108 00	
Meters tested.....	1 50	
Mounting maps.....	4 50	
Paints, oils, etc.....	4,821 40	
Pattern work.....	482 20	
Carried forward.....	\$119,442 11	\$328,447 88

AUDITOR'S REPORT.

DEMANDS AUDITED—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Amount brought forward.....	\$119,442 11	\$328,447 86
Pipe and covering.....	106 66	
Plumbing and materials.....	9 40	
Power furnished.....	546 13	
Printing and stationery.....	169 30	
Repairs to rolling stock.....	1,222 52	
Repairs to springs.....	103 37	
Repairs to vaults.....	3 00	
Rents	1,160 00	
Royalty on hook and ladder device.....	250 00	
Scales	170 00	
Scavenger service.....	625 00	
Wagons and material.....	879 93	
Rubber goods.....	467 29	
		125,154 71
HEALTH DEPARTMENT EXPENSES—		
Beds and bedding.....	\$275 15	
Brooms and brushes.....	32 78	
Burning garbage.....	23 80	
Clippings from papers.....	30 00	
Clothing, etc.....	8 50	
Crockery and glassware.....	2 25	
Disinfectants	50 90	
Directories	15 00	
Drugs, chemicals, etc.....	2,926 72	
Dry goods.....	503 07	
Carried forward.....	\$3,868 17	\$453,602 50

DEMANDS AUDITED—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Amount brought forward.....	\$2,868 17	\$453,602 59
Engineer's service.....	27 45	
Electrical material.....	62 00	
Electric light.....	166 01	
Expressage	109 70	
Forage	233 20	
Fuel	18 53	
Furniture	77 50	
Gas regenerator.....	41 50	
Gas stove.....	2 00	
Groceries and provisions.....	518 53	
Guinea pigs.....	2 00	
Hauling rubbish.....	49 50	
Hardware	279 42	
Harness and repairs.....	83 70	
Horses	470 00	
Horse hire.....	789 00	
Horsekeeping	684 85	
Horseshoeing	121 75	
Hose	8 00	
Ice	21 40	
Incidentals	137 60	
Incinerating clothing.....	7 50	
Labor	175 70	
Lamps and repairs.....	57 60	
Locksmithing	1 00	
Carried forward.....	\$8,013 61	\$453,602 59

DEMANDS AUDITED—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Carried forward.....	\$8,013 61	\$453,602 59
Law books.....	21 00	
Lumber and millwork.....	32 00	
Notarial work.....	28 50	
Paints, oils, etc.....	35 17	
Postage	290 00	
Printing and stationery.....	59 95	
Rents	55 00	
Repairs to vault.....	2 50	
Repairs to vehicles.....	984 05	
Rubber goods.....	7 50	
Signs	3 00	
Subscription to papers.....	47 25	
Telegrams	2 20	
Transportation	1,755 85	
Towel service.....	70 00	
Veterinary surgeon.....	18 00	
Washing	860 40	
Wines and liquors.....	56 35	
X ray material.....	93 50	
		12,435 83
TWENTY-SIXTH STREET HOSPITAL—		
Cartage	\$7 05	
Crockery and glassware.....	18 85	
Drugs, etc.....	128 00	
Dry goods.....	126 05	
Carried forward.....	\$279 95	\$466,038 42

DEMANDS AUDITED—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Amount brought forward.....	\$279 95	\$466,038 42
Forage	72 76	
Fuel	331 25	
Groceries and provisions.....	2,647 53	
Hardware	1 50	
Lamps and repairs.....	6 60	
Plumbing, etc.....	31 00	
Printing and stationery.....	6 10	
Rubber goods.....	6 00	3,382 69
SMALLPOX HOSPITAL—		
Beds and bedding.....	\$39 70	
Crockery and glassware.....	19 33	
Drugs, etc.....	71 75	
Dry goods.....	84 35	
Forage	28 06	
Fuel	65 00	
Groceries and provisions.....	903 28	
Hardware	9 86	
Horseshoeing	5 00	
Lamps and repairs.....	9 00	
Salaries	2,586 50	3,821 83
CITY AND COUNTY HOSPITAL—		
Beds and bedding.....	\$185 79	
Blacksmithing	316 45	
Carried forward.....	\$502 24	\$473,242 94

DEMANDS AUDITED—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Amount brought forward.....	\$502 24	\$473,242 94
Carpets and furniture.....	320 80	
Clothing	34 50	
Crockery and glassware.....	208 34	
Directories	10 00	
Dry goods.....	4,298 22	
Drugs, chemicals, etc.....	7,626 46	
Electrical material.....	10 10	
Forage	696 91	
Fuel	4,526 33	
Gas stove.....	74 50	
Groceries and provisions.....	31,226 18	
Hardware	951 89	
Harness	35 75	
Horse hire.....	32 00	
Horseshoeing	126 80	
Ice	320 50	
Incidentals	202 35	
Kitchen furniture.....	12 50	
Lamps and repairs.....	4 05	
Lumber and millwork.....	118 92	
Leather and findings.....	33 08	
Paints and oils.....	43 86	
Plumbing	89 50	
Printing and stationery.....	47 25	
Rent of filter.....	15 00	
Carried forward.....	\$51,568 08	\$473,242 94

DEMANDS AUDITED—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Amount brought forward.....	\$51,568 03	\$478,242 94
Repairs to sewing machine.....	1 50	
Repairs to vehicles.....	79 25	
Repairs to pump.....	35 00	
Rubber goods.....	45 79	
Rubber stamps.....	18 00	
Scale	8 00	
Wines and liquors.....	1,375 92	
Wagon	135 00	
		53,266 49
INTERMENT OF EX-UNION SOLDIERS, ETC.....		2,700 00
JURY EXPENSES IN CRIMINAL CASES.....		351 00
LICENSE BLANKS, TAGS AND NUMBERS.....		1,552 30
MAINTENANCE OF FEEBLE-MINDED CHILDREN.....		20,210 00
MAINTENANCE OF MINORS IN MAGDALEN ASYLUM..		6,313 50
MAINTENANCE OF MINORS IN WHITTIER SCHOOL....		5,983 80
MAINTENANCE OF MINORS IN PRESTON SCHOOL....		1,868 06
MAINTENANCE OF MINORS IN NON-SECTARIAN SCHOOL		3,850 00
Carried forward.....		\$569,338 09

DEMANDS AUDITED—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Amount brought forward.....		\$569,338 09
MAINTENANCE OF PUBLIC POUND.....		6,660 85
MAYOR'S CONTINGENT EXPENSES.....		3,600 00
MONEY PAID IN ERROR AND REFUNDED.....		2,399 78
MUNICIPAL REPORTS.....		5,000 00
NURSES' QUARTERS, CONSTRUCTION OF.....		1,992 00
POLICE CONTINGENT EXPENSES.....		7,999 92
POLICE RENTS.....		6,114 00
POLICE PATROL—		
Drugs, chemicals, etc.....	\$71 19	
Forage	3,348 13	
Groceries	69 36	
Hardware	40 96	
Harness and repairs.....	599 25	
Horsekeeping	8,752 30	
Horse hire.....	968 75	
Horseshoeing	1,512 50	
Lamps and repairs.....	23 70	
Carried forward.....	\$15,386 14	\$803,104 64

AUDITOR'S REPORT.

DEMANDS AUDITED—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Amount brought forward.....	\$15,386 14	\$603,104 64
Lumber and millwork.....	320 71	
Paints and oils.....	55 02	
Pasturage	37 50	
Rents	336 00	
Signs	12 00	
Repairs to vehicles.....	1,533 90	
Washing	424 00	
		18,105 27
PRINTING TRANSCRIPTS ON APPEAL.....		4,511 15
PRISONERS' SUBSISTENCE.....		40,208 86
PUBLIC BUILDINGS AND STREETS, LIGHTING.....		254,577 13
PUBLISHING DELINQUENT TAX LIST.....		3,161 48
PUBLISHING LAW AND MOTION CALENDAR.....		2,400 00
RECORDER'S NEWSPAPERS.....		16 85
SHERIFF'S EXPENSES—		
Harness and repairs.....	\$2 10	
Horse clipping.....	2 00	
Horse hire.....	410 00	
Horseshoeing	115 00	
Carried forward.....	\$525 10	\$926,085 88

DEMANDS AUDITED—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Amount brought forward.....	\$525 10	\$926,085 35
Horsekeeping	540 00	
Horses	15 70	
Repairs to vehicles.....	112 55	1,197 35
STATIONERY FOR PUBLIC OFFICES.....		24,580 29
TAXES PAID UNDER PROTEST.....		64,561 69
TAXES REFUNDED.....		1,023 40
TELEPHONE SERVICE.....		2,332 99
URGENT NECESSITY—		
Anatomical charts for Coroner.....	\$7 50	
Automatic cashier for Treasurer.....	135 00	
Appraising Widber property.....	18 60	
Assessor's equipments.....	885 35	
Board of Health (extra allowance).....	499 94	
Carfare for Assessor.....	40 00	
Carfare for Board of Supervisors.....	48 15	
Carfare for City Attorney.....	13 40	
Carfare for County Clerk.....	11 40	
Cartage for Tax Collector.....	9 00	
Cleaning Chinatown.....	6,477 13	
Conveying Mrs. Craven to Superior Court.....	3 00	
Carried forward.....	\$8,148 47	\$1,019,781 10

AUDITOR'S REPORT.

DEMANDS AUDITED—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Amount brought forward.....	\$8,148 47	\$1,019,781 10
Conveying insane to Agnews and Stockton.....	22 40	
Copying complaints for District Attorney.....	13 60	
Copying budget for Supervisors.....	39 00	
Conveying minors to Glen Ellen.....	14 85	
Conveying indigent soldiers to Ogden.....	20 00	
Conveying pupils to Whittier.....	86 30	
Conveying prisoners to San Quentin.....	17 80	
Directories	369 50	
Dues to "League of American Municipalities".....	120 00	
Extra service for Treasurer.....	25 00	
Engrossing memorial to Dr. Cole.....	100 00	
Engrossing gold plate for President McKinley.....	80 00	
Erecting Contagious Ward Hospital.....	2,344 00	
Exhibit at Pan-American Exposition.....	499 00	
Expert services.....	174 00	
Expert testimony.....	1,467 50	
File cases.....	149 00	
Flags	85 00	
Furniture and repairs (Res. 1255).....	773 39	
Hardware for Coroner.....	4 25	
Handbooks for Supervisors.....	295 00	
Heaters for Hall of Records.....	236 60	
Horse hire for Assessor.....	740 80	
Horse hire for Tax Collector.....	164 00	
Ice	668 40	
Carried forward.....	\$16,657 86	\$1,019,781 10

DEMANDS AUDITED—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Amount brought forward.....	\$16,657 86	\$1,019,781 10
Incidentals for Auditor.....	7 00	
Incidentals for Assessor.....	180 00	
Incidentals for Civil Service Commissioners.....	135 43	
Incidentals for Treasurer.....	6 70	
Incidentals for City Attorney.....	711 05	
Insurance for Assessor.....	722 60	
Interpreters for Police Courts.....	355 00	
Interpreters for Superior Court.....	12 50	
Interest on judgments.....	4,702 00	
Law books for municipal offices.....	787 85	
Law books for Superior Court.....	76 00	
Map books for Assessor.....	600 00	
Maintenance of Smallpox Hospital (extra).....	1,689 80	
Moving departments to Hall of Justice.....	477 50	
Obsequies, Victor Duboce.....	213 00	
Obsequies of J. E. A. Helms.....	197 50	
Personal property receipt books.....	327 60	
Poll tax receipts.....	158 00	
Postage	1,881 60	
Printing for District Attorney.....	41 50	
Recovery of bodies from the bay (Coroner).....	40 00	
Rent of furniture (Civil Service Commission).....	28 25	
Rent of filters.....	693 00	
Rent of police station.....	180 00	
Rent of Morgue.....	750 00	
Carried forward.....	\$31,631 74	\$1,019,781 10

DEMANDS AUDITED—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Amount brought forward.....	\$31,631 74	\$1,019,781 10
Serving subpoenas.....	254 80	
Subscription to California Decisions.....	157 50	
Subscription to papers, Assessor.....	28 00	
Subscription to Questions Pending.....	90 00	
Subscription to Pacific Reporter.....	5 00	
Subscription to Guide.....	15 00	
Telegrams to Legislature.....	1 10	
Territorial switching.....	35 95	
Transcribing testimony.....	346 30	
Transportation of coin to Sacramento.....	1,220 30	
Typewriters	197 25	
United States Court Clerks fees.....	15 00	
Wire rope for Police Department.....	296 53	
X-ray equipment for Hospital.....	1,000 00	
		35,294 49
WATER FOR MUNICIPAL PURPOSES.....		235,169 65
WITNESS' EXPENSES.....		1,412 20
DEMANDS AUDITED BOARD OF PUBLIC WORKS— SALARIES—		
Bureau of Engineers.....	\$38,483 32	
Bureau of Public Buildings.....	50,540 53	
Bureau of Streets.....	105,487 52	
Carried forward.....	\$194,511 37	\$1,291,657 44

DEMANDS AUDITED—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Amount brought forward.....	\$194,511 37	\$1,291,657 44
Commissioners and assistants.....	21,138 89	
		215,650 26
STREET SPRINKLING.....		14,380 25
EXAMINATION OF AVAILABLE SOURCES OF WATER SUPPLY—		
Maintenance	\$12,880 35	
Salaries	17,068 93	
		29,949 28
STREET SWEEPING.....		178,367 45
REPAIRS TO ACCEPTED STREETS—		
Artificial stone work.....	\$112 90	
Basalt blocks, etc.....	8,280 52	
Brick, lime and cement.....	153 35	
Brooms and brushes.....	4 50	
Cleaning Benjamin Franklin fountain.....	56 00	
Concrete work on engine house	147 00	
Construction of Spear-street wharf.....	6,161 00	
Construction of storm water inlet.....	1,394 20	
Coping around Donahue fountain.....	949 62	
Curbing	233 73	
Furniture	6 00	
Granite posts.....	50 00	
Grading	103 00	
Carried forward.....	\$17,651 82	\$1,730,004 68

AUDITOR'S REPORT.

DEMANDS AUDITED—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Amount brought forward.....	\$17,651 82	\$1,730,004 68
Hardware	733 68	
Horse and buggy hire.....	682 00	
Incidentals	79 25	
Inspector for Trocadero Gulch.....	40 00	
Iron castings.....	60 65	
Loam	29 00	
Lumber and millwork.....	961 67	
Market street bituminizing.....	469 50	
Painting and material.....	49 03	
Planking sidewalk.....	216 00	
Planting trees on Van Ness avenue.....	15 00	
Powder	95 15	
Printing, etc.....	191 10	
Rent of Corporation Yard.....	50 00	
Rent of sand car.....	162 50	
Repairs to bitumen.....	11,793 06	
Repairs in front of city property.....	570 46	
Repairs to Main street.....	7,319 50	
Repairs to Point Lobos road.....	1,650 00	
Repairs to San Bruno road.....	1,494 99	
Repairs to Sixth street.....	1,561 45	
Repairs to stone walk.....	83 05	
Repairs to typewriter.....	4 85	
Repairs to vehicles.....	37 50	
Repaving accepted streets.....	2,169 23	
Carried forward.....	\$48,170 47	\$1,730,004 68

AUDITOR'S REPORT.

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DEMANDS AUDITED—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Amount brought forward.....	\$48,170 47	\$1,730,004 68
Repaving Fourth street.....	0,503 35	
Repaving Grant avenue.....	4,902 37	
Rock and gravel.....	495 48	
Rubber goods.....	23 25	
Rubber stamps.....	35 95	
Seeds	3 90	
Sewer pipe, etc.....	211 80	
Special inspectors.....	1,086 68	
Surveyors' supplies.....	15 65	
Teaming and hauling.....	14,253 92	
Tools and repairs.....	450 58	76,153 40
MAINTENANCE ACCOUNTS, BOARD OF PUBLIC WORKS—		
Blue prints, specifications, etc.....	\$1,904 84	
Carpets and furniture.....	2,102 89	
Cement, lime and brick.....	3,166 60	
Chemical work.....	375 00	
Construction of bunkers.....	4,967 00	
Construction of concrete wall.....	71 75	
Construction of elevator.....	4,500 00	
Directories	20 00	
Drugs and chemicals.. ..	232 21	
Dry goods.....	8 48	
Electrical material.....	94 53	
Carried forward.....	\$17,443 30	\$1,806,158 08

AUDITOR'S REPORT.

DEMANDS AUDITED—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Amount brought forward.....	\$17,443 30	\$1,806,158 08
Electric power.....	205 80	
Expert services on municipal lighting.....	500 00	
Fire tiles.....	230 00	
Forging and castings.....	310 27	
Fuel	9,068 80	
Gas tester.....	25 00	
Grading and macadamizing.....	1,039 87	
Hardware	7,112 16	
Horse and buggy hire.....	2,516 25	
Incidentals	1,033 99	
Inspecting boilers etc.....	70 70	
Instruments and repairs.....	3,598 35	
Iron castings.....	447 83	
Janitorial supplies.....	1,119 59	
Laboratory supplies.....	203 01	
Lamps and repairs.....	203 10	
Locksmithing	29 55	
Lumber and millwork.....	6,570 66	
Manholes, etc.....	698 83	
Money advanced by officials.....	40 15	
Monuments	572 39	
Mounting maps.....	12 50	
Nozzles	57 00	
Painting and material.....	4,110 78	
Carried forward.....	\$57,219 88	\$1,806,158 08

DEMANDS AUDITED—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Amount brought forward.....	\$57,219 88	\$1,806,158 08
Plumbing	638 30	
Powder	44 40	
Printing, etc.....	1,735 04	
Rents	1,330 00	
Repairs to bitumen.....	277 30	
Repairs to Brannan street sewer.....	513 10	
Repairs to Fourth street bridge.....	805 35	
Repairs to elevator.....	161 30	
Repairs to offices.....	4,046 76	
Repairs to Pest House.....	175 00	
Repairs to roofs.....	1,313 75	
Repairs to Sixth street bridge.....	220 51	
Repairs to Point Lobos road.....	60 00	
Repairs to scales.....	10 60	
Rubber boots.....	390 00	
Rubber goods.....	400 04	
Rubber stamps.....	34 00	
Salt water for Van Ness avenue.....	308 00	
Savogram	151 98	
Sawdust	79 57	
Scavenger service.....	2,636 60	
Sewer pipe, etc.....	2,205 26	
Special Inspector.....	160 00	
Teaming and hauling.....	12,074 94	
Carried forward.....	\$86,991 68	\$1,806,158 08

AUDITOR'S REPORT.

DEMANDS AUDITED—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Amount brought forward.....	\$86,991 68	\$1,806,155 08
Tools and repairs.....	257 45	
Towel service.....	233 50	
Typewriter and supplies.....	464 45	
Umbrella	3 75	
Vertical boiler.....	200 00	
Watchman	27 50	
Water filters.....	43 00	
Welsbach lights and supplies.....	428 90	
		88,650 23
SALARIES GENERAL FUND (exclusive of the Board of Public Works)—		
POLICE DEPARTMENT—		
Commissioners and Secretary	\$6,300 00	
Chief of Police.....	3,975 96	
Clerk to Chief.....	2,376 00	
Property Clerk.....	2,376 00	
Captains of Police.....	12,480 00	
Lieutenants of Police.....	7,291 00	
Detective Sergeants.....	26,640 00	
Sergeants of Police.....	62,873 50	
Corporals of Police.....	17,825 00	
Police Officers.....	592,882 28	
Surgeon of Police.....	1,500 00	
Carried forward.....	\$736,519 74	\$1,894,808 31

DEMANDS AUDITED—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Amount brought forward.....	\$736,519 74	\$1,894,808 31
Photographer, Cook and Matron.....	3,188 00	
Fines and contributions of Officers.....	15,393 00	
		755,100 74
FIRE DEPARTMENT—		
Commissioners and Secretary.....	\$7,200 00	
Chief Engineer and Assistants.....	9,399 96	
Battalion Chiefs.....	14,700 00	
Clerk and Commissary.....	1,500 00	
Superintendent	2,500 00	
Draymen, Hydrantmen and Watchmen.....	9,785 44	
Employees of engine companies.....	345,500 60	
Employees of chemical engines.....	32,257 30	
Employees of hook and ladder companies.....	90,980 00	
Employees of monitor batteries.....	2,014 70	
Employees of relief companies.....	7,300 00	
Employees of water tower.....	2,839 30	
Employees on special detail and substitutes.....	8,315 85	
Employees of Corporation Yard.....	28,684 09	
		563,277 24
Mayor, Secretary and Assistant.....	\$10,200 00	
Assessor, Deputies, etc.....	44,199 96	
Assessor's Extra Clerks.....	39,999 13	
Assessment Roll.....	13,301 86	
Auditor, Attorney, Deputy, etc.....	13,599 96	
Carried forward.....	\$121,300 91	\$3,213,186 29

DEMANDS AUDITED—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Amount brought forward.....	\$121,300 91	\$3,213,186 29
Coroner and Assistants.....	16,719 96	
Recorder, Deputies and Assistants.....	12,900 00	
Recorder's Folio Clerks.....	20,951 80	
Tax Collector, Deputies, etc.....	31,279 13	
Tax Collector's Extra Clerks.....	34,296 02	
Treasurer, Deputies, etc.....	14,499 96	
Supervisors, Clerk and Assistants.....	41,960 26	
Supervisor's Clerks of Equalization.....	659 36	
County Clerk and Assistants.....	76,509 78	
Court Interpreters.....	6,000 00	
City Attorney and Assistants.....	20,299 92	
Civil Service Commission and Assistants.....	8,337 50	
District Attorney and Assistants.....	36,199 92	
Examination of insane.....	5,220 00	
Police Judges and Stenographers.....	21,600 00	
Superior Judges and Secretary.....	25,799 04	
Superior Court orders (Reporters' expenses).....	15,954 30	
Justices of the Peace, Clerk and Assistants.....	20,700 00	
Sheriff and Assistants.....	84,058 57	
Law Librarian and Assistant.....	3,240 00	
City and County Hospital employees.....	34,331 50	
Emergency Hospital employees.....	24,158 00	
26th street Hospital employees.....	3,660 00	
Health Department employees.....	53,177 94	733,814 47
Carried forward.....		\$3,947,000 78

DEMANDS AUDITED—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Amount brought forward.....		\$3,947,000 76
SUNDRY FUNDS.		
FREE PUBLIC LIBRARY—		
(Salary Account.)		
Librarian	\$2,950 00	
Assistant Librarian.....	1,320 00	
Secretary	1,800 00	
Assistant Secretary.....	1,059 15	
Cataloguers	2,631 75	
Curators	2,247 00	
Assistant Curators.....	8,471 60	
Messengers	2,689 25	
Special Officers.....	780 00	
Elevator Attendant.....	598 35	
Substitutes	984 55	
Librarians of branch libraries.....	4,975 55	
Assistant Librarians of branch libraries.....	2,992 70	
Accessions Clerk	591 70	
Expressman	780 00	
		34,871 60
MISCELLANEOUS EXPENSES—		
Binding books.....	\$5,241 71	
Books and periodicals.....	13,349 77	
Electric power.....	547 26	
FURNITURE—		
Book case	\$58 00	
Carried forward	\$19,138 74	\$3,081,872 36

DEMANDS AUDITED—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.	
Amount brought forward.....	\$58 00	\$19,138 74	\$3,981,872 36
Cabinet	33 85		
Chairs	17 00		
Clocks	16 87		
Filters	20 00		
Heater	30 00		
Mantels	103 60		
Register and stand	87 50		
Rugs	9 60		
Stove and pipe	7 70		
Willow ware	12 10		
		396 02	
Incidentals		1,247 85	
Installing telephone.....		220 00	
Insurance		475 35	
Lighting		445 84	
Paints and oils.....		148 90	
Plumbing		15 00	
Printing and stationery.....		1,848 36	
Rent of branch libraries.....		2,098 00	
Rent of telephones.....		67 50	
Repairs		32 50	
Repairs to elevator.....		219 70	
Rubber stamps.....		9 30	
Signs and lettering.....		26 28	
Supplies, miscellaneous.....		131 41	26,520 75
Carried forward.....			\$4,008,393 11

DEMANDS AUDITED—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Amount brought forward.....		\$4,008,393 11
PARK FUND—		
(Salary Account.)		
Superintendent	\$4,200 00	
Secretary	1,625 00	
Accountant	1,200 00	
MISCELLANEOUS EXPENSES—		7,025 00
Advertising	\$83 75	
Bicycle	47 50	
Baskets, brooms and brushes.....	187 84	
Bench frames.....	125 25	
Birds and animals.....	47 80	
Brick, lime and cement.....	1,968 27	
Car wheels.....	27 40	
Cash register.....	123 50	
Clay, loam and manure.....	12,674 31	
Crockery	146 99	
Decorations and flags.....	36 50	
Dry goods.....	198 67	
Drugs	351 09	
Engine	490 00	
Expressage	12 00	
Furniture	40 00	
Fuel	4,082 39	
Flower pots.....	285 80	
Carried forward.....	\$20,929 06	\$4,015,418 11

DEMANDS AUDITED—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Amount brought forward.....	\$20,929 06	\$4,015,418 11
Freight	122 40	
Forage	6,365 21	
Gas, etc.....	306 21	
Gaskets	33 15	
Garden sticks.....	20 00	
Glass	106 78	
Goat sulkies.....	42 00	
Globes	18 67	
Groceries	1,979 84	
Hardware	5,057 84	
Harness	257 38	
Heater	231 00	
Horses	315 00	
Hose	588 66	
Incidentals	870 59	
Insurance	280 30	
Lawn fence.....	1,456 53	
Lumber	2,587 37	
Meats	180 52	
Merchandise	445 07	
Milk	148 30	
Music	1,842 82	
Painting, paints and oils.....	3,462 35	
Park benches.....	7,999 98	
Pipe	225 00	
Carried forward.....	\$55,881 03	\$4,015,418 11

DEMANDS AUDITED—CONTINUED.

CHARACTER OF LICENSES.	AMOUNT.	TOTAL.
Amount brought forward.....	\$55,881 03	\$4,015,418 11
Plants and seeds.....	2,356 69	
Plumbing	808 00	
Powder and fuse.....	322 23	
Printing and stationery.....	793 15	
Repairs	528 54	
Rock	44 50	
Rope	13 09	
Rubber goods.....	381 05	
Saws	41 50	
Signs	78 25	
Sculptoring	35 00	
Telephone service.....	232 80	
Tires	26 00	
Type	53 68	
Veterinary services.....	200 15	
Wall paper.....	18 84	
Water	9,660 38	
Wire	611 04	
Labor	173,024 55	
		245,110 47
Advertising fund.....	\$44 40	
Coupon account, Park Improvement Bonds.....	14,730 00	
Duplicate Tax Fund.....	6,744 85	
House Moving Fund.....	3,140 75	
Overpayment Personal Property Tax Fund, 1899.....	2,261 36	
Carried forward.....	\$26,921 36	\$4,260,528 58

AUDITOR'S REPORT.

DEMANDS AUDITED—CONTINUED.

CHARACTER OF LICENSES.	AMOUNT.	TOTAL.
Amount brought forward.....	\$26,921 36	\$4,260,528 58
Overpayment Personal Property Tax Fund, 1900.....	1,108 07	
Police Relief and Pension Fund.....	58,075 18	
Public Building Fund.....	87,851 32	
Robinson Bequest Interest Fund.....	2,255 00	
Teachers' Institute and Library Fund.....	1,246 58	
Tearing up Streets Fund.....	22,531 44	
Unapportioned Fee Fund.....	5,104 35	
Windel Bequest Interest Fund.....	177 75	
		205,271 08
SCHOOL FUND—		
School Directors.....	\$12,000 00	
Superintendent of Schools and Deputies.....	10,449 96	
Office salaries.....	9,021 00	
Shop salaries.....	5,512 50	
Teachers	943,960 50	
Janitors	52,640 85	
Rents	7,298 00	
Supplies	35,514 98	
Repairs	30,078 49	
Furniture	4,351 35	
Telephone and telegraph.....	731 53	
Light	8,068 22	
Printing	4,057 29	
Water	13,640 07	
Advertising	212 08	
Carried forward.....	\$138,527 82	\$4,465,799 63

DEMANDS AUDITED—CONTINUED.

CHARACTER OF LICENSE .	AMOUNT.	TOTAL.
Amount brought forward.....	\$138,527 82	\$1,465,799 63
Fuel	7,400 49	
Teachers Annuity and Relief Fund.....	1,370 85	
Census	4,980 00	
Insurance	11 00	
Improvements	1,241 00	
		1,152,631 16
SCHOOL FUND, 1898-1899.....		7,961 56
SCHOOL FUND, 1899-1900.....		9,252 42

Total Audited Demands.....		\$5,635,644 77

RECAPITULATION OF DEMANDS AUDITED

FISCAL YEAR 1900-01, ENDING JUNE 30, 1901.

PURPOSE.	AMOUNT.	TOTAL.
ADVERTISING.....		\$15,067 81
ADVERTISING FUND.....		44 40
ASSESSMENT ROLL.....		13,301 86
ASSESSOR—		
Expenses audited from Urgent Necessity.....	\$3,236 75	
Salaries.....	84,199 00	
		87,435 84
PERSONAL PROPERTY RECEIPTS FURNISHED BY AUDITOR		327 00
POLL TAX RECEIPTS FURNISHED BY AUDITOR.....		158 00
AUDITOR—		
Expenses audited from Urgent Necessity.....	156 00	
Salaries	13,559 96	
		13,715 96
BERNAL PARK.....		2,441 02
BOARD OF PUBLIC WORKS—		
Construction of nurses' quarters, hospital.....	\$1,992 00	
Construction of contagious disease quarters, hospital.....	2,344 00	
Examination of available sources of water supply.....	29,949 28	
Heaters for Hall of Records.....	236 60	
Carried forward.....	\$34,521 88	\$132,492 49

DEMANDS AUDITED—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Amount brought forward.....	\$34,521 88	\$132,492 49
Lighting streets and public buildings:.....	245,577 13	
Maintenance account.....	88,650 23	
Moving various departments to Hall of Justice.....	477 50	
Repairs to accepted streets.....	76,153 40	
Repairs and furniture, as per Resolution No. 1255.....	773 39	
Salaries, wages, etc.....	215,650 26	
Street sprinkling and sweeping.....	192,747 70	
Water for municipal purposes.....	235,169 65	
		1,098,721 14
BOARD OF SUPERVISORS—		
Clerks of Board of Equalization.....	\$659 96	
Expenses audited from Urgent Necessity.....	525 90	
Salaries	41,960 26	
		43,146 12
BURIAL OF INDIGENT DEAD.....		3,084 84
CITY ATTORNEY—		
Expenses audited from Urgent Necessity.....	724 45	
Salaries	20,299 92	
		21,024 37
CORONER—		
Current Expenses.....	\$1,759 85	
Expenses audited from Urgent Necessity.....	801 75	
Salaries	16,719 96	
		19,281 56
Carried forward.....		\$1,317,750 52

AUDITOR'S REPORT.

DEMANDS AUDITED—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Amount brought forward.....		\$1,317,750 52
COUNTY CLERK—		
Expenses audited from Urgent Necessity.....	\$11 40	
Salaries	76,509 78	76,521 18
COUPON ACCOUNT PARK IMPROVEMENT BONDS.....		14,730 00
COURT INTERPRETERS.....		6,000 00
COURT ORDERS (reporters' expenses).....		15,954 30
COURT ORDERS (Miscellaneous).....		1,694 81
DEPARTMENT OF CIVIL SERVICE—		
Expenses audited from Urgent Necessity.....	\$163 68	
Salaries	8,337 50	8,501 18
DEPARTMENT OF ELECTIONS—		
Expenses	\$26,437 43	
Salaries, etc.....	79,328 54	105,765 97
DEPARTMENT OF ELECTRICITY—		
Expenses	\$13,116 52	
Salaries	36,811 30	49,927 82
DISTRICT ATTORNEY—		
Expenses audited from Urgent Necessity.....	\$55 10	
Salaries	36,199 92	36,255 02
Carried forward.....		\$1,633,100 80

AUDITOR'S REPORT.

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DEMANDS AUDITED—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Amount brought forward.....		\$1,633,100 80
DUPLICATE TAX FUND.....		6,744 85
EXAMINATION OF INSANE.....		5,220 00
FIRE DEPARTMENT—		
Firemen's Relief and Pension Fund.....	\$15,918 49	
Running expenses.....	125,154 71	
Salaries	563,277 24	
		704,350 44
FISCAL YEAR 1899-1900.....		8,393 21
FOURTH OF JULY AND MEMORIAL DAY.....		2,886 85
FREE PUBLIC LIBRARY—		
Expenses	\$26,520 75	
Salaries	34,871 60	
		61,392 35
FURNISHING HALL OF JUSTICE.....		30,346 46
FURNITURE FOR PUBLIC BUILDINGS.....		4,864 56
GRAND JURY EXPENSES.....		1,405 80
DEPARTMENT OF PUBLIC HEALTH, ALMSHOUSE—		
Drugs and chemicals.....	\$1,243 40	
Dry goods and clothing.....	3,528 94	
Forage	2,479 44	
Fuel	6,860 85	
Groceries and provisions.....	34,665 75	
Miscellaneous expenses.....	6,807 95	
Salaries	24,312 00	
		79,898 33
Carried forward.....		\$2,538,603 15

DEMANDS AUDITED—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Amount brought forward.....		\$2,538,603 15
CITY AND COUNTY HOSPITAL—		
Drugs, chemicals and instruments.....	\$7,626 46	
Fuel	4,526 33	
Groceries and provisions.....	31,226 18	
Salaries	34,331 50	
Wines and liquors.....	1,375 92	
Miscellaneous expenses.....	8,511 60	
X-ray equipments audited from Urgent Necessity.....	1,000 00	
		88,597 90
HEALTH DEPARTMENT—		
Expenses, including Emergency Hospital.....	\$12,435 83	
Salaries Board of Health.....	53,177 94	
Salaries Emergency Hospital.....	24,158 00	
Extra allowance audited from Urgent Necessity, cleaning Chinatown, etc.....	6,977 07	
		96,748 84
SMALLPOX HOSPITAL—		
Expenses	\$1,225 33	
Salaries	2,586 50	
Extra allowance audited from Urgent Necessity.....	1,689 80	
		5,511 63
TWENTY-SIXTH STREET HOSPITAL—	\$3,382 69	
Expenses	3,660 00	
Salaries		7,042 69
Carried forward.....		\$2,736,504 30

DEMANDS AUDITED—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Amount brought forward.....		\$2,736,504 30
HOUSE MOVING FUND.....		3,140 75
INTERMENT EX-SOLDIERS AND SAILORS.....		2,700 00
JURY EXPENSES IN CRIMINAL CASES.....		351 00
JUSTICES OF THE PEACE, CLERK AND ASSISTANTS—		
SALARIES		20,700 00
LAW LIBRARY, SALARIES.....		3,240 00
LICENSE BLANKS, TAGS AND NUMBERS.....		1,552 30
MAINTENANCE OF MINORS—		
At Feeble-Minded Home.....	\$20,210 00	
Magdalen Asylum.....	6,313 50	
Non-Sectarian School.....	3,850 00	
Preston School.....	1,868 06	
Whittier School.....	5,983 80	
		38,225 38
MAINTENANCE OF PUBLIC POUND.....		6,660 85
MAYOR—		
Contingent expenses.....	\$3,600 00	
Salaries	10,200 00	
		13,800 00
MONEY PAID IN ERROR AND REFUNDED.....		2,399 78
MUNICIPAL REPORTS.....		5,000 00
OVERPAYMENT PERSONAL PROPERTY TAXES.....		3,360 48
PARK FUND—		
Salaries	\$7,025 00	
Labor	173,024 53	
Carried forward.....	\$180,049 55	\$2,837,643 77

DEMANDS AUDITED—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Amount brought forward.....	\$180,049 55	\$2,837,643 77
Miscellaneous expenses.....	72,085 92	
		252,135 47
POLICE DEPARTMENT—		
Contingent expenses.....	\$7,909 92	
Rents of stations.....	6,114 00	
Police Patrol expenses.....	18,105 27	
Salaries of department.....	739,707 74	
Fines and contributions of officers.....	15,393 00	
Expenses audited from Urgent Necessity.....	470 55	
		787,796 48
POLICE RELIEF AND PENSION FUND.....		58,075 18
POLICE JUDGES AND STENOGRAPHERS.....		21,600 00
PRINTING TRANSCRIPTS ON APPEAL.....		4,511 15
PRISONERS' SUBSISTENCE.....		40,208 86
PUBLIC BUILDING FUND.....		87,851 32
PUBLISHING DELINQUENT TAX LIST.....		3,161 48
PUBLISHING LAW AND MOTION CALENDAR.....		2,400 00
RECORDER—		
Salaries.....	\$33,851 80	
Newspapers.....	16 85	
		33,868 65
ROBINSON BEQUEST INTEREST FUND.....		2,255 00
SHERIFF—		
Expenses	\$1,197 35	
Maintenance of jails.....	4,992 56	
Salaries	84,058 57	
Carried forward.....	\$90,248 48	\$4,131,507 86

DEMANDS AUDITED—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Amount brought forward.....	\$90,248 48	\$4,131,507 36
Expenses audited from Urgent Necessity.....	141 35	
		90,389 83
STATIONERY FOR PUBLIC OFFICES.....		24,880 29
SUPERIOR JUDGES AND SECRETARY.....		25,799 04
TAX COLLECTOR—		
Salaries	65,575 15	
Expenses audited from Urgent Necessity.....	173 00	
		65,748 15
TAXES REFUNDED—		
Paid in error.....	\$1,023 40	
Paid under protest.....	64,561 99	
		65,585 09
TEACHERS' INSTITUTE FUND.....		1,246 58
TEARING UP STREETS FUND.....		22,531 44
TELEPHONE SERVICE.....		2,352 99
TREASURER—		
Salaries	14,499 96	
Expenses audited from Urgent Necessity.....	1,380 30	
		15,880 26
UNAPPORTIONED FEE FUND.....		5,104 35
URGENT NECESSITY, CHARGEABLE TO NO PARTICULAR SUBDIVISION.....		13,504 30
WINDEL BEQUEST INTEREST FUND.....		177 75
WITNESS' EXPENSES.....		1,412 20
		\$4,465,799 63
Carried forward.....		

AUDITOR'S REPORT.

DEMANDS AUDITED—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Amount brought forward.....		\$4,465,799 63
SCHOOL DEPARTMENT—		
Superintendent of Schools and Deputies.....	\$10,449 96	
School Directors.....	12,000 00	
Teachers	943,960 50	
Office and shop.....	14,533 50	
Expenses	119,046 35	
Janitorial expenses.....	52,640 85	
		1,152,631 16
DEMANDS AUDITED FROM PREVIOUS YEARS.....		17,213 98
		5,635,644 77
Total		

AUDITOR'S REPORT.

SUMMARY OF DEMANDS AUDITED, PAID AND OUTSTANDING FISCAL YEAR 1900-1901.

FUNDS AND ACCOUNTS.	Demands	Demands	Demands	TOTAL.	Demands Paid	Demands	Demands
	Outstanding June 30, 1900.	Audited 1900-1901.	Audited 1900-1901.		Outstanding June 30, 1901.	1900-1901.	Cancelled 1900-1901.
Advertising Fund.....	\$1,069 81	\$44 40	\$1,114 21		\$1,069 81		\$44 40
General Fund.....	384,458 06	3,947,000 76	4,311,458 82		3,916,389 88	\$392 36	394,076 58
Duplicate Tax Fund.....	1,070 23	6,744 85	7,815 18		7,024 02		790 56
Free Public Library Fund.....	6,353 19	61,392 35	67,745 54		61,847 18		5,898 36
House-moving Fund.....	450 00	3,140 75	3,590 75		3,113 50		477 25
New City Hall Fund.....	38 42		38 42				38 42
Nineteenth Street Extension Fund.....	6 87		6 87				6 87
Overpayment Personal Property Taxes F'd, '99		2,261 36	2,261 36		2,254 34		6 02
Overpayment Personal Property Taxes F'd, '00		1,108 07	1,108 07		1,108 07		
Park Fund.....	30,473 97	252,135 47	272,609 44		246,832 15		25,777 29
Police Relief and Pension Fund.....	14,570 00	58,075 18	72,645 27		58,888 02		13,757 25
Public Building Fund.....		87,851 32	87,851 32		87,851 32		
Robinson Bequest Interest Fund.....		2,255 00	2,255 00		2,255 00		
School Fund.....	124,389 08	1,169,845 14	1,294,234 22		1,254,008 57	40 00	40,187 05

SUMMARY OF DEMANDS AUDITED, PAID AND OUTSTANDING—CONTINUED.

FUNDS AND ACCOUNTS.	Demands Outstanding June 30, 1900.	Demands Audited 1900-1901.	TOTAL.	Demands Paid 1900-1901.	Demands Cancelled 1900-1901.	Demands Outstanding June 30, 1901.
	Teache s' Institute Fund.....	\$155 75	\$1,246 58	\$1,402 33	\$1,377 03	.....	$25 30
Tearing up-streets Fund.....	909 39	22,531 44	33,440 83	19,944 19	6 62	3,490 02
Unapportioned Fee Fund.....	456 75	5,104 35	5,561 10	5,223 60	.....	337 50
Windel Bequest Interest Fund.....	.....	177 75	177 75	177 75	.....	.....
Interest Account, Park Improvement Bonds.....	.....	14,730 00	14,730 00	14,730 00	.....	.....
	\$534,401 71	\$5,635,644 77	\$6,170,046 48	\$5,684,004 03	\$438 98	\$485,513 47

THE TAX COLLECTOR

IN ACCOUNT WITH THE AUDITOR FOR LICENSES ISSUED, SOLD AND RETURNED DURING
THE FISCAL YEAR ENDING JUNE 30, 1901.

CHARACTER OF LICENSE.	NUMBER.	VALUE.	AMOUNT.
Auctioneers.....	150	\$6 00	\$900 00
Auctioneers.....	51	11 00	561 00
Auctioneers.....	5	26 00	130 00
Bankers.....	75	51 00	3,825 00
Bankers.....	59	101 00	5,959 00
Bankers.....	67	201 00	13,467 00
Bankers.....	60	301 00	18,060 00
Boxing exhibitions.....	3	1,200 00	3,600 00
Brokers.....	296	6 00	1,776 00
Brokers.....	74	11 00	814 00
Brokers.....	50	16 00	800 00
Brokers.....	50	26 00	1,300 00
Brokers.....	25	41 00	1,025 00
Brokers.....	25	51 00	1,275 00
Billiards.....	●100	4 00	400 00
Billiards.....	3	16 00	48 00
Billiards.....	4	20 00	80 00
Billiards.....	8	24 00	192 00
Billiards.....	1	31 00	31 00
Billiards.....	5	32 00	160 00
Billiards.....	1	41 00	41 00
Bowling alleys.....	50	5 00	250 00
Baths.....	150	3 00	450 00
Baths.....	25	10 00	250 00
Boats, etc.....	50	5 00	250 00

LICENSES—CONTINUED.

CHARACTER OF LICENSE.	NUMBER.	VALUE.	AMOUNT.
Baseball.....	25	\$10 00	\$250 00
Bootblacks.....	100	3 00	300 00
Bootblacks.....	50	6 00	300 00
Bootblacks.....	100	9 00	900 00
Bootblacks.....	77	12 00	924 00
Bootblacks.....	3	15 00	45 00
Circus.....	25	150 00	3,750 00
Cyclery.....	100	4 00	400 00
Carpet beating.....	100	10 00	1,000 00
House moving.....	100	10 00	1,000 00
House movers.....	100	50 00	5,000 00
Intelligence offices.....	208	16 00	3,328 00
Junk dealers.....	500	4 00	2,000 00
Junk dealers.....	50	6 00	300 00
Junk dealers.....	50	8 00	400 00
Livery stables.....	349	4 00	1,396 00
Laundry.....	1,100	6 00	6,600 00
Municipal.....	100	2 50	250 00
Municipal.....	4,111	3 00	12,333 00
Municipal.....	1	4 00	4 00
Municipal.....	700	5 00	3,500 00
Municipal.....	325	6 00	1,950 00
Municipal.....	200	7 50	1,500 00
Municipal.....	800	10 00	8,000 00
Municipal.....	50	12 00	600 00
Municipal.....	200	15 00	3,000 00
Municipal.....	100	20 00	2,000 00
Municipal.....	350	25 00	8,750 00

LICENSES—CONTINUED.

CHARACTER OF LICENSE.	NUMBER.	VALUE.	AMOUNT.
Municipal.....	50	\$80 00	\$1,500 00
Municipal.....	53	40 00	2,120 00
Municipal.....	100	50 00	5,000 00
Municipal.....	4	66 00	264 00
Municipal.....	50	75 00	3,750 00
Municipal.....	52	100 00	5,200 00
Municipal.....	8	151 00	1,208 00
Pawnbrokers.....	240	31 00	7,440 00
Public Works.....	2,213	1 50	3,319 50
Public Works.....	649	1 75	1,135 75
Public Works.....	400	2 00	800 00
Public Works.....	300	2 25	675 00
Public Works.....	624	2 50	1,560 00
Public Works.....	218	2 75	599 50
Public Works.....	314	3 00	942 00
Public Works.....	74	3 25	240 50
Public Works.....	150	3 50	525 00
Public Works.....	50	3 75	187 50
Public Works.....	121	4 00	484 00
Public Works.....	50	4 25	212 50
Public Works.....	134	4 50	603 00
Public Works.....	349	5 00	1,745 00
Public Works.....	50	5 25	262 50
Public Works.....	100	5 50	550 00
Public Works.....	50	5 75	287 50
Public Works.....	56	6 00	336 00
Public Works.....	100	6 50	650 00
Public Works.....	50	7 00	350 00

AUDITOR'S REPORT.

LICENSES—CONTINUED.

CHARACTER OF LICENSE.	NUMBER.	VALUE.	AMOUNT.
Public Works.....	141	7 50	\$1,057 50
Public Works.....	50	8 00	400 00
Public Works.....	50	8 50	425 00
Public Works.....	80	9 00	720 00
Public Works.....	50	9 50	475 00
Public Works.....	123	10 00	1,230 00
Public Works.....	50	10 50	525 00
Public Works.....	50	11 00	550 00
Public Works.....	50	12 00	600 00
Public Works.....	2	13 00	26 00
Public Works.....	2	13 50	27 00
Public Works.....	51	14 00	714 00
Public Works.....	2	14 50	29 00
Public Works.....	72	15 00	1,080 00
Public Works.....	1	15 50	15 50
Public Works.....	1	16 00	16 00
Public Works.....	1	16 25	16 25
Public Works.....	1	16 50	16 50
Public Works.....	4	17 00	68 00
Public Works.....	1	17 25	17 25
Public Works.....	1	17 50	17 50
Public Works.....	1	18 00	18 00
Public Works.....	2	19 00	38 00
Public Works.....	2	19 25	38 50
Public Works.....	2	19 50	39 00
Public Works.....	3	20 00	60 00
Public Works.....	2	20 50	41 00
Public Works.....	2	21 00	42 00

LICENSES—CONTINUED.

CHARACTER OF LICENSE.	NUMBER.	VALUE.	AMOUNT.
Public Works.....	2	\$21 50	\$43 00
Public Works.....	2	22 00	44 00
Public Works.....	3	22 50	67 50
Public Works.....	2	23 00	46 00
Public Works.....	1	23 75	23 75
Public Works.....	1	24 00	24 00
Public Works.....	2	26 00	52 00
Public Works.....	4	26 50	106 00
Public Works.....	2	27 00	54 00
Public Works.....	2	28 00	56 00
Public Works.....	1	28 50	28 50
Public Works.....	1	29 25	29 25
Public Works.....	3	30 00	90 00
Public Works.....	2	30 50	61 00
Public Works.....	3	31 00	93 00
Public Works.....	1	31 50	31 50
Public Works.....	1	32 00	32 00
Public Works.....	1	32 25	32 25
Public Works.....	2	32 50	65 00
Public Works.....	2	33 00	66 00
Public Works.....	2	33 50	67 00
Public Works.....	1	34 50	34 50
Public Works.....	3	35 00	105 00
Public Works.....	2	37 00	74 00
Public Works.....	1	37 25	37 25
Public Works.....	1	37 50	37 50
Public Works.....	1	38 00	38 00
Public Works.....	1	39 00	39 00

AUDITOR'S REPORT.

LICENSES—CONTINUED.

CHARACTER OF LICENSE.	NUMBER.	VALUE.	AMOUNT.
Public Works.....	1	\$39 50	\$39 50
Public Works.....	1	40 00	40 00
Public Works.....	1	40 50	40 50
Public Works.....	1	41 00	41 00
Public Works.....	1	41 50	41 50
Public Works.....	2	44 50	89 00
Public Works.....	1	45 00	45 00
Public Works.....	1	46 50	46 50
Public Works.....	1	47 00	47 00
Public Works.....	1	49 00	49 00
Public Works.....		50 50	50 50
Public Works.....	1	57 50	57 50
Public Works.....	1	60 00	60 00
Public Works.....	1	67 50	67 50
Public Works.....	1	69 00	69 00
Public Works.....	2	75 00	150 00
Public Works.....	1	75 50	75 50
Public Works.....	1	76 50	76 50
Public Works.....	1	80 00	80 00
Public Works.....	1	98 00	98 00
Public Works.....	1	105 00	105 00
Public Works.....	1	118 50	118 50
Public Works.....	1	122 00	122 00
Public Works.....	1	131 25	131 25
Public Works.....	1	162 00	162 00
Public Works.....	1	194 50	194 50
Retail liquor.....	12,700	21 00	266,700 00
Restaurant retail liquor.....	700	3 00	2,100 00
Restaurant retail liquor.....	200	5 00	1,000 00

LICENSES—CONTINUED.

CHARACTER OF LICENSE.	NUMBER.	VALUE.	AMOUNT.
Regulation liquor.....	50	\$5 00	\$250 00
Regulation liquor.....	50	10 00	500 00
Ring throwing.....	50	5 00	250 00
Runners and solicitors.....	200	15 00	3,000 00
Shows.....	100	5 00	500 00
Shipping sailors, etc.....	50	20 00	1,000 00
Scavengers.....	107	1 50	160 50
Scavengers.....	200	2 50	500 00
Street railroads.....	4	33 75	135 00
Street railroads.....	2	67 50	135 00
Street railroads.....	1	71 25	71 25
Street railroads.....	3	75 00	225 00
Street railroads.....	9	131 25	1,181 25
Street railroads.....	4	168 75	675 00
Street railroads.....	1	1,665 00	1,665 00
Street railroads.....	1	1,677 50	1,677 50
Street railroads.....	1	1,707 50	1,707 50
Theaters, first class, 1 day.....	100	5 00	500 00
Theaters, first class, 1 month.....	50	51 00	2,550 00
Theaters, first class, months.....	25	101 00	2,525 00
Theaters, first class, 1 year.....	25	301 00	7,525 00
Theaters, second class, 1 month.....	50	41 00	2,050 00
Theaters, second class, 3 months.....	10	76 00	760 00
Theaters, second class, 1 year.....	50	201 00	10,050 00
Warehouse.....	100	10 00	1,000 00
Gratuitous.....	237		
CARDS, TAGS AND BADGES—			
Coupe badges.....	13	2 50	32 50

AUDITOR'S REPORT.

LICENSES—CONTINUED.

CHARACTER OF LICENSE.	NUMBER.	VALUE.	AMOUNT.
Dog tags.....	4,283	\$2 00	\$8,566 00
Dog tags duplicate.....	943	50	471 50
Drivers' cards.....	380	1 00	380 00
Deadly weapon cards.....	207	3 00	621 00
Guide badges.....	4	2 50	10 00
Hack badges.....	29	2 50	72 50
Nickel-in-slot.....	3,683	10 00	36,830 00
Nickel-in-slot.....	1,144	2 00	2,288 00
Peddlers.....	2,500	6 00	15,000 00
Runners and solicitors.....	22	1 50	33 00
Street work solicitors.....	10	1 50	15 00
Vehicle numbers.....	1,195	1 00	1,195 00
	48,338		555,154 50

RECAPITULATION.

	NUMBER.	AMOUNT.
Licenses issued to Tax Collector.....	48,338	555,154 50
Licenses returned to Auditor.....	5,212	94,754 75
Amount sold by Tax Collector.....	\$43,126	\$460,399 75

TREASURER'S RECEIPTS.

TREASURER IN CASH ACCOUNT WITH THE AUDITOR FOR MONEYS BELONGING TO THE CITY AND COUNTY OF SAN FRANCISCO AND STATE OF CALIFORNIA DURING THE FISCAL YEAR 1900-1901, ENDING JUNE 30, 1901.

PURPOSE.	AMOUNT.	TOTAL.
GENERAL FUND, 1892-1893—		
From taxes.....		\$1,845 38
GENERAL FUND, 1898-1899—		
From taxes.....		1,140 87
GENERAL FUND, 1899-1900—		
From taxes.....	\$101,684 86	
Almshouse receipts.....	321 58	
Police Court ball money.....	11 85	
Coroner's receipts.....	94 20	
Prisoners' subsistence.....	1,336 40	
Superintendent of Fire Alarm.....	108 25	
Salary of J. T. Canaran returned.....	36 00	
GENERAL FUND, 1900-1901—		103,593 14
From taxes.....	\$3,494,220 57	
Mayor, rent of city property.....	2,803 00	
Sale of city property by Mayor.....	1,257 00	
Sale of Police Department boat and building.....	106 00	
Superior Court fines.....	2,856 50	
Police Court fines—Department No. 1.....	6,318 50	
Police Court fines—Department No. 2.....	7,022 00	
Police Court fines—Department No. 3.....	7,495 00	
Police Court fines—Department No. 4.....	8,257 00	
Amount brought forward.....	\$3,530,335 57	\$106,579 39

TREASURER'S RECEIPTS—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Amount brought forward.....	\$3,530,335 77	\$106,579 39
City and county licenses.....	460,399 75	
City and County Hospital receipts.....	309 75	
Police Department, board of prisoners en route.....	155 00	
Sheriff, board of United States prisoners.....	5,628 20	
Board of Public Works—Sale of old material.....	149 55	
Board of Public Works—Sale of cobbles.....	365 50	
Board of Public Works—Building permits.....	13,536 50	
Coroner's receipts.....	131 29	
Board of Supervisors—Forfeiture of bond.....	400 00	
State of California—Six per cent commission on State personal property taxes.....	10,198 06	
State of California—Section 3804.....	24,216 69	
From Registrar—Sale of paper.....	37 50	
From Star Press.....	80 65	
Bequest of Mrs. de Vertuga.....	189 70	
Poll tax commissions.....	1 50	
Percentages on franchises.....	0,462 92	
COMMON SCHOOL FUND, 1898-1899—		4,035,598 13
From taxes.....		2,845 23
COMMON SCHOOL FUND, 1899-1900—		
From taxes.....	\$13,222 65	
COMMON SCHOOL FUND—		
State school money.....	7,169 80	
COMMON SCHOOL FUND, 1900-1901—		20,392 45
From taxes.....	\$433,548 24	
Rent of school property.....	7,270 55	
Carried forward.....	\$440,818 79	\$4,185,415 16

TREASURER'S RECEIPTS—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Carried forward.....	\$440,818 79	\$4,185,415 16
Rent of Lincoln School lots.....	48,000 00	
Sale of material and insurance.....	287 00	
State apportionment school money.....	712,957 62	
TEACHERS' INSTITUTE FUND—		1,202,063 41
Examination and certificate fees.....		816 00
ADVERTISING FUND—		
Fees.....		6,464 00
UNAPPORTIONED FEE FUND—		
Mayor.....	\$510 00	
Auditor.....	116 00	
Sheriff.....	14,502 45	
County Clerk.....	40,135 05	
Recorder.....	39,565 45	
Justice's Clerk.....	20,577 00	
Board of Public Works.....	10,012 25	
Board of Health.....	1,078 50	
Police Department.....	2,930 00	
Pound Fee Fund.....	3,645 95	
Board of Supervisors.....	10 00	
PARK FUND—		142,082 05
From taxes.....	\$205,392 56	
Police Court fines.....	140 00	
Rent of Children's Playground.....	4,864 77	
Rent of boat house.....	275 00	
Board of mounted police horses.....	1,774 70	
Carried forward.....	\$272,447 03	\$5,536,841 82

TREASURER'S RECEIPTS—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Carried forward.....	\$272,447 03	\$5,536,841 82
Donations and Ordinance No. 1.....	1,194 00	
Sale of material and miscellaneous receipts.....	868 21	
LIBRARY FUND—		274,119 24
From taxes.....	\$62,758 22	
Fines.....	2,456 80	
Books lost and paid for.....	118 25	
Sale of old buildings.....	95 00	
Advertising in Library Bulletin.....	\$1 00	
POLICE RELIEF AND PENSION FUND—		65,509 27
Fines of officers.....	\$1,681 00	
Contributions of officers.....	13,866 00	
Prisoners' money.....	543 40	
Sale of property.....	220 05	
HOUSE MOVING FUND—		16,310 45
From house moving permits.....		4,104 50
OVER-PAYMENT PERSONAL PROPERTY TAX FUND—		
From taxes 1900-1901.....		1,210 40
COUPONS OF PARK IMPROVEMENT BONDS—		
From taxes.....		15,248 65
SINKING FUND PARK IMPROVEMENT BONDS, 1874-1875—		
From taxes.....	\$11,877 37	
Loans returned	13,000 00	
Interest received.....	669 60	
		25,546 97
Carried forward.....		\$5,939,191 34

TREASURER'S RECEIPTS—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Amount brought forward.....		\$5,939,191 34
TEARING UP STREETS FUND—		
From sewer permits.....		24,022 01
ROBINSON BEQUEST INTEREST FUND—		
From interest received.....		2,255 00
DUPLICATE TAX FUND—		
From taxes.....		6,634 45
ASSESSOR'S ACCOUNT—		
Personal property taxes.....		1,023,763 95
WINDEL BEQUEST INTEREST FUND—		
From interest received.....		400 78
A. C. WIDBER DEFICIENCY ACCOUNT—		
From sale of Widber property.....		1,249 30
STATE OF CALIFORNIA—		
From taxes.....	\$2,038,405 71	
Poll taxes.....	114,923 15	
Redemption of property sold to State.....	11,335 46	
Collateral inheritance tax.....	159,738 74	
For maintenance of pupils at Whittier Reform School....	10,479 90	
For maintenance of pupils at Preston School of Industry	1,835 53	
For maintenance of children at Home for Feeble Minded at Glen Ellen.....	18,402 50	
INTEREST ACCOUNT PARK PANHANDLE BONDS—		2,355,120 00
From taxes.....		84,555 85
INTEREST ACCOUNT SEWER BONDS—		
From taxes.....		3,190 78
Carried forward.....		
		\$9,440,384 45

TREASURER'S RECEIPTS—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Amount brought forward.....		\$9,440,384 45
INTEREST ACCOUNT SCHOOL BONDS—		
From taxes.....		3,988 50
INTEREST ACCOUNT HOSPITAL BONDS—		
From taxes.....		1,595 39
SINKING FUND PARK PANHANDLE BONDS—		
From taxes.....		120,851 08
SINKING FUND SEWER BONDS—		
From taxes.....		2,791 93
SINKING FUND SCHOOL BONDS—		
From taxes.....		3,190 73
SINKING FUND HOSPITAL BONDS—		
From taxes.....		1,595 39
		\$9,574,397 52

*See Transfers from State of California to Overpayment P. P. Taxes 1900.

PAYMENTS BY TREASURER.

PURPOSE.	AMOUNT.	TOTAL.
GENERAL FUND, 1892-1893—		
Demands paid.....	\$1,449 25	
GENERAL FUND, 1898-1899—		
Demands paid.....	10 00	
GENERAL FUND, 1899-1900—		
Demands paid.....	215,534 85	
GENERAL FUND, 1900-1901—		
Demands paid.....	3,629,395 78	
SCHOOL FUND, 1898-1899—		
Demands paid.....	8,721 52	
COMMON SCHOOL FUND, 1899-1900—		
Demands paid.....	131,057 33	
COMMON SCHOOL FUND, 1900-1901—		
Demands paid.....	1,114,227 72	
TEACHERS' INSTITUTE FUND—		
Demands paid.....	1,377 03	
PARK FUND—		
Demands paid.....	246,832 15	
LIBRARY FUND—		
Demands paid.....	61,847 18	
UNAPPORTIONED FEE FUND—		
Demands paid.....	5,223 60	
POLICE RELIEF AND PENSION FUND—		
Demands paid.....	58,888 02	
OVERPAYMENT P. P. TAX FUND, 1899—		
Demands paid.....	2,255 34	
Carried forward.....	\$5,546,819 77	

PAYMENTS BY TREASURER—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Amount brought forward.....	\$5,546,819 77	
OVERPAYMENT P. P. TAX FUND, 1900—		
Demands paid	1,108 07.	
COUPONS OF PARK IMPROVEMENT BONDS—		
Coupons paid.....	14,730 00	
ADVERTISING FUND	1,069 81	
WINDEL BEQUEST INTEREST FUND.....	177 75	
ASSESSOR'S ACCOUNT—		
Apportioned to sundry funds	556,358 75	
ROBINSON BEQUEST INTEREST FUND.....	2,255 00	
PUBLIC BUILDING FUND—		
Demands paid.....	87,551 32	
HOUSE MOVING FUND—		
Demands paid.....	3,113 50	
DUPLICATE TAX FUND—		
Demands paid.....	7,024 62	
TEARING UP STREETS FUND—		
Demands paid.....	19,944 19	
STATE OF CALIFORNIA.....	2,337,987 62	
		\$8,587,440 40

CONDITION OF TREASURY.

PURPOSE.	AMOUNT.	TOTAL.
Cash on hand June 30, 1901, at credit of the following funds and accounts:		
General Fund, 1892-93.....	\$2,014 33	
General Fund, 1899-1900.....	125,178 90	
General Fund, 1900-1901.....	453,456 94	
School Fund, 1898-1899.....	22,583 86	
Common School Fund, 1899-1900.....	2,186 56	
Common School Fund, 1900-1901.....	63,105 47	
Teachers' Institute Fund.....	411 56	
Advertising Fund.....	6,087 73	
Unapportioned Fee Fund.....	12,825 95	
Park Fund.....	40,824 52	
Library Fund.....	16,164 61	
Police Relief and Pension Fund.....	4,197 18	
Insurance Contribution Fund.....	318 95	
Public Building Fund.....	5 80	
House Moving Fund.....	1,341 00	
Duplicate Tax Fund.....	10,105 79	
Nineteenth Street Extension Fund.....	236 53	
Potrero Avenue Extension Fund.....	371 92	
Overpayment P. P. Tax Fund, 1899-1900.....	2,016 94	
Overpayment P. P. Tax Fund, 1900-1901.....	651 87	
Pacific Railroad Interest Tax Account.....	35 00	
Coupons School Fund 1874.....	30 00	
Coupons House of Correction bonds.....	35 00	
Coupons of Dupont Street bonds.....	4 38	
Coupons of Park Improvement bonds.....	2,217 07	
Sinking Fund Park Improvement bonds, 1874-75.....	193,117 60	
Carried forward.....		
	\$90,023 46	

CONDITION OF TREASURY—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Amount brought forward.....	\$90,025 46	
Sinking Fund Dupont Street bonds.....	157 03	
Tearing Up Streets Fund.....	6,435 62	
Robinson Bequest Fund.....	50 00	
State of California.....	23,223 04	
Interest Account, Park Panhandle Bonds.....	84,555 85	
Interest Account, Sewer Bonds.....	3,190 78	
Interest Account, School Bonds.....	3,988 50	
Interest Account, Hospital Bonds.....	1,595 39	
Sinking Fund, Park Panhandle Bonds.....	120,851 08	
Sinking Fund, Sewer Bonds.....	2,791 93	
Sinking Fund, School Bonds.....	3,190 78	
Sinking Fund, Hospital Bonds.....	1,595 39	
Assessor's Account.....	623,442 79	
Windel*Bequest Interest Fund.....	223 03	
	\$1,834,816 67	
Less A. C. Widber Deficiency Account.....	14,885 57	
	\$1,819,931 10	\$1,819,931 10

BALANCE.

PURPOSE.	AMOUNT.	TOTAL.
Cash on hand July 1, 1900.....	\$823,973 98	
Receipts during fiscal year 1900-1901 (including State).....	9,574,397 52	
Total		10,398,371 50
Payments during fiscal year 1900-1901.....		8,578,440 40
Balance on hand July 1, 1901		\$1,819,931 10

LOAN ACCOUNT.

PURPOSE.	AMOUNT.	TOTAL.
Loans from Sinking Funds outstanding June 29, 1901— Sinking Fund Park Improvement Bonds, 1874-75.....		\$27,500 00

TRANSFER ENTRIES.

PURPOSE.	AMOUNT.	TOTAL.
From General Fund of 1900.....	\$421,749 86	
To Police Relief and Pension Fund.....		\$13,520 78
To Assessor's Account.....		800,000 00
To Sinking Fund Park Improvement Bonds 1874-75.....		80,000 00
To Police Relief and Pension Fund.....		28,299 08
From General Fund 1899.....	9,960 61	
To Police Relief and Pension Fund.....		9,688 50
To General Fund 1900.....		272 11
From General Fund of 1898.....	4,990 62	
To General Fund of 1899.....		4,990 62
From Unapportioned Fee Fund.....	134,880 63	
To General Fund 1899.....		10,293 28
To General Fund 1900.....		121,764 85
To Police Relief and Pension Fund.....		2,822 50
From Park Fund.....	49,225 45	
To Assessor's Account.....		35,000 00
To Sinking Fund Park Improvement Bonds 1874-75.....		12,000 00
To General Fund 1900.....		2,225 45
From Account with Assessor.....	420,000 00	
To General Fund of 1900.....		300,000 00
To Common School Fund 1900.....		85,000 00
To Park Fund.....		35,000 00
From Sinking Fund Park Improvement Bonds 1874-75.....	236,098 65	
To General Fund 1900.....		80,098 05
To Common School Fund 1900.....		140,000 00
To Park Fund.....		12,000 00
Amount brought forward.....	\$1,276,905 82	\$1,272,905 82

TRANSFER ENTRIES—CONTINUED.

.PURPOSE.	AMOUNT.	TOTAL.
Amount carried forward.....	\$1,276,905 82	\$1,272,905 82
To Library Fund.....		1,000 00
To Coupons Park Improvement 1874-75.....		3,000 00
From Tearing Up Streets Fund.....	135 00	
To General Fund 1900.....		135 00
From Common School Fund 1900.....	249,730 22	
To Assessor's Account.....		85,000 00
To School Fund 1898.....		24,730 22
To Sinking Fund Park Improvement Bonds 1874-75.....		140,000 00
From Coupons Park Improvement Bonds 1874-75.....	3,157 83	
To Sinking Fund Park Improvement Bonds 1874-75.....		3,000 00
To General Fund 1900.....		157 83
From Police Relief and Pension Fund.....	9,000 00	
To General Fund 1900.....		9,000 00
From Library Fund.....	1,564 26	
To Sinking Fund 1874-75.....		1,000 00
To General Fund 1900.....		564 26
From State of California.....	534 85	
To Overpayment Personal Property Taxes 1900.....		534 85
From Common School Fund 1899.....	4,786 30	
To General Fund 1900.....		4,786 30
From Overpayment Personal Property Taxes 1900.....	14 69	
To Overpayment Personal Property Taxes Fund 1900.....		14 69
	\$1,545,828 97	\$1,545,828 97

TREASURER IN ACCOUNT WITH AUDITOR

FOR MONEYS BELONGING TO THE STATE OF CALIFORNIA FOR FISCAL YEAR 1900-01.

STATE OF CALIFORNIA.	AMOUNT.	TOTAL.
Cash on hand July 1, 1900.....	\$6,624 52	
Taxes received.....	2,038,405 71	
Poll Taxes received.....	114,923 15	
Maintenance of Juveniles at Whittier Reform School.....	10,479 90	
Maintenance of Juveniles at Preston School of Industry.....	1,835 53	
Maintenance of Inmates at Home for Feeble-Minded Children	18,402 50	
Redemption of Property Sold to the State.....	11,335 46	
Collateral Inheritance Taxes.....	159,738 74	
		\$2,361,745 51
Amount paid State Treasurer.....	\$2,303,504 71	
Treasurer's mileage.....	67 20	
Assessor's Commission on Personal Property Taxes.....	10,198 06	
State's Portion Refunded Taxes.....	24,216 69	
Commission on Engelcke Estate escheated.....	96	
Amount Transferred to Overpayment Personal Property Taxes Fund 1900.....	534 85	\$2,338,522 47
Balance cash on hand June 29, 1901.....		\$23,223 04

LOAN ACCOUNT FOR FISCAL YEAR 1900-1901.

Loans made from Sinking Funds on security of United States, State and County bonds.

LOANS.	SINKING FUND, PARK IMPROVEMENT BONDS OF 1874-75.	TOTAL.
Loans unpaid July 1, 1900.....	\$40,500 00	
Loans returned during fiscal year 1900-1901.....	\$13,000 00	\$40,500 00
Loans unpaid July 1, 1901.....	27,500 00	
		\$40,500 00

STATEMENT OF POLL-TAXES

FOR FISCAL YEAR 1900-01.

PURPOSE.	AMOUNT.	TOTAL.
Sold by Washington Dodge, Assessor—		
2715 Poll Tax Receipts, account of 1900, at \$3.....	\$8,145 00	
* 15 per cent. commission.....	1,221 75	
		\$6,923 25
Sold by Washington Dodge, Assessor—		
50,290 Poll Tax Receipts of 1901, at \$2.....	100,580 00	
* 15 per cent. commission.....	15,087 00	
		85,493 00
Sold by J. H. Scott, Tax Collector—		
44 Poll Tax Receipts (delinquent), at \$4.....	176 00	
* Less 25 per cent. commission.....	44 00	
		132 00
		\$92,548 25

* These commissions are on special deposit in Treasury awaiting decision of Court.

STATEMENT OF TAXES FOR THE FISCAL YEAR 1900-01.

TAX COLLECTOR IN ACCOUNT WITH AUDITOR.

DR.		
To City and County Real Estate Roll, taxes of 1900		
Valuation \$288,530.645.....	\$4,688,622 98	
To City and County and State Personal Property Roll, taxes		
of 1900. Valuation \$121,616,309.....	1,421,629 30	
To increase in Personal Property Unsecured Roll by As-		
sessor	948 06	
To penalties collected.....	7,863 40	
		\$6,119,063 83
CR.		
By cash paid City and County Treasurer, taxes and penal-		
ties	\$5,955,629 30	
By City and County Property exempt from taxation.....	302 58	
By property assessed to Regents of University.....	7,436 90	
By property assessed to Deaf, Dumb and Blind Asylum.....	117 00	
By property assessed to Robinson Bequest Fund.....	341 26	
By reduction by Assessor in Personal Property Secured Roll..	3,548 06	
By delinquent taxes City and County.....	105,201 96	
By delinquent taxes State.....	46,486 77	
		\$6,119,063 83

SUMMARY OF TAXES

COLLECTED AND PAID INTO THE TREASURY DURING THE FISCAL YEAR 1900-01.

YEAR.	TAXES.	PENALTIES.	TOTAL.
1900—State, City and County Real Estate and Personal Property Taxes.....	\$5,947,765 81	\$7,863 49	\$5,955,629 30
1899—State, City and County Real Estate and Personal Property Taxes.....	5,104 94	38 72	5,143 66
1898—State, City and County Real Estate and Personal Property Taxes.....	4,443 98	1,560 95	6,004 93
1897—State, City and County Real Estate and Personal Property Taxes.....	112 95	21 38	134 33
1896—State, City and County Real Estate and Personal Property Taxes.....	3,717 77	1,441 03	5,158 80
1895—State, City and County Real Estate and Personal Property Taxes.....	38 83	7 82	46 65
1894—State, City and County Real Estate and Personal Property Taxes.....	4 70	95	5 65
1892—State, City and County Real Estate and Personal Property Taxes.....	4 00		4 00
1891—State, City and County Real Estate and Personal Property Taxes.....	58	08	66
1888—State, City and County Real Estate and Personal Property Taxes.....	50	11	61
1886—State, City and County Real Estate and Personal Property Taxes.....	61		61
1885—State, City and County Real Estate and Personal Property Taxes.....	1 73		1 73
1883—State, City and County Real Estate and Personal Property Taxes.....	87	01	88
1882—State, City and County Real Estate and Personal Property Taxes.....	59		59

SUMMARY OF TAXES—CONTINUED.

YEAR.	TAXES.	PENALTIES.	TOTAL.
1881—State, City and County Real Estate and Personal Property Taxes.....	\$0 98	\$0 05	\$1 03
1880—State, City and County Real Estate and Personal Property Taxes.....	6 42	23	6 65
1879—State, City and County Real Estate and Personal Property Taxes.....	4 50	23	4 73
1878—State, City and County Real Estate and Personal Property Taxes.....	3 37	17	3 54
1877—State, City and County Real Estate and Personal Property Taxes	2 95	05	3 00
1875—State, City and County Real Estate and Personal Property Taxes.....	1 20	06	1 26
1873—State, City and County Real Estate and Personal Property Taxes.....	248 75	19 05	267 80
1872—State, City and County Real Estate and Personal Property taxes.....	47 56	11 75	59 31
1870—State, City and County Real Estate and Personal Property Taxes	1 57	02	1 59
1869—State, City and County Real Estate and Personal Property taxes.....	7 70	39	8 09
1866—State, City and County Real Estate and Personal Property taxes.....	5 43	.....	5 43
	\$5,961,528 29	\$10,966 54	\$5,972,494 83

APPORTIONMENT OF TAXES

COLLECTED DURING THE FISCAL YEAR 1900-01.

FUNDS AND ACCOUNTS.	AMOUNT.	TOTAL.
General Fund 1900.....	\$3,494,422 57	
General Fund 1892.....	1,845 38	
General Fund 1898.....	1,140 87	
General Fund 1899.....	101,684 86	
School Fund 1898.....	2,845 23	
School Fund 1899.....	13,222 65	
Common School Fund 1900.....	433,548 24	
Park Fund.....	265,392 56	
Library Fund.....	62,758 22	
State of California.....	2,038,406 71	
Interest Account, Park Improvement Bonds.....	15,248 65	
Overpayment Personal Property Taxes Fund 1900.....	1,210 40	
Sinking Fund, Park Improvement Bonds 1874-75.....	11,877 37	
Sinking Fund, Park Panhandle Bonds.....	120,851 08	
Sinking Fund, Hospital Bonds.....	1,595 39	
Sinking Fund, School Bonds.....	3,190 78	
Sinking Fund, Sewer Bonds.....	2,791 93	
Interest Account, Park Panhandle Bonds.....	84,555 85	
Interest Account, Hospital Bonds.....	1,595 39	
Interest Account, School Bonds.....	3,998 50	
Interest Account, Sewer Bonds.....	3,190 78	
		\$8,665,160 41

* See Transfer Entries for amount Transferred from School Fund of 1900 to School Fund of 1898.

RECAPITULATION.

	AMOUNT.	TOTAL.
Street Railroad Taxes of 1900.....		\$1,353 58
City and County's portion of redemption of property sold to the State, including sale as per Sec. 3897.....		28,131 96
Personal Property Taxes 1900, unsecured by Real Estate, collected by Assessor.....		556,358 75
Taxes collected by Tax Collector during fiscal year 1900- 1901.....		5,972,494 83
Less amount collected in June, 1901, and paid to and ap- portioned by Treasurer in fiscal year 1901-1902.....	\$42,414 21	5,930,080 62
Taxes collected in June, 1900, by Tax Collector and paid to and apportioned by Treasurer in fiscal year 1900- 1901.....		146,687 52
Amount of advertising and deeds collected by Tax Collector and apportioned to General Fund.....		1,733 32
Amount of Poll Taxes included by Treasurer in his appor- tionment of Taxes.....		436 00
Amount of State's portion of sale under Sec. 3897 included by Treasurer in apportionment.....		378 66
		<u>\$6,665,160 41</u>

STATEMENT OF ASSESSED VALUE OF PROPERTY, RATE OF TAXATION AND DELINQUENCY,
FROM 1861-62 TO 1901-02, INCLUSIVE.

Fiscal Year.	Valuation of Real Estate and Improvements.	Valuation of Personal Property.	Total Valuation.	Rate for City and County Purposes.	Rate for State Purposes	Total Rate per \$100.	Total Tax Levied.	Taxes Delinquent.
1861-02..	\$41,870,811 00	Real and personal.	\$41,870,811 00	\$2 25	\$ 62	\$2 87	\$1,201,692 27	\$19,745 11
1862-03..	37,016,101 87	\$29,540,553 33	66,556,655 80	1 97½	77	2 74½	1,826,980 19	410,908 24
1863-04..	43,153,212 50	35,556,125 21	78,709,337 71	1 20	90	2 10	1,052,896 09	374,521 23
1864-05..	47,345,973 66	35,851,662 13	83,197,725 79	1 73	1 25	2 98	2,479,289 24	400,066 31
1865-06..	49,159,047 00	39,775,496 34	88,934,543 34	1 97	1 15	3 12	2,774,557 75	421,291 48
1866-07..	53,531,183 00	43,214,976 43	96,746,159 43	1 97	1 13	3 10	2,999,130 94	527,158 41
1867-08..	58,207,801 85	51,152,963 88	109,360,825 73	1 87	1 13	3 00	3,280,824 77	733,600 36
1868-09..	63,631,721 22	42,782,307 60	106,414,028 82	2 05	1 00	3 05	3,245,627 87	409,509 91
1869-70..	69,776,603 00	44,982,907 67	114,759,510 67	2 11	97	3 08	3,534,592 91	541,178 11
1870-71..	75,145,717 00	31,246,159 00	106,391,876 00	1 98	86½	2 84½	3,026,848 89	120,102 18
1871-72..	76,124,551 00	28,900,988 00	105,025,539 00	2 10½	86½	2 97	3,119,258 51	104,582 51
1872-73..	180,571,640 00	108,011,616 90	288,583,256 90	1 00	50	1 50	4,328,748 84	939,915 81
1873-74..	212,407,505 00	Real and personal.	212,407,505 00	1 10	50	1 60	3,398,520 08	1,414,193 30
1874-75..	102,466,177 00	101,763,267 00	204,229,444 00	1 45	64 9-10	2 09 9-10	5,546,176 02	788,252 60
1875-76..	169,944,327 00	99,160,814 00	269,105,141 00	1 00	60 5-10	1 60 5-10	4,319,137 51	

STATEMENT OF ASSESSED VALUE OF PROPERTY, RATE OF TAXATION AND DELINQUENCY—CONTINUED.

Fiscal Year	Valuation of Real Estate and Improvements.	Valuation of Personal Property.	Total Valuation.	Rate for City, an County Purposes.	Rate for State Purposes	Total Rate per \$100.	Total Tax Levied.	Taxes Delinquent.
1876-77..	\$190,222,363 00	\$70,354,615 00	\$260,576,978 00	\$1 39	\$0 73 5-10	\$2 12 5-10	\$5,537,260 78	\$483,325 60
1877-78..	190,973,720 00	63,893,330 00	254,867,050 00	1 20	63	1 83	4,664,067 02	399,637 72
1878-79..	190,280,810 00	54,106,550 00	244,477,360 00	1 69	55	2 24	5,476,292 86	376,796 63
1879-80..	166,429,845 00	51,057,220 00	217,487,074 00	1 37	62½	1 99½	4,338,867 13	327,770 46
1880-81..	165,023,658 00	279,287,733 00	444,311,396 00	1 57	64	2 21	9,894,281 89	4,834,065 14
1881-82..	168,301,669 00	71,121,998 00	239,423,662 00	.....	65 5-10	.....	4,126,209 07	101,797 45
1881-82..	155,834,879 00	66,598,521 00	222,433,400 00	1 15	.....	.....	.....	.....
1882-83..	151,894,908 00	50,267,069 00	202,162,007 00	1 20 63-100	59 6-10	1 80 23-100	3,643,565 85	75,601 87
1883-84..	182,531,759 00	70,691,188 00	253,452,389 00	.....	49 7-10	.....	3,914,361 31	70,500 53
1884-85..	158,723,269 00	62,272,534 00	221,225,245 00	1 20	.....	.....	.....	.....
1884-85..	180,917,078 00	64,240,213 00	245,157,296 00	.....	45 2-10	.....	3,622,593 51	43,545 06
1884-85..	164,495,888 00	59,013,672 00	223,509,560 00	.....	.....	.....	.....	.....
1885-86..	171,416,426 00	56,192,922 00	227,609,348 00	1 04 89-100	.....	.....	3,774,356 82	49,629 51
1885-86..	192,843,592 00	61,482,367 00	254,325,959 00	.....	54 4-10	.....	.....	.....
1886-87..	175,409,145 00	54,741,864 00	230,151,009 00	1 01 10-100	56	1 57 1-10	3,615,672 35	51,471 55
1887-88..	191,618,454 00	69,127,657 00	251,746,111 00	1 14 78-100	60 8-10	1 75 58-100	4,420,158 20	90,283 40
1888-89..	211,467,987 00	61,921,629 00	273,389,616 00	1 06 7-10	50 4-10	1 57 1-10	4,294,950 87	61,485 86

STATEMENT OF ASSESSED VALUE OF PROPERTY, RATE OF TAXATION AND DELINQUENCY—CONCLUDED.

Fiscal Year.	Valuation of Real Estate and Improvements.	Valuation of Personal Property.	Total Valuation.	Rate for City and County Purposes.	Rate for State Purposes.	Total Rate per \$100.	Total Tax Levied.	Taxes Delinquent.
1880-90..	\$241,119,410 00	\$64,920,995 00	\$306,040,405 00	\$1 00	\$72 2-10	\$1 72 2-10	\$ 5,165,648 48	\$78,676 88
1890-91 .	235,331,708 00	66,082,372 00	301,444,140 00	1 03	58	1 61	4,853,152 44	82,126 20
City & Co. 1891-92	244,515,331 00	67,050,748 00	311,566,079 00	1 03	.....	.....	.....	.....
State— 1891-92..	317,869,630 00	81,956,147 00	399,826,077 00	.....	44 6-10	1 47 6-10	4,992,354 91	76,442 04
City & Co. 1892-93..	277,340,008 00	68,884,698 00	346,224,706 00	1 00	43 4-10	1 43 4-10	5,250,531 37	85,634 27
State— 1892-93..	332,808,010 00	79,239,002 00	412,047,076 00	1 00	.....	.....	.....	.....
1893-94..	276,457,420 00	66,186,759 00	342,644,179 00	1 03	57 6-10	1 60 6-10	5,502,865 51	81,888 60
1894-95..	261,808,995 00	63,299,903 00	325,108,898 00	1 00	49 3-10	1 49 3-10	5,082,919 33	63,805 35
1895-96..	265,018,605 00	62,786,542 00	327,805,147 00	1.565	68½	2 25	6,896,572 16	69,641 45
1896-97 .	337,401,154 00	91,668,562 00	422,069,716 00	96 92-100	42 9-10	1 39 82-100	5,901,378 77	193,377 99
1897-98..	278,157,865 00	697,970 55	347,954,930 00	1.1854	51	1.6854	5,899,227 71	32,420 13
1898-99..	282,769,720 00	69,574,331 00	352,344,061 00	1.318	488	1.806	6,363,417 64	58,792 28
1899-1900	285,305,370 00	119,806,245 00	405,111,615 00	1.029	60 1-10	1 63	6,128,407 94	422,314 93
1900-01..	288,530,645 00	121,624,659 00	410,155,304 00	1.127	498	1 675	6,110,252 28	162,486 47
1901-02..	289,662,622 00	123,417,401 00	413,089,993 00	1.0762	48	1 5562	6,428,662 60	

BONDED DEBT OF THE CITY AND COUNTY OF SAN FRANCISCO, JUNE 30, 1901.

YEAR OF ISSUE.	WHEN DUE.	RATE OF INTEREST. PER ANNUM.	OBJECT OF ISSUE.	BONDS OUTSTANDING JUNE 30, 1900.	SINKING FUND ON HAND JUNE 30, 1901.	SINKING FUND— 1901-1902.
1874-75	April 1, 1904.....	6 per cent..	Park Improvement Amount of Sinking Fund.	\$250,000 00 230,617 60	.....	\$10,000 00
Net bonded debt City and County, June 30, 1901....				\$20,382 40.		

SPECIAL BONDS MADE PAYABLE BY STATUTE FROM TAXES ON DISTRICT BENEFITED.

YEAR OF ISSUE.	WHEN DUE.	RATE OF INTEREST. PER ANNUM.	OBJECT OF ISSUE	BONDS OUTSTANDING JUNE 30, 1900.	SINKING FUND ON HAND JUNE 30, 1900.
1873	January 1, 1903.....	6 per cent.	Montgomery Avenue Opening.....	\$1,575,000 00	\$157 03
1877	January 1, 1897	7 per cent.	Dupont Street Widening.....	286,000 00	
			Amount of Sinking Fund.....	\$1,865,000 00	\$157 03
			Net Amount June 30, 1901.....	157 03	
				\$1,864,842 97	

No bond is were redeemed during the year ending June 30, 1901.

LIST OF BONDS OUTSTANDING JUNE 30, 1901.

	AMOUNT.	TOTAL.
Park Improvement Bonds 1874-75-1 to 250, 250 bonds, \$1,000 each.....	\$250,000 00	
SPECIAL BONDS PAYABLE FROM TAXES ON LANDS BENEFITED.		
Montgomery Avenue Bonds 1873-1 to 1,579 -1,579 bonds, \$1,000 each.....	\$1,579,000 00	
Dupont Street Widening Bonds 1877-Nos. 136 to 150, 155 to 176, 189, 190, 207, 209 to 215, 260, 266, 269 to 275, 296 to 301, 314 to 316, 367 to 372, 398 to 402, 408 to 410, 419 to 421, 423 to 427, 446, 447, 453 to 466, 477 to 480, 482, 483, 494 to 496, 498, 501, 504, 525, 526, 531 to 533, 565, 592, 598, 611, to 613, 623, 625 to 627, 630 to 657, 660 to 703, 708, 709, 717, 732, 733, 734, 791, 793 to 799, 806, 818 to 821, 869, 871, 872, 875 to 879, 881, 882, 885 to 890, 894, 895, 897, 905, 908, 911, 912, 914, 919, 920, 923, 926, 928, 930, 932, 936 to 949, 956, 958, 960, 961, 963, 964, 965, 967, 969, 970, 972, 974, 979, 983 984, 985, 988, 991, 996, 999-236 bonds, \$1,000 each.....	286,000 00	
Total special bonds payable from taxes on lands benefited		\$1,865,000 00

COUPON ACCOUNTS FOR FISCAL YEAR ENDING JUNE 30, 1901.

PARK IMPROVEMENT BONDS 1872-73 AND 1874-75.

	AMOUNT.	TOTAL.
Coupons due and unpaid June 30, 1900.....	\$2,610 00	
Coupons due on bonds 1874-75, year ending June 30, 1901, 6% on \$250,000 00..	15,000 00	
	\$17,610 00	
Coupons paid fiscal year ending June 30, 1901.....	14,730 00	
Coupons due and unpaid June 30, 1901.....		\$2,880 00
1872-73 Coupon 21 of Bonds 21, 45, 71 and Coupon 34 of Bond 167—4 Coupons \$30 00 each.....	\$120 00	
1874-75 Coupons 36 to 54 of Bonds 25, 26, 27, 46; No. 41 of Bonds 28, 34 to 42; No. 54 of Bonds 60 to 64, 89—92 coupons \$30 00 each.....	2,760 00	
	\$2,880 00	

**COUPONS OF SPECIAL BONDS MADE PAYABLE BY STATUTE FROM
TAXES ON LANDS BENEFITED.**

	AMOUNT.	TOTAL.
MONTGOMERY AVENUE.		
62,570 coupons outstanding June 30, 1900—\$30 00 each.....	\$1,877,100 00	
3,158 coupons due, year ending June 30, 1901—\$30 00 each.....	94,740 00	
65,728 coupons outstanding June 30, 1901—\$30 00 each.....	\$1,971,840 00	
6 coupons paid in a previous year and missing—\$30 00 each.....	180 00	
66,722 coupons due and unpaid June 30, 1901—\$30 00 each.....		\$1,971,660 00
DUPONT STREET WIDENING.		
5,559 coupons outstanding June 30, 1901—\$35 00 each.....	\$194,565 00	
14 coupons paid in a previous year and missing—\$35 00 each.....	490 00	
5,545 coupons due and unpaid June 30, 1901 (same due June 30, 1900).....		194,075 00
Total coupons of special bonds due and unpa'd.....		\$2,165,735 00

AUDITOR'S REPORT.

RECAPITULATION OF COUPON ACCOUNTS, FISCAL YEAR ENDING JUNE 30, 1901.

Year of Bond Issue.	Bonds Issued for	Coupons Due and Unpaid June 30, 1900.	Coupons Due Fiscal Year 1900-1901.	Total.	Coupons Paid Fiscal Year 1900-1901.	Coupons Paid and Missing.	Coupons Due and Unpaid June 30, 1900.
1873-1875	Park improvement	\$2,610 00	\$15,000 00	\$17,610 00	\$14,730 00		\$2,880 00
Year of Bond Issue.	Special Bonds. (Payable from taxes on lands benefited.)	Coupons Due and Unpaid June 30, 1900.	Coupons Due Fiscal Year 1900-1901.	Total.	Coupons Paid 1900-1901.	Coupons Paid and Missing.	Coupons Due and Unpaid June 30, 1900.
1873	Montgomery avenue opening	\$1,877,100 00	\$94,740 00	\$1,971,840 00		\$180 00	\$1,971,660 00
1877	Dupont street widening	194,565 00		194,565 00		490 00	194,075 00
		\$2,071,665 00	\$94,740 00	\$2,166,405 00		\$670 00	\$2,165,735 00

San Francisco, April 19, 1901.

To the Honorable Board of Supervisors
Of the City and County of San Francisco—

Gentlemen: In pursuance of Article 3, Chapter 1, Section 2, of the Charter, I have the honor of submitting to you my estimate of the probable expenditures of the City and County government for the next ensuing fiscal year, showing in detail the amount required for each of the departments in the municipal government; also the amount required to meet the Interest and Sinking Funds, together with the estimate of the income and revenue to be derived from licenses and other sources exclusive of taxes on property. I have also apportioned the amount necessary to meet the several funds in the treasury.

The estimates submitted to me from the several departments in nearly all instances were somewhat extravagant, and it was necessary that I should do considerable pruning in order to meet with the Charter provisions regarding the limit of taxation, and in no instance have I crippled the workings of any department nor have I allowed more than that which is strictly necessary to meet the requirements of all branches of the municipal government if economically and carefully conducted. Not only have I considered the wants of the different departments, but I have also taken into consideration the public welfare, realizing that public improvements are imperative. I have carefully made provision (as much as the amount will permit) for permanent improvements, viz: the repairing and repaving of streets, the erection of municipal buildings and the construction of sewers, etc., all of which you will note is strictly within the one dollar limit.

I have also estimated that there will be a sum of not less than \$480,000 in the Surplus Fund at the end of this fiscal year, which I consider revenue from other sources. Of this amount I recommend the payment of the unpaid claims of salaries, work done and material furnished during the forty-first, forty-second, forty-third and forty-fourth fiscal years and the unpaid salaries of teachers for the fiftieth fiscal year, as per Constitutional amendment, also about \$100,000 for refunding the taxes paid under protest, as per records of the Tax Collector's office, amounting in all to not more than \$425,000, leaving a balance approximating \$55,000. (For recommendation concerning same see end of budget.)

In addition to the above, I desire to call your attention to the fact that I have made specific appropriations for salaries, maintenance and material for the different departments, and if this plan would be adhered to, instead of making the appropriations in lump sums, the usual extravagance may be guarded against. It would be also of great benefit to this department relating to the One-Twelfth Act.

Respectfully submitted,

ASA R. WELLS, Auditor.

AUDITOR'S ESTIMATE OF THE PROBABLE EXPENDITURES
OF THE CITY AND COUNTY GOVERNMENT FOR THE FISCAL YEAR 1901-02.

PURPOSE.	AMOUNT	TOTAL.
LEGISLATIVE DEPARTMENT.		
Supervisors (18).....	\$21,600 00	
Clerk of Supervisors.....	3,600 00	
Assistants.....	13,500 00	
Sergeant-at-Arms.....	1,200 00	
Expert of Finance Committee.....	2,100 00	42 000 00
Clerks of Board of Equalization.....	\$800 00	600 00
Advertising for city and county officers.....	22,000 00	22,000 00
Burial of indigent dead.....	4,500 00	4 500 00
Interment of ex-Union soldiers and sailors.....	2,000 00	2,000 00
Municipal Reports.....	5,000 00	5,000 00
Poundkeeper's expenses.....	10,200 00	10,200 00
Prisoners' subsistence.....	42,000 00	42,000 00
Stationery and printing for City and County offices (excepting Assessor's).....	25,000 00	25,000 00
Public buildings, furniture for.....	5,000 00	5,000 00
Fourth of July and Memorial Day.....	3,000 00	3,000 00
Telephone service.....	10,000 00	10,000 00
Urgent necessity.....	30,000 00	30,000 00
Water for municipal purposes.....	100,000 00	100,000 00
Maintenance of minors at Magdalen Asylum.....	7,500 00	7,500 00
Maintenance of minors at State schools.....	7,500 00	7,500 00
Maintenance of minors at non-sectarian schools.....	4,000 00	4,000 00
Maintenance of feeble-minded children.....	20,000 00	20,000 00
Carried forward.....		\$340,300 00

AUDITOR'S ESTIMATE—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Brought forward.....		\$340,300 00
Examination of insane people.....	5,000 00	5,000 00
Lighting streets and public buildings.....	255,000 00	255,000 00
Fees of jurors in criminal cases.....	18,000 00	18,000 00
Deficit to be provided for in Police Pension Fund.....	8,500 00	8,500 00
EXECUTIVE DEPARTMENT.		
MAYOR'S OFFICE—		
Mayor's salary.....	6,000 00	
Secretary's salary.....	2,400 00	
Stenographer's salary.....	900 00	
Usher's salary.....	900 00	
Mayor, Contingent expenses.....	3,600 00	
		138,800 00
AUDITOR'S DEPARTMENT—		
Auditor's salary.....	\$4,000 00	
Attorney.....	1,800 00	
Deputy and clerks.....	7,800 00	
Extra clerks.....	4,800 00	
Assessment roll.....	9,700 00	\$28,100 00
License blanks, tags, etc.....	82,000 00	2,000 00
ASSESSOR'S OFFICE—		
Assessor's salary.....	4,000 00	
Chief deputy and cashier.....	4,200 00	
Assistant deputies (6).....	10,800 00	
Clerks (21).....	25,200 00	
Clerks, extra (not to exceed 100 for four months during the year).....	40,000 00	\$84,200 00
Books and stationery.....	\$3,500 00	3,500 00
Carried forward.....		\$758,400 00

AUDITOR'S REPORT.

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AUDITOR'S ESTIMATE—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Brought forward.....		\$758,400 00
CORONER'S DEPARTMENT—		
Coroner's salary.....	4,000 00	
Deputies, physician, stenographer and messenger.....	12,600 00	
Matron.....	720 00	
Horse-keeping, \$600; incidentals, \$900; recovery of bodies from the Bay, \$600.....	2,100 00	
RECORDER'S OFFICE—		
Recorder.....	\$3,600 00	18,820 00
Deputies.....	4,800 00	
Folio clerks.....	21,000 00	
Mortgage and index clerks.....	3,600 00	
Messenger.....	900 00	
TAX COLLECTOR'S DEPARTMENT—		
Tax Collector.....	\$4,000 00	33,900 00
Chief deputy and cashier.....	4,800 00	
Deputies (15).....	22,500 00	
Extra clerks.....	36,000 00	
Publication delinquent tax list.....	3,500 00	
TREASURER'S OFFICE—		
Treasurer.....	\$4,000 00	70,800 00
Deputies and clerks.....	7,200 00	
Extra clerks.....	3,500 00	
LEGAL DEPARTMENT.		
SUPERIOR COURTS—		
Judges of Superior Court and Secretary.....	\$25,800 00	
Carried forward.....	\$25,800 00	\$896,620 00

AUDITOR'S ESTIMATE—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Brought forward.....	\$25,800 00	\$896,620 00
SUPERIOR COURTS—Continued.		
Witness expenses, court orders.....	1,500 00	
Stenographers.....	18,000 00	
Interpreters.....	6,000 00	
		51,300 00
CITY ATTORNEY'S DEPARTMENT—		
City Attorney's salary.....	\$5,000 00	
Assistants.....	10,800 00	
Chief clerk and assistant.....	2,700 00	
Stenographer and messenger.....	1,800 00	
		20,300 00
DISTRICT ATTORNEY—		
District Attorney's salary.....	\$5,000 00	
Prosecuting Attorney's salaries (3), Superior Court.....	10,800 00	
Prosecuting Attorney's salaries (4), Police Court.....	9,600 00	
Warrant and bond clerks.....	6,900 00	
Chief clerk and assistant.....	3,000 00	
Stenographer.....	900 00	
		36,200 00
COUNTY CLERK—		
County Clerk's salary.....	\$4,000 00	
Chief Register Clerk and Cashier.....	4,200 00	
Court-room clerks (12).....	18,000 00	
Police Court Clerks (4).....	6,000 00	
Register Clerks (5).....	9,000 00	
Assistant Register Clerks (10) ..	15,000 00	
Copyist (16).....	19,200 00	
Messenger.....	1,200 00	76,600 00
Printing transcripts on appeal.....	\$2,000 00	2,000 00
Jury expenses, Grand.....	2,000 00	2,000 00
Carried forward.....		\$1,085,020 00

AUDITOR'S ESTIMATE—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Brought forward.		\$1,085,020 00
JUSTICES' COURT—		
Presiding Justice's salary.....	2,700 00	
Associate Justices' salary.....	9,600 00	
Chief Clerk and Deputies.....	8,400 00	20,700 00
LAW AND MOTION CALENDAR.....	\$2,400 00	2,400 00
LAW LIBRARY—		
Librarian's salary.....	\$2,400 00	
Messenger.....	840 00	3,240 00
POLICE JUDGES (4).....	\$14,400 00	
Police Judge's stenographers.....	7,200 00	21,600 00
SHERIFF'S DEPARTMENT—		
Sheriff's salary.....	\$8,000 00	
Under Sheriff.....	2,400 00	
Attorney.....	1,800 00	
Chief bookkeeper, assistants, deputies, bailiffs, guards, etc.....	69,400 00	
Driver of van and matron.....	1,800 00	
Additional guards (4).....	2,400 00	84,800 00
Expenses—Horse and buggy hire, horse-keeping prison van, horse-shoeing and repairs.....	1,200 00	1,200 00
Maintenance—Forage, hardware, horse-shoeing, etc..... (See Public Buildings for repairs.)	4,500 00	4,500 00
BOARD OF PUBLIC WORKS.		
GENERAL DEPARTMENT—		
Commissioners (3).....	\$12,000 00	
Secretary.....	1,800 00	
Carried forward.....	\$13,800 00	\$1,223,460 00

AUDITOR'S ESTIMATE—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Brought forward.....	\$13,800 00	\$1,223,460 00
BOARD OF PUBLIC WORKS, GENERAL DEP'T—Continued.		
Assistant Secretary.....	1,200 00	
Bookkeepers (2).....	3,000 00	
Cashier (experienced clerk).....	1,500 00	
Clerks (2).....	2,280 00	
Messenger.....	760 00	
Stenographer and clerk.....	1,200 00	
BUREAU OF BUILDINGS AND ARCHITECTURE, MAINTENANCE AND		23,760 00
REPAIRS—		
Superintendent.....	\$2,400 00	
Architect.....	1,200 00	
Inspectors (3).....	4,500 00	
Stenographer.....	900 00	
Gas inspector.....	1,800 00	
Janitorial work and supplies.....	25,532 00	
Engineers (2).....	2,400 00	
Firemen (2).....	1,464 00	
Heater-man.....	720 00	
Elevator conductors (5).....	3,258 00	
Watchman.....	900 00	
Fuel and power.....	10,000 00	
Repairs to City Hall and Hall of Justice (including		
labor, etc).....	17,480 00	
Repairs to Fire Department buildings.....	19,450 00	
Repairs to Police Department stations.....	1,000 00	
Repairs to Jail No. 1.....	1,200 00	
Carried forward.....	\$94,204 00	\$1,247,220 00

AUDITOR'S ESTIMATE—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Brought forward.....	\$94,204 00	\$1,247,220 00
BUREAU OF BUILDINGS, ETC.—Continued.		
Repairs to Jail No. 2.....	4,500 00	
Repairs to Jail No. 3.....	1,300 00	
Repairs to Almshouse.....	6,000 00	
Repairs to City and County Hospital.....	7,500 00	
Repairs to Pest-house.....	750 00	114,254 00
Horse and buggy for Commissioners.....	360 00	
Horse and buggy for Superintendent of Buildings.....	360 00	720 00
BUREAU OF STREETS—		
Salaries of office and field assistants.....	\$22,500 00	22,500 00
CLEANING AND REPAIRING SEWERS—		
Bricklayers (5).....	\$7,500 00	
Hodcarriers (5).....	4,500 00	
Laborers (20).....	15,000 00	
Underground men (12).....	12,000 00	
Windlass men (6).....	4,500 00	
Flushers (2).....	2,400 00	
Single teams (6).....	6,300 00	
Double teams (4).....	5,400 00	
Cesspool cleaners (12) for six months.....	4,500 00	
Foreman.....	1,200 00	
Material—Brick, cement, etc.....	6,000 00	69,300 00
REPAIRS TO ACCEPTED STREETS, BASALT AND COBBLES—		
Pavers (12).....	\$14,400 00	
Rammers (12).....	10,800 00	
Carried forward.....	\$35,200 00	\$1,453,994 00

AUDITOR'S ESTIMATE—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Brought forward.....	\$35,200 00	\$1,453,904 00
REPAIRS TO STREETS—Continued.		
Laborers (12).....	9,000 00	
Double teams (5).....	6,750 00	
Single teams (4).....	4,200 00	
Foremen (2).....	2,400 00	
Material—Basalt blocks, gravel, etc.....	8,000 00	
CORPORATION YARD EXPENSES—		55,550 00
Keeper and assistant.....	\$1,860 00	
Single teams (2).....	2,100 00	
Double teams (1).....	1,350 00	
Time-keeper.....	1,200 00	
Carpenters (2).....	2,100 00	
Rentals.....	1,380 00	
Material—Lumber, pipe, castings, etc.....	8,000 00	
MAINTENANCE OF BRIDGES—		17,990 00
Engineers (2).....	\$2,400 00	
Keepers (3).....	2,160 00	
Repairs—Fuel, oil, etc.....	2,000 00	6,560 00
Horse and buggy.....	\$360 00	360 00
IMPROVEMENTS OF COUNTY ROADS—	\$10,000 00	10,000 00
Street sweeping (contract).....	\$186,000 00	186 000 00
Street sprinkling (contract), seven months.....	8,400 00	8,400 00
Sprinkling Van Ness avenue.....	1,300 00	1,300 00
Inspector.....	1,200 00	1,200 00
Repairs to bituminous pavements.....	20,000 00	20,000 00
Repairs to streets in front of City property.....	10,000 00	10,000 00
Repairs to Water Front.....	5,000 00	5,000 00
Carried forward.....		\$1,776,354 00

AUDITOR'S ESTIMATE—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Brought forward.....		\$1,776,354 00
ENGINEER'S DEPARTMENT—		
Engineer's salary.....	\$5,000 00	
Chief Assistant.....	2,400 00	
Parties (3), \$15 per day each (stakes and carfare not included), 290 days.....	13,050 00	
Assistants (2) on miscellaneous work.....	3,600 00	
Assistant (1) on grade, \$5 per day.....	1,500 00	
Assistant (1), third class.....	1,200 00	
Draughtsman and clerk.....	1,500 00	
Draughtsmen on field (2).....	2,400 00	
Draughtsmen on section.....	1,200 00	
Custodian of records.....	1,200 00	
Stenographer.....	900 00	
SURVEYS AND RE-SURVEYS FOR ESTABLISHED GRADES—		
Parties (2), same reference as above.....	8,700 00	
Assistant in office.....	1,800 00	
Draughtsman.....	1,800 00	
Assistant engineer on grades.....	1,200 00	
Helpers (2), at \$70 per month.....	1,670 00	
Monuments.....	800 00	
ESTABLISHMENT OF BENCH MARKS—PRECISE LEVELS—		
Assistant Engineer.....	1,800 00	
Helpers (2).....	1,680 00	
Instruments and appliances.....	5,000 00	
Stakes, etc.....	1,900 00	
Construction—Assistant Engineer, \$1,500; Chemist, \$1,200; Tester, \$1,200.....	3,900 00	\$64,200 00
Carried forward.....		\$1,840,554 00

AUDITOR'S ESTIMATE—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Brought forward.....		\$1,840,554 09
POLICE DEPARTMENT.		
Police Commissioners.....	\$4,800 00	
Secretary to Commissioners.....	1,500 00	
Police Surgeon.....	1,500 00	
Chief of Police.....	4,000 00	
Clerk to Chief.....	2,400 00	
Property Clerk.....	2,400 00	
Captain of Detectives.....	3,000 00	
Captains of Police (4).....	9,600 00	
Lieutenants (5).....	8,400 00	
Sergeants (43).....	64,500 00	
Detectives, Sergeants (15).....	27,000 00	
Corporals (12).....	16,848 00	
Police officers (520).....	636,480 00	
Police matrons (2).....	1,440 00	
Photographer.....	1,200 00	785,068 00
POLICE CONTINGENT EXPENSES.....	\$8,000 00	8,000 00
RENTS OF POLICE STATIONS AND STABLES.....	\$6,480 00	6,480 00
POLICE PATROL—		
Forage.....	\$3,500 00	
Horse keeping and hire.....	9,640 00	
Purchase of horses.....	500 00	
Clipping of horses.....	170 00	
Shoeing of horses.....	2,040 00	
Horses on pasture.....	100 00	
Carried forward.....	\$15,950 00	\$2,640,102 00

AUDITOR'S ESTIMATE—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Brought forward.....	\$15,950 00	\$2,640,102 00
POLICE CONTINGENT EXPENSES—Continued.		
Drugs, etc.....	100 00	
Repairs to harness and vehicles.....	1,200 00	
Washing towels.....	480 00	
		17,730 00
DEPARTMENT OF PUBLIC HEALTH.		
Health Officer.....	\$3,000 00	
Secretary and Assistant.....	3,300 00	
Clerks (3).....	3,600 00	
Clerk (1).....	1,500 00	
Chief Sanitary Inspector.....	1,800 00	
Assistants (5).....	6,000 00	
Market Inspectors (4).....	3,600 00	
Chief Food Inspector.....	1,800 00	
Assistant Food Inspectors (8).....	7,200 00	
Dairy Inspectors (2).....	1,800 00	
Bakery, Bath and Laundry Inspector.....	900 00	
Chief Plumbing Inspector.....	1,800 00	
Assistant Plumbing Inspectors (3).....	3,600 00	
Disinfectant Inspector.....	900 00	
Bacteriologist.....	1,800 00	
Toxicologist.....	1,200 00	
Chemist and assistants.....	3,900 00	
Disinfectors (2).....	2,400 00	
Statistician.....	1,800 00	
Vaccinator.....	1,200 00	
Carried forward.....	\$53,100 00	\$2,657,832 00

AUDITOR'S ESTIMATE—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Brought forward.....	\$53,100 00	\$2,657,832 00
MAIN OFFICE—Continued.		
Messenger	900 00	
City Physician and Assistant.....	3,000 00	
Maintenance—Drugs, etc.....	6,000 00	
LEPER HOSPITAL (Twenty-sixth street)—		63,000 00
Salaries.....	\$3,660 00	
Maintenance	3,500 00	
SMALLPOX HOSPITAL (Salaries during quarantine)—		7,160 00
Resident Physician and nurses (2).....	\$4,200 00	
Cook	720 00	
Laundrywoman.....	600 00	
Maintenance.....	3,500 00	
EMERGENCY AND INSANE HOSPITAL—		9,020 00
Salaries.....	\$24,300 00	
Maintenance.....	7,200 00	
ALMSHOUSE—		31,500 00
Salaries.....	\$24,660 00	
Subsistence	37,450 00	
Maintenances.....	17,890 00	
CITY AND COUNTY HOSPITAL—		80,000 00
Salaries.....	\$33,500 00	
Subsistence	39,000 00	
Maintenance	17,500 00	
		90,000 00
DEPARTMENT OF ELECTRICITY.		
Chief of Department's salary.....	\$2,400 00	
Operators (6).....	7,200 00	
Carried forward.....	\$9,600 00	\$2,938,512 00

AUDITOR'S ESTIMATE—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Brought forward.....	\$9,600 00	\$2,938,512 00
Inspectors (2).....	2,400 00	
Instrument makers (6).....	6,480 00	
Machinist.....	1,080 00	
Painter.....	1,080 00	
Repairers (4).....	4,320 00	
Linemen (10).....	10,800 00	
Battery man.....	1,080 00	
Hostler.....	720 00	
Paver and bricklayer.....	2,160 00	
Laborers (15), \$65 per month.....	11,700 00	
CONSTRUCTION AND REPAIRS—		51,420 00
Horse keeping, shoeing and clipping.....	\$1,432 00	
Cobbles and conduit (District No. 2).....	\$12,000 00	
Wire for re-construction.....	3,500 00	
Police boxes.....	3,125 00	
Poles and cross-arms.....	1,500 00	
Electrical material.....	5,020 00	
Cement and brick.....	3,000 00	
Chemicals, etc.....	400 00	
Time.....	300 00	
Wagon repairs.....	300 00	
Equipping Central Fire Alarm Station (City Hall).....	10,000 00	
		40,568 00
FIRE DEPARTMENT.		
Fire Commissioners.....	\$4,800 00	
Secretary.....	2,400 00	
Carried forward.....	\$7,200 00	\$3,030,500 00

DEMANDS AUDITED.

AUDITOR'S ESTIMATE—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Brought forward.....	\$7,200 00	\$3,030,500 00
Chief Engineer and Assistants.....	9,400 00	
Battalion Chiefs.....	14,700 00	
Superintendent of Engines.....	1,800 00	
Hydrantmen (4).....	4,320 00	
Clerk and Commissary.....	1,500 00	
Superintendent of Horses.....	1,200 00	
Hostlers (6).....	4,320 00	
Watchmen (2).....	1,800 00	
Veterinary Surgeon.....	1,200 00	
Employees of engine companies (37).....	375,510 00	
Employees of truck companies (9).....	106,920 00	
Employees of chemical companies (8).....	38,400 00	
Water tower.....	3,600 00	
Monitor batteries (2).....	2,160 00	
Relief companies (2).....	7,440 00	
Corporation Yard employees.....	32,980 00	
Yearly increase in salaries (308 men).....	15,400 00	
Fourth of July detail.....	500 00	
MAINTENANCE AND SUPPLIES—		637,350 00
Forage.....	\$33,000 00	
Substitutes for injured firemen.....	7,000 00	
Fuel.....	10,000 00	
Hose.....	10,000 00	
Horses.....	5,000 00	
Apparatus.....	5,000 00	
Carried forward.....	\$70,000 00	\$3,667,850 00

AUDITOR'S ESTIMATE—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Brought forward.....	\$70,000 00	\$3,667,850 00
MAINTENANCE AND SUPPLIES—Continued.		
Horse-shoeing.....	7,500 00	
Hydrants.....	20,000 00	
Material.....	17,500 00	
Supplies.....	7,500 00	
Rents.....	720 00	
Sundries.....	3,430 00	119,650 00
Firemen's Relief and Pension Fund.....	20,000 00	20,000 00
DEPARTMENT OF ELECTIONS.		
Commissioners' and Registrar's salaries.....	\$7,400 00	
Expenses of Elections.....	77,600 00	85,000 00
DEPARTMENT OF CIVIL SERVICE.		
Salaries of Commissioners, etc.....	\$8,100 00	8,100 00
DEPARTMENT OF PUBLIC SCHOOLS.		
Salaries and maintenance.....	\$1,130,000 00	
Permanent improvements.....	40,000 00	
Repairs to buildings.....	25,000 00	
Census Marshals.....	5,000 00	1,200,000 00
FREE PUBLIC LIBRARY.		
Maintenance, etc.....	\$62,000 00	62,000 00
PARK FUND.		
For maintaining and improving public parks, etc., 7 cents on each \$100 assessed valuation—		285,000 00
Carried forward.....		\$5,447,600 00

AUDITOR'S ESTIMATE—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Brought forward.....		\$5,447,600 00
Estimated revenue: From taxes.....	\$280,000 00	
From other sources.....	5,000 00	
INTEREST ACCOUNT.		
Park Improvement Bonds 1874-1875—		
Coupons required for fiscal year 1901-02.....		15,000 00
Estimated revenue: From taxes.....	15,000 00	
SINKING FUND.		
Park Improvement Bonds 1874-1875—Bonds due July 1, 1904, 3 sinking funds required—		
Bonds outstanding.....	250,000 00	
Cash on hand (estimated).....	220,000 00	
Balance.....	\$30,000 00	
One-third at par.....		10,000 00
Revenue from taxes.....	10,000 00	
RECOMMENDATION FOR PUBLIC IMPROVEMENTS.		
For repaving accepted streets, as per estimate of the City Engineer, in addition to \$118,540, the amount set aside in the budget for Bureau of Streets, or total of \$218,540 for repaving, repairing and improvement of accepted streets.	\$100,000 00	100,000 00
For reconstruction of sewers, as per estimate of the City Engineer, in addition to the amount of \$69,300, as pro- vided for in the estimate of Bureau of Streets, or a total \$169,300 for the construction and repairing of sewers....	100,000 00	100,000 00
FOR MUNICIPAL BUILDINGS.		
Schools, in addition to the \$40,000 set aside for permanent in improvements the estimate of School Department, or a total of \$85,000.....	45,000 00	45,000 00
Fire Department buildings.....	35,000 00	35,000 00
Carried forward.....		\$5,752,600 00

AUDITOR'S ESTIMATE—CONTINUED.

PURPOSE.	AMOUNT.	TOTAL.
Brought forward.....	.....	\$5,752,600 00
Central Fire Alarm Station.....	7,500 00	
Additions to hospitals, jails, Almshouse and City Hall.....	20,000 00	27,500 00
Total estimated expenditures.....		\$5,780,100 00
ESTIMATED REVENUE.		
From fees of City and County officers.....	\$150,000 00	
From fines imposed in Police Courts.....	30,000 00	
From fines imposed in Superior Courts.....	1,500 00	
From licenses, municipal.....	470,000 00	
From rents, City property.....	2,750 00	
From subsistence (Sheriff) United States prisoners.....	7,500 00	
From building permits, Board of Public Works.....	15,000 00	
From building permits, Department of Electricity.....	10,000 00	
From Assessor's commission (6 per cent) on personal property collections.....	10,000 00	
From percentage on franchises.....	12,500 00	
From other sources.....	6,850 00	
From State apportionment of school moneys.....	675,000 00	
From rent of Lincoln School lots, etc.....	56,000 00	
From collateral inheritance.....	20,000 00	
From sale of old material.....	1,000 00	
From library fines.....	2,000 00	
Total estimated revenue.....		\$1,470,100 00

AUDITOR'S RECAPITULATION

OF ESTIMATE OF TAXES, ETC., REQUIRED FOR THE FISCAL YEAR 1901-1902.

FUNDS AND ACCOUNTS.	Total Expendi- tures.....	Revenue Other than Taxes..	Revenue from Taxes.....	Tax Levy.....
General, Police Relief and Pension, Unapportioned				
Fee Fund, etc.....	\$3,880,600 00	\$716,100 00	\$3,164,500 00	\$0.7911
School Fund.....	1,200,000 00	752,000 00	448,000 00	.1120
Library Fund.....	62,000 00	2,000 00	60,000 00	.0150
Firemen's Relief and Pension Fund.....	20,000 00	.....	20,000 00	.0050
Current expenses.....	\$5,162,600 00	\$1,470,100 00	\$3,692,500 00	\$0.9231
For New Improvements.....	307,500 00	.....	307,500 00	.0769
Total current expenses, including new im- provements.....	\$5,470,100 00	\$1,470,100 00	\$4,000,000 00	\$1.00
Park Fund.....	285,000 00	5,000 00	280,000 00	.07
Interest Account, Park Improvement Bonds 1874-75.	15,000 00	.....	15,000 00	.00375
Sinking Fund, Park Improvement Bonds 1874-75.....	10,000 00	.....	10,000 00	.0025
	\$5,780,100 00	\$1,475,100 00	\$4,305,000 00	\$1.0762

Auditor's estimate based on an assessed valuation of.....\$400,000,000 00

Rate of taxation for current expenses.....\$0.9231 on each \$100.00 valuation

Rate of taxation for new improvements......0769

\$1.00

SUPERVISORS' LEVY—CITY AND COUNTY RATE.

PURPOSE.	AMOUNT.	TOTAL.
General Fund.....	\$.8493	
Fireman's Relief Fund.....	.0044	
School Fund.....	.1316	
Library Fund.....	.0150	
Park Fund.....	.0709	
Interest account Park Improvement Bonds, 1874-1875..	.0037	
Sinking Fund Park Improvement Bonds, 1874-1875..	.0025	
Total		\$1.0762

STATE LEVY.

PURPOSE.	AMOUNT.	TOTAL.
For the General Fund.....	23.3 cents	
For the School Fund.....	21.5 cents	
For the Interest and Sinking Fund.....	1.2 cents	
For the support of the University of California.....	2.0 cents	
Total		48.0 cents

ADDENDA.

	AMOUNT.	TOTAL.
For the payment of unpaid claims, salaries, work done and materials furnished during the forty-first, forty-second, forty-third and forty-fourth fiscal years, as per Constitutional amendment—		
Teachers' salaries, etc, for fiftieth fiscal year.....	\$127,487 56	
Unpaid claims for forty-first to forty-fourth fiscal years	192,107 11	
Doubtful claims for forty-first to forty-fourth fiscal years	5,405 33	\$325,000 00
To provide for the refunding of protested taxes (in event of judgment being secured by applicants).....		100,000 00
For the improvement of public parks and squares.....		55,000 00
Total.....		\$480,000 00

REVENUE

	AMOUNT.	TOTAL
Estimated amount in Surplus Fund at end of fiscal year 1900-01—Amount available on account of the under-estimating of valuation of Assessment Roll for fiscal year 1900-01.....	\$260,000 00	
Amount available by reason of the decision of the Supreme Court invalidating the bond issue provided for in the budget of fiscal year 1900-01.....	220,000 00	
Total.....		\$480,000 00

SUPERVISORS' ESTIMATE OF PROBABLE EXPENDITURES

FOR FISCAL YEAR ENDING JUNE 30, 1902.

MUNICIPAL PURPOSES.	AMOUNT	TOTAL
SUPERVISORS.		
Salaries Supervisors, Clerks, Expert and Sergeant-at-Arms.....	\$42,000	
Salary clerk for compiling ordinances, 6 months.....	600	
		\$42,600
Clerks Board of Equalization.....		600
Advertising for City and County officers.....		24,000
Burial of the indigent dead.....		4,000
Interment of deceased ex-Union soldiers and sailors.....		2,500
Municipal Reports.....		5,000
Maintenance of the Public Pound.....		8,000
Subsistence of prisoners—		
Sheriff's Department.....	\$38,000	
Police Department.....	5,500	
Stationery and printing, including postage stamps and postal cards, and printing the opinions of the City Attorney, the ordinances of the Board of Supervisors and the monthly bulletin of the Health Department.....		43,500
Stationery and printing for the Assessor's Office.....		4,000
Rebinding books.....		2,500
Purchase of a library for the Hall of Justice.....		2,000
Purchase of type-writing machines for the Recorder and the Assessor, and an adding machine for the Assessor. Any excess above pur- chases to be used by the Board of Public Works for street and sewer work.....		3,275
Furniture for public buildings.....		7,000

SUPERVISORS' ESTIMATE—CONTINUED.

MUNICIPAL PURPOSES.	AMOUNT	TOTAL.
SUPERVISORS—CONTINUED.		
Purchase of a safe for the District Attorney and a safe and a map case for the Assessor Any excess above purchases to be used by the Board of Public Works for street and sewer work.....		\$2,480
Fourth of July celebration.....		2,500
Observance of Memorial Day.....		500
Telephone service		7,400
Urgent necessities.....		36,000
Water for municipal purposes		95,000
Maintenance of minors in Magdalen Asylum.....		7,000
Maintenance of minors in State schools.....		8,000
Maintenance of minors in non-sectarian institutions.....		6,000
Maintenance of feeble-minded children.....		20,000
Examination of insane persons.....		5,000
Lighting streets and public buildings.....		257,000
THE MAYOR.		
Office salaries.....	\$10,200	
Contingent expenses.....	3,600	
		13,800
AUDITOR.		
Salaries Auditor, deputies and counsel fees.....		13,600
Salaries Auditor's 4 extra clerks, at \$1,200.....		4,800
Computing and extending, etc., the Assessment Roll.....		9,700
License tags, blanks and numbers.....		2,000
ASSESSOR.		
Salaries Assessor, Deputy, Cashier and Clerks.....		44,200
ASSESSOR.		
Salaries extra clerks.....		40,000
Expenses Assessor's field deputies.....		1,000

SUPERVISORS' ESTIMATE—CONTINUED.

MUNICIPAL PURPOSES.	AMOUNT.	TOTAL.
CORONER.		
Salaries Coroner, Deputies, Autopsy Physician, Stenographer and Messenger.....		\$16,000
CORONER.		
Salary Matron at the Morgue.....	\$720	
Salary additional messenger.....	900	
		1,620
CORONER'S EXPENSES.		
Incidentals.....	\$900	
Keep of horses.....	90	
Shoeing horses.....	90	
Recovery of bodies.....	60	
Photographing bodies.....	100	2,590
Purchase three horses.....	\$400	
Purchase buggy.....	100	
		500
RECORDER.		
Salaries Recorders and Deputies.....		8,400
RECORDER.		
Salaries Mortgage Clerks.....	\$1,200	
Salaries 2 Index Clerks, at \$1,200.....	2,400	
Salaries Messenger.....	900	
		4,500
RECORDER.		
Salaries of copyists.....		23,000
TAX COLLECTOR.		
Salaries Tax Collector, Deputies and Cashier.....		31,300
Salaries Tax Collector's extra clerks.....		36,000
Publishing Delinquent Tax List.....		3,000

SUPERVISORS' ESTIMATE—CONTINUED.

MUNICIPAL PURPOSES.	AMOUNT.	TOTAL.
TREASURER.		
Salaries Treasurer, Deputies and Clerk.....		\$11,200
Salaries Treasurer's extra clerks—		
One clerk at \$1,800.....	\$1,800	
One clerk at \$1,500.....	1,500	
Allowance for Rebate Clerk.....	200	
		3,500
JUDGES SUPERIOR COURT.		
Salaries Judges (12).....	\$24,000	
Salary Secretary.....	1,800	25,800
Witnesses' expenses.....		1,500
Stenographers for Superior Court.....		18,000
Court interpreters, salaries.....		6,000
CITY ATTORNEY.		
Salaries City Attorney, Assistants, Clerks, Stenographer and Messenger.....		20,300
DISTRICT ATTORNEY.		
Salaries District Attorney, Assistants, Clerks, Stenographer, Bond and Warrant Clerks.....		36,200
Bookkeeper, salary.....		1,080
COUNTY CLERK.		
Salaries County Clerk, Clerks, Copyists and Cashier.....		75,400
Salary Messenger for County Clerk.....		1,200
Printing transcripts on appeal in criminal cases.....		2,500
Jury expenses in criminal cases.....		500
Fees trial jurors in criminal cases, for actual service only.....		16,000
Grand Jury expenses.....		1,500

SUPERVISORS' ESTIMATE—CONTINUED.

MUNICIPAL PURPOSES.	AMOUNT.	TOTAL.
JUSTICES' COURT.		
Salaries Justices, Clerk and Deputies		\$20,700
LAW AND MOTION CALENDAR		2,400
LAW LIBRARY.		
Salaries Librarian and Messenger.....		3,240
SHERIFF.		
Salaries Sheriff's Department		82,400
SHERIFF.		
Salaries 4 additional guards for road work and farm		2,400
Maintenance of jails.....		5,000
SHERIFF'S EXPENSES.		
Horse and buggy hire.....	\$360	
Horse-keeping, prison van.....	600	
Shoeing and repairs.....	240	
		1,200
POLICE JUDGES' COURT.		
Salaries 4 Judges and 2 Stenographers.....		19,200
POLICE JUDGES' COURT.		
Salary 2 additional stenographers.....		4,800
BOARD OF PUBLIC WORKS.		
General maintenance.....		504,850
General maintenance, additional.....		2,400
Maintenance Bureau of Light and Water.....		3,000
Maintenance Architect's Department, Architect to devote his entire time to this department.....		11,170

SUPERVISORS' ESTIMATE—CONTINUED.

MUNICIPAL PURPOSES.	AMOUNT.	TOTAL.
BOARD OF PUBLIC WORKS—CONTINUED.		
Repaving accepted streets in the district bounded by Kearny street		
Market street and the Bay, and on Stockton street from Union to Pacific street		\$65,000
Street work in front of city property		14,000
Constructing sewers, including sewer on Army street from San Bruno road easterly		43,500
Examination into public utilities		20,000
Completion of Mission District Police Station		3,864
Fire Department, new buildings		30,000
Central Fire Alarm Station		7,500
Construction Police Station at Fourth and Clara streets		25,000
Fitting up rooms in City Hall		9,470
Building and equipping nurses' quarters at Hospital		3,500
Repairs to City Hall, Hall of Justice and Morgue		20,166
Repairs Fire Department houses		18,450
Repairs Police Department houses		1,000
Repairs at Almshouse, including tank		10,000
Repairs at Pest House		750
Repairs at City and County Hospital		6,000
Repairs at County Jails		7,000
Repaving Post street west of Powell street, and other street work		20,000
For paving streets, including an expenditure of not exceeding \$5,000 on Bush street, and including repaving Polk street, between Sur- ter and Jackson streets, and not exceeding \$30,000 for repaving streets in the district bounded by Market street, Sixth street and the Bay; paving on Van Ness avenue; repaving Valencia street from Market street to Eighteenth street, and repaving Market street west of Van Ness avenue		114,613
Planting and maintaining trees on Van Ness avenue		5,000

SUPERVISORS' ESTIMATE—CONTINUED.

MUNICIPAL PURPOSES.	AMOUNT.	TOTAL.
BOARD OF PUBLIC WORKS—CONCLUDED.		
Purchase of rights of way.....		\$10,000
Construction of a sewer in the Sunset District		40,000
Construction of a sewer on Potrero avenue.....		5,200
Purchase of a site for a Pest House.....		10,000
Construction and Equipment of a Pest House on site to be purchased		5,000
Heating plant for City Hall.....		16,310
POLICE DEPARTMENT.		
Salaries		766,708
Police Contingent Fund.....		8,000
Rents of Police stations.....		5,604
Maintenance of Police Patrol and Mounted Police.....		20,000
POLICE PENSIONS.		
To replace deficit in fund in 1900-01.....		8,500
HEALTH DEPARTMENT.		
SALARIES—		
Health Officer.....	\$3,000	
Secretary.....	2,100	
Assistant Secretary.....	1,500	
Four clerks—3 at \$1,200, 1 at \$1,500.....	5,100	
Messenger.....	900	
Vaccinator....	1,200	
Two disinfectors.....	2,400	
Statistician.....	1,800	
Chemist.....	1,800	
Assistant chemist.....	1,200	
Helper to chemist.....	900	

SUPERVISORS' ESTIMATE—CONTINUED.

MUNICIPAL PURPOSES.	AMOUNT.	TOTAL.
HEALTH DEPARTMENT—CONTINUED.		
SALARIES—		
Bacteriologist.....	\$1,800	
Chief Sanitary Inspector or Veterinary Surgeon.....	1,500	
Five Sanitary Inspectors at \$1,200.....	6,000	
Chief Plumbing Inspector.....	1,800	
Three Assistant Plumbing Inspectors at \$1,200.....	3,600	
Chief Food Inspector.....	1,800	
Eight Assistant Food Inspectors at \$900.....	7,200	
One Bakery or Bath and Laundry Inspector.....	900	
One Disinfectant Inspector.....	900	
Four Market Inspectors at \$900.....	3,600	
Toxicologist.....	1,200	
City Physician.....	1,800	
Assistant City Physician.....	1,200	
Two Dairy Inspectors at \$900.....	1,800	
		\$57,000
HEALTH DEPARTMENT EXPENSES.....		6,000
LEPER HOSPITAL—		
Salaries.....	\$3,660	
Expenses, including \$500 for clothing and extras.....	4,000	
		7,660
SMALLPOX HOSPITAL—		
Salaries.....	\$5,500	
Expenses.....	3,500	
Purchase of an Ambulance.....	350	
		9,350
EMERGENCY AND INSANE HOSPITALS—		
Salaries.....		24,780
Expenses.....		7,200

SUPERVISORS' ESTIMATE—CONTINUED.

MUNICIPAL PURPOSES.	AMOUNT.	TOTAL.
HEALTH DEPARTMENT CONTINUED.		
EMERGENCY AND INSANE HOSPITALS—Continued—		
Maintenance of an Emergency Hospital in Golden Gate Park....		\$5,000
Additional for Emergency Hospital in Golden Gate Park		4,000
ALMSHOUSE—		
Salaries and maintenance.....		82,500
CITY AND COUNTY HOSPITAL--		
Salaries of pupil nurses, orderlies and ward tenders ..	\$12,480	
Salaries of other employeos.....	25,220	
Subsistence and maintenance.....	55,860	
CITY AND COUNTY HOSPITAL—		
For equipping ward for contagious diseases.....		94,560
		1,000
DEPARTMENT OF ELECTRICITY.		
Salaries and maintenance, and for labor and material in placing wires underground.....		100,000
DEPARTMENT OF ELECTRICITY.		
For wiring City Hall dome and installing electric lights thereon.....		3,500
FIRE DEPARTMENT.		
Salaries		632,350
FIRE DEPARTMENT.		
Material, supplies and maintenance.....		114.65
FIREMEN'S RELIEF FUND		
Pensions.....		18,000
DEPARTMENT OF ELECTIONS.		
Salaries and expenses, including cost of a bond election.....		95,000
CIVIL SERVICE DEPARTMENT.		
Salaries Commissioners and Secretary.....		6,000

SUPERVISORS' ESTIMATE—CONTINUED.

MUNICIPAL PURPOSES.	AMOUNT.	TOTAL.
CIVIL SERVICE DEPARTMENT.		
Salary clerk.....	\$1,200	
Salary stenographer.....	900	
		\$2,100
FOR PAYMENT OF CLAIMS.		
For payment of claims for materials furnished and work done for the City and County of San Francisco during the forty-first, forty-second, forty-third, forty-fourth and fiftieth State fiscal years, and for unpaid teachers' salaries for the fiftieth State fiscal year, as provided for by constitutional amendment.....		292,509
For payment of interest on claims of school teachers.....		12,000
COMMON SCHOOL FUND.		
Salaries, supplies and expenses.....	\$1,168,000	
Establishment and maintenance of a playground south of Market street and east of Tenth street, for physical culture.....	12,000	
Repairs to school buildings.....	35,000	
Construction of and improvements to school buildings.....	50,000	
		1,285,000
Additional for construction and repairs of schoolhouses.....		10,220
LIBRARY FUND.		
Maintenance of Library and reading-rooms and purchase of books..		60,000
PARK FUND.		
For maintenance, preservation and improvement of parks, squares, avenues and public grounds.....		280,000
INTEREST AND SINKING FUND.		
Interest Account Park Improvement Bonds, 1874-1875.....		15,000
Sinking Fund Park Improvement Bonds, 1874-1875.....		10,000
JUDGMENTS.		
Payment of judgment, costs and interest in case of Rehfield vs. City and County.....		1,377

TREASURER'S REPORT.

SAN FRANCISCO, July 1, 1901.

To the Honorable Jas. D. Phelan, Mayor
Of the City and County of San Francisco—

DEAR SIR: In accordance with Section 9, Article XVI, of the Charter, and Resolution No. 1643 of the Board of Supervisors, I herewith submit my annual report as City and County Treasurer.

Very truly yours,

S. H. BROOKS,
City and County Treasurer.

STATE OF CALIFORNIA.

	AMOUNT.	TOTAL.
RECEIPTS.		
Balance cash on hand July 1, 1900.....		\$6,624 52
Taxes.....	\$2,037,870 86	
Poll-taxes.....	114,923 15	
For maintenance of pupils at Preston School of Industry.....	1,835 53	
For maintenance of pupils at Whittier Reform School	10,479 90	
For maintenance of children at the Home for Feeble Minded Children at Glen Ellen.....	18,402 50	
Redemption of property sold to State.....	11,335 46	
Collateral inheritance taxes.....	150,738 74	2,354,586 14
DISBURSEMENTS.		\$2,361,210 66
Transferred to General Fund 1900-1901—		
Assessor's commissions on personal property taxes.	\$10,198 06	
State's portion of refunded taxes.....	24,216 69	
Transferred to State school money.....	1,107,223 07	
Mileage—settlement with State Controller.....	67 20	
Commission on Engelcke Estate, escheated.....	96	
Settlements with State Controller.....	1,196,281 64	
Cash on hand June 29, 1901.....	23,223 04	
		\$2,361,210 66

TREASURER'S REPORT.

GENERAL FUND, 1892-1893.

	AMOUNT.	TOTAL.
RECEIPTS.		
Balance cash on hand July 1, 1900.....		\$1,618 20
Taxes.....		1,845 38
DISBURSEMENTS.		
Demands paid.....	\$1,449 25	
Cash on hand June 29, 1901.....	2,014 33	
		\$3,463 58

GENERAL FUND, 1898-1899.

	AMOUNT.	TOTAL.
RECEIPTS.		
Balance cash on hand July 1, 1900.....		\$3,859 75
Taxes.....		1,140 87
DISBURSEMENTS.		
Demands paid.....	\$10 00	
Transferred to General Fund 1899-1900.....	4,990 62	
		\$5,000 62

GENERAL FUND, 1899-1900.

	AMOUNT.	TOTAL.
RECEIPTS.		
Balance cash on hand July 1, 1900.....		\$106,797 32
Taxes.....	\$101,684 86	
City and County Alms House—sale of hogs, junk, etc.	321 58	
Sheriff—Board of United States prisoners.....	1,336 40	
Coroner—Sale of effects of deceased persons.....	94 20	
House Moving Fund—Balance from Electrical Department.....	108 25	
Overpayment salary of J. T. Canavan for June, 1900, repaid.....	36 00	
Transfer from General Fund 1898-1899.....	4,990 62	
Transfer from Unapportioned Fee Fund.....	10,293 28	
Transfer from Tax Collector—Special account.....	11 85	
		118,877 04
DISBURSEMENTS.		
Demands paid.....	\$215,394 85	\$225,674 36
Superior Court Orders.....	140 00	
Transferred to Police Relief and Pension Fund.....	9,688 50	
Transferred to General Fund 1900-1901—percentage for collecting delinquent taxes.....	272 11	
Cash on hand June 29, 1901.....	178 90	
		\$225,674 36

GENERAL FUND, 1900-01.

	AMOUNT.	TOTAL.
RECEIPTS.		
Taxes.....	\$3,494,220 57	
Mayor—Rent of City property.....	2,803 00	
Mayor—Sale of condemned Police and Fire Department horses.....	1,257 00	
Mayor—Bequest of Mrs. Antonio de Vertuga.....	189 70	
Fines in Superior Court.....	2,856 50	
Police Court fines, Department No. 1.....	6,318 50	
Police Court fines, Department No. 2.....	7,012 00	
Police Court fines, Department No. 3.....	7,505 00	
Police Court fines, Department No. 4.....	8,257 00	
City and County licenses.....	460,399 75	
City and County Hospital—Sale of swill, etc.....	309 75	
City and County Hospital—Forfeited on milk contract	400 00	
Police Department—Board on prisoners en route.....	198 00	
Police Department—Sale of boat.....	63 00	
Sheriff—Board of United States prisoners.....	5,028 20	
Board of Public Works—Sale of old material.....	515 05	
Board of Public Works—House building permits.....	13,671 50	
Registrar—Sale of unused ballot paper.....	37 50	
California Street Cable R. R. Co.—Two per cent of gross receipts of Hyde Street branch.....	3,505 75	
State's portion of Assessor's commissions for collecting personal property taxes.....	10,198 06	
Two per cent from Sanitary Reduction Works to December 31, 1900.....	687 03	
Coroner's deposits—Money found on deceased persons	131 29	

TREASURER'S REPORT.

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GENERAL FUND, 1900-1901—CONTINUED.

	AMOUNT.	TOTAL.
Returned by Star Press—Amount paid in duplicate in error.....	\$80 65	
States portion of erroneous collections, Sec. 3804, P. C.....	24,216 69	
S. F. & San Mateo R. R. Co.—Two per cent of gross earnings for year ending May 31, 1901.....	4,464 17	
Sutro R. R. Co.—Two per cent of gross receipts for year ending February 1, 1901.....	805 97	
Assessor—Poll Tax Commissions refunded as per Resolution No. 1226, Board of Supervisors.....	1 50	
Transfer from Unapportioned Fee Fund.....	121,764 85	
Transfer from General Fund 1899-1900—Amount due F. P. Haynes for collecting delinquent taxes.....	272 11	
Transfer from Common School Fund 1899-1900—Library Fund, Park Fund, Coupons of P. I. Bonds, and Sinking Fund P. I. Bonds, on account of protested taxes refunded.....	7,832 49	
DISBURSEMENTS.		
Demands paid.....	\$3,683,441 48	
Superior Court Orders.....	15,954 30	
Transferred to Police Relief and Pension Fund.....	32,749 83	
	\$3,732,145 64	
Cash on hand June 29, 1901.....	453,456 94	
		\$4,185,602 58
		4,185,602 58

TREASURER'S REPORT.

SCHOOL FUND, 1898-99.

	AMOUNT.	TOTAL.
RECEIPTS.		
Balance cash on hand July 1, 1900.....		\$3,729 93
Taxes.....	\$2,845 23	
Transfer from Common School Fund 1900-1901, being Collateral Inheritance Tax on estates of persons deceased prior to July 1, 1899.....	24,730 22	
		27,575 45
DISBURSEMENTS.		
		\$31,805 38
Demands paid.....	\$8,721 52	
Cash on hand June 29, 1901.....	22,583 86	
		\$31,805 38

COMMON SCHOOL FUND, 1899-1900.

	AMOUNT.	TOTAL.
RECEIPTS.		
Balance cash on hand July 1, 1900.....		\$117,637 74
Taxes.....	\$13,222 65	
State school money.....	7,169 80	
		20,392 45
DISBURSEMENTS.		
		\$138,030 19
Demands paid.....	\$131,057 33	
Transferred to General Fund 1900-1901 account of pro- tested taxes refunded.....	4,786 30	
	\$135,843 63	
Cash on hand June 29, 1901.....	2,186 56	
		\$138,030 19

COMMON SCHOOL FUND, 1900-1901.

	AMOUNT.	TOTAL.
RECEIPTS.		
Taxes.....	\$433,548 24	
Rents of school property.....	7,270 55	
Rent of Lincoln School lots.....	48,000 00	
Sale of old material.....	124 00	
Sale of Longfellow School Building and shed.....	150 00	
State School Money—January apportionment.....	512,957 62	
State School Money—Partial apportionment (June)....	200,000 00	
Insurance received for fire—loss at No. 863 Market street, March 19, 1901.....	13 00	\$1,202,063 41
DISBURSEMENTS.		
Demands paid.....	\$1,114,227 72	
Transferred to School Fund 1898-1899—Their per- centage of Collateral Inheritance Tax.....	24,730 22	
	\$1,138,957 94	
Cash on hand June 29, 1901.....	63,105 47	\$1,202,063 41

TREASURER'S REPORT.

TEACHERS' INSTITUTE FUND.

	AMOUNT.	TOTAL.
RECEIPTS.		
Balance cash on hand July 1, 1900.....		\$972 59
Examination and Certificate Fees.....		816 00
		\$1,788 59
DISBURSEMENTS.		
Demands paid.....	\$1,377 03	
Cash on hand June 29, 1901.....	411 56	
		\$1,788 59

ADVERTISING FUND.

	AMOUNT.	TOTAL.
RECEIPTS.		
Balance cash on hand July 1, 1900.....		\$692 94
Fees.....		6,464 60
		\$7,157 54
DISBURSEMENTS.		
Demands paid.....	\$1,069 81	
Cash on hand June 29, 1901.....	6,087 73	
		\$7,157 54

UNAPPORTIONED FEE FUND.

	AMOUNT.	TOTAL.
RECEIPTS.		
) Balance cash on hand July 1, 1900.....		\$10,847 53
Mayor.....	\$510 00	
Auditor.....	116 00	
Sheriff.....	14,502 43	
County Clerk.....	49,135 05	
Recorder.....	35,868 45	
Recorder, Marriage Licenses.....	3,697 00	
Clerk of Justices' Courts.....	20,577 00	
Board of Public Works.....	10,012 25	
Board of Health.....	1,078 50	
Police Department.....	2,930 00	
Pound Fee Fund.....	3,645 95	
Board of Supervisors—Certified copies of deeds.....	10 00	
		142,082 65
DISBURSEMENTS.		
Demands paid.....	\$5,223 00	\$152,930 18
Transferred to General Fund 1899-1900.....	10,293 28	
Transferred to General Fund 1900-1901.....	121,764 85	
Transferred to Police Relief and Pension Fund.....	2,822 50	
	\$140,104 23	
Cash on hand June 29, 1901.....	12,825 95	\$152,930 18

PARK FUND,

	AMOUNT.	TOTAL.
RECEIPTS.		
Balance, cash on hand, July 1, 1900.....		\$15,462 88
Taxes.....	\$265,392 56	
Rent of Children's Play Ground, 9 months.....	750 00	
Receipts of Children's Play Ground, 3 months.....	4,114 77	
Rent of Boat House.....	275 00	
Board of Mounted Police horses.....	1,680 85	
Subscription from Hospital Lot Improvement Club.....	1,000 00	
Overtime.....	4 00	
Sale of horses.....	20 90	
Sale of old material.....	3 40	
Fines in Police Courts.....	140 00	
Correction of American Steel and Wire Co's. account...	53 85	
Market street Railway Co., under Ordinance No. 1 of Park Commissioners.....	100 00	
Programme privileges.....	80 00	
Music privileges to April 1, 1901.....	60 00	
Labor demands, Bernai Park.....	561 96	
Automobile permits.....	48 00	
Sale of Museum Guides.....	25 50	
Damages to Fish Exhibit.....	100 00	
Telephone rent.....	8 45	
		274,419 24
DISBURSEMENTS.		
Demands paid.....	\$246,832 15	\$289,882 12
Transferred to General Fund 1900-1901, account of pro- tested taxes refunded.....	2,225 45	
	\$249,057 60	
Cash on hand June 29, 1901.....	40,824 52	
		\$289,882 12

LIBRARY FUND.

	AMCUNT.	TOTAL.
RECEIPTS.		
Balance, cash on hand, July 1, 1900.....		\$13,066 78
Taxes.....	\$62,758 22	
Fines.....	2,456 80	
Advertising in Library Bulletin.....	81 00	
Books lost and paid for.....	118 25	
Sale of old buildings Fourth and Clara streets.....	95 00	
		65,509 27
DISBURSEMENTS.		
Demands paid.....	\$61,847 18	\$78,576 05
Transferred to General Fund 1900-1001 account of protested taxes refunded.....	564 26	
	\$62,411 44	
Cash on hand June 29, 1901.....	16,164 61	\$78,576 05

HOUSE-MOVING FUND.

	AMOUNT.	TOTAL.
RECEIPTS.		
Balance, cash on hand, July 1, 1900.....		\$350 00
House moving permits.....		4,104 50
		\$4,454 50
DISBURSEMENTS.		
Demands paid.....	\$3,113 50	
Cash on hand June 29, 1901.....	1,341 00	
		\$4,454 50

POLICE RELIEF AND PENSION FUND.

	AMOUNT.	TOTAL.
RECEIPTS.		
Balance, cash on hand, July 1, 1900.....		\$1,513 89
Contributions of Officers.....	\$13,866 00	
Fines of Officers.....	1,081 00	
Money recovered from prisoners.....	543 40	
Sale of unclaimed and stolen property.....	220 05	
Transfer from Unapportioned Fee Fund.....	2,822 50	
Transfer from General Fund 1899-1900.....	9,088 50	
Transfer from General Fund 1900-1901.....	32,749 86	
		61,571 31
DISBURSEMENTS.		
Demands paid.....	\$58,888 02	\$63,085 20
Cash on hand June 29, 1901.....	4,197 18	
		\$63,085 20

COUPONS OF PARK IMPROVEMENT BONDS.

	AMOUNT.	TOTAL.
Balance, cash on hand, July 1, 1900.....		\$1,856 25
Taxes.....		15,248 65
		\$17,104 90
DISBURSEMENTS.		
Coupons redeemed.....	\$14,730 00	
Transferred to General Fund 1900-1901 account of pro- tested taxes refunded.....	157 83	
Cash on hand June 29, 1901.....	2,217 07	
		\$17,104 90

SINKING FUND, PARK IMPROVEMENT BONDS.

	AMOUNT.	TOTAL.
RECEIPTS.		
Balance, cash on hand, July 1, 1900.....		\$167,669 28
Taxes.....	\$11,877 37	
Loans returned.....	13,000 00	
Interest received.....	669 60	
		25,546 97
DISBURSEMENTS.		
Transferred to General Fund 1900-1901, account of protected taxes refunded.....	\$98 65	
Cash on hand June 29, 1901.....	193,117 60	
		\$193,216 25

DUPLICATE TAX FUND.

	AMOUNT.	TOTAL.
RECEIPTS.		
Balance, cash on hand, July 1, 1900.....		\$10,495 96
Taxes paid in duplicate.....		6,634 45
		\$17,130 41
DISBURSEMENTS.		
Demands paid.....	\$7,024 62	
Cash on hand June 29, 1901.....	10,105 79	
		\$17,130 41

TEARING-UP-STREETS FUND.

	AMOUNT.	TOTAL.
RECEIPTS.		
Balance, cash on hand, July 1, 1900.....		\$2,492 80
Sewer permits.....		23,887 01
		\$26,379 81
DISBURSEMENTS.		
Demands paid.....	\$19,944 19	
Cash on hand June 29, 1901.....	6,435 62	
		\$26,379 81

PUBLIC BUILDING FUND.

	AMOUNT.	TOTAL.
RECEIPTS.		
Balance, cash on hand, July 1, 1900.....		\$87,857 12
DISBURSEMENTS.		
Demands paid.....	\$87,851 32	
Cash on hand June 29, 1901.....	5 80	\$87,857 12

OVERPAYMENT PERSONAL PROPERTY TAX FUND. 1899-1900.

	AMOUNT.	TOTAL.
RECEIPTS.		
Balance, cash on hand, July 1, 1900.....		\$4,286 97
DISBURSEMENTS.		
Demands paid.....	\$2,270 03	
Cash on hand June 29, 1901.....	2,016 94	\$4,286 97

TREASURER'S REPORT.

OVERPAYMENT PERSONAL PROPERTY TAX FUND, 1900-1901.

	AMOUNT.	TOTAL.
RECEIPTS.		
Taxes.....		\$1,745 25
DISBURSEMENTS.		
Demands paid.....	\$1,093 38	
Cash on hand June 29, 1901.....	651 87	
		\$1,745 25

ROBINSON BEQUEST INTEREST FUND.

	AMOUNT.	TOTAL.
RECEIPTS.		
Interest received.....		\$2,255 00
DISBURSEMENTS.		
Demands paid.....		\$2,255 00

TREASURER'S REPORT.

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ASSESSOR'S ACCOUNT.

	AMOUNT.	TOTAL.
RECEIPTS.		
Balance, cash on hand, July 1, 1900.....		\$156,037 59
Personal Property Taxes.....		1,023,763 95
DISBURSEMENTS.		
Apportioned to Sundry Funds.....	\$556,358 75	
Cash on hand June 29, 1901.....	623,442 79	
		\$1,179,801 54

HENRI WINDEL BEQUEST INTEREST FUND.

	AMOUNT.	TOTAL.
RECEIPTS.		
Interest received.....		\$400 78
DISBURSEMENTS.		
Demands paid.....	\$177 75	
Cash on hand June 29, 1901.....	223 03	
		\$400 78

TREASURER'S REPORT.

INTEREST ACCOUNT PARK PANHANDLE BONDS.

	AMOUNT.	TOTAL.
RECEIPTS.		
Taxes.....		\$84,555 85
DISBURSEMENTS.		
Cash on hand June 29, 1901.....		\$84,555 85

INTEREST ACCOUNT, SEWER BONDS.

	AMOUNT.	TOTAL.
RECEIPTS.		
Taxes.....		\$3,190 78
DISBURSEMENTS.		
Cash on hand June 29, 1901.....		\$3,190 78

INTEREST ACCOUNT, SCHOOL BONDS.

	AMOUNT.	TOTAL.
RECEIPTS.		
Taxes.....		\$3,988 50
DISBURSEMENTS.		
Cash on hand June 29, 1901.....		\$3,988 50

INTEREST ACCOUNT HOSPITAL BONDS.

	AMOUNT.	TOTAL.
RECEIPTS.		
Taxes.....		\$1,595 39
DISBURSEMENTS.		
Cash on hand June 29, 1901.....		\$1,595 39

SINKING FUND PARK PANHANDLE BONDS.

	AMOUNT.	TOTAL.
RECEIPTS.		
Taxes.....		\$120,851 08
DISBURSEMENTS.		
Cash on hand June 29, 1901.....		\$120,851 08

SINKING FUND SEWER BONDS.

	AMOUNT.	TOTAL.
RECEIPTS.		
Taxes.....		\$2,791 93
DISBURSEMENTS.		
Cash on hand June 29, 1901.....		\$2,791 93

SINKING FUND SCHOOL BONDS.

	AMOUNT.	TOTAL.
RECEIPTS.		
Taxes.....		\$3,190 78
DISBURSEMENTS.		
Cash on hand June 29, 1901.....		\$3,190 78

SINKING FUND HOSPITAL BONDS.

	AMOUNT.	TOTAL.
RECEIPTS.		
Taxes.....		\$1,595 39
DISBURSEMENTS.		
Cash on hand June 29, 1901.....		\$1,595 29

A. C. WIDBER, DEFICIENCY ACCOUNT.

	AMOUNT.	TOTAL.
RECEIPTS.		
From sale of orchard.....		\$1,249 30
Amount of deficiency, June 29, 1901.....		14,885 57
DISBURSEMENTS.		
Balance due City and County, July 1, 1900.....		\$16,134 87

RECAPITULATION

OF THE BALANCES IN THE VARIOUS FUNDS OF THE CITY AND COUNTY OF
SAN FRANCISCO, JUNE 29, 1901.

	AMOUNT.	TOTAL.
General Fund 1892-1893.....	\$2,014 33	
General Fund 1899-1900.....	178 90	
General Fund 1900-1901.....	453,456 94	
School Fund 1898-1899.....	22,583 86	
Common School Fund 1899-1900.....	2,186 56	
Common School Fund 1900-1901.....	63,105 47	
Teacher's Institute Fund.....	411 56	
Park Fund.....	40,824 52	
Library Fund.....	16,164 61	
Advertising Fund.....	6,087 73	
Unapportioned Fee Fund.....	12,825 95	
Police Relief and Pension Fund.....	4,197 18	
Public Building Fund.....	5 80	
House Moving Fund.....	1,341 00	
Duplicate Tax Fund.....	10,105 79	
Overpayment Personal Property Tax Fund, 1899-1900..	2,016 94	
Overpayment Personal Property Tax Fund, 1900-1901..	651 87	
Tearing Up Streets Fund... ..	6,435 62	
State of California.....	23,223 04	
Coupons of Park Improvement Bonds.....	2,217 07	
Sinking Fund, Park Improvement Bonds.....	193,117 60	
Assessor's Account.....	623,442 79	
Henri Windel Bequest Interest Fund.....	222 03	
Interest Account, Park Panhandle Bonds.....	84,555 85	
Interest Account Sewer Bonds.....	3,190 78	

RECAPITULATION—CONTINUED.

	AMOUNT.	TOTAL.
Interest Account, School Bonds.....	\$3,988 50	
Interest Account, Hospital Bonds.....	1,595 39	
Sinking Fund, Park Panhandle Bonds.....	120,851 08	
Sinking Fund, Sewer Bonds.....	2,791 98	
Sinking Fund, School Bonds.....	3,190 78	
Sinking Fund, Hospital Bonds.....	1,595 39	
Saint Mary's Park Fund.....	125,000 00	
Robinson Bequest Fund.....	50 00	
Insurance Contribution Fund.....	318 95	
Potrero Avenue Extension Fund.....	371 92	
Nineteenth Street Extension Fund.....	236 53	
Pacific Railroad Interest Tax Account.....	35 00	
Coupons, School Fund 1874.....	30 00	
Coupons, H. of C. Bonds.....	35 00	
Coupons of Dupont street Bonds.....	4 38	
Sinking Fund, Dupont street Bonds.....	157 03	
		\$1,834,816 67
Balance, cash on hand, June 29, 1901.....	\$1,819,931 10	
A. C. Widber Deficiency Account.....	14,885 57	
		\$1,834,816 67
Loans from Sinking Fund, Park Improvement Bonds outstanding June 29, 1901.....		\$27,500 00

SPECIAL AND UNAPPORTIONED FUNDS.

POLICE COURT BAIL MONEY.

	AMOUNT.	TOTAL.
RECEIPTS.		
Balance cash on hand July 1, 1900.....		\$8,225 00
Deposits made during year.....		213,871 00
		\$222,096 00
DISBURSEMENTS.		
Orders of Police Judges paid.....	\$199,010 00	
Cash on hand June 29, 1901.....	23,086 00	
		\$222,096 00

TAX COLLECTOR, TAXES.

	AMOUNT.	TOTAL.
RECEIPTS.		
Balance cash on hand July 1, 1900.....		\$145,336 46
Receipts during year.....		5,974,358 26
DISBURSEMENTS.		
Poll Taxes transferred to State.....	\$97 00	
Apportioned during year.....	6,085,537 99	
Cash on hand June 29, 1901.....	34,059 73	
		\$6,119,694 72
		\$6,119,694 72

TREASURER'S REPORT.

TAX COLLECTOR, LICENSES.

	AMOUNT.	TOTAL.
RECEIPTS.		
Receipts during year.....	.	\$460,399 75
DISBURSEMENTS.		
Transferred to General Fund 1900-1901.....		460,399 75

TAX COLLECTOR, POLL-TAXES, ACCOUNT COMMISSIONS.

	AMOUNT.	TOTAL.
RECEIPTS.		
Commission on delinquent Poll Taxes collected during year.....		\$138 00
DISBURSEMENTS.		
Cash on hand June 29, 1901.....		138 00

TAX COLLECTOR, PROPERTY SOLD FOR STATE.

	AMOUNT.	TOTAL.
RECEIPTS.		
Received from sales during year.....		\$2,181 27
DISBURSEMENTS.		
Apportioned during year.....	\$1,190 30	
Cash on hand June 29, 1901.....	990 97	
		\$2,181 27

TAX COLLECTOR, SPECIAL ACCOUNT.

	AMOUNT.	TOTAL.
RECEIPTS.		
Balance cash on hand July 1, 1900.....		\$11 85
DISBURSEMENTS.		
Transferred to General Fund 1899-1900.....		11 85

TREASURER'S REPORT.

REDEMPTION OF PROPERTY SOLD TO THE STATE.

	AMOUNT.	TOTAL.
RECEIPTS.		
Balance cash on hand July 1, 1900.....		\$6,706 98
Receipts during year.....		43,074 62
DISBURSEMENTS.		
Apportioned during year.....	\$38,655 78	
Cash on hand June 29, 1901.....	11,125 82	
		\$49,781 60

ASSESSOR, POLL-TAXES.

	AMOUNT.	TOTAL.
RECEIPTS.		
Balance cash on hand July 1, 1900.....		\$22,536 90
Receipts during year.....		92,416 25
DISBURSEMENTS.		
Transferred to State of California.....		\$114,953 15
		\$114,953 15

ASSESSOR, POLL-TAXES, ACCOUNT COMMISSIONS.

	AMOUNT.	TOTAL.
RECEIPTS.		
Balance cash on hand July 1, 1900.....		\$14,080 80
Commissions for year.....		16,308 75
DISBURSEMENTS.		
Transferred to General Fund 1900-1901, as per Reso- lution No. 1220, Board of Supervisors.....	\$1 50	
Cash on hand June 29, 1901.....	30,388 05	
		\$30,389 55

ASSESSOR, PERSONAL PROPERTY TAXES.

	AMOUNT.	TOTAL.
RECEIPTS.		
Balance cash on hand July 1, 1900.....		\$397,233 87
Receipts during year.....		626,530 08
DISBURSEMENTS.		
Transferred to Assessor's account in sundry funds....		\$1,023,763 95

TREASURER'S REPORT.

COLLATERAL INHERITANCE TAX ACCOUNT.

	AMOUNT.	TOTAL.
RECEIPTS.		
Balance cash on hand July 1, 1900.....		\$5,878 12
Receipts during year.....		174,374 70
DISBURSEMENTS		
Court orders paid during year.....	\$526 79	
Transferred to State of California.....	159,738 74	
Commissions	7,293 92	
	\$167,559 45	
Cash on hand June 29, 1901.....	12,693 37	
		\$180,252 82

SCHOOL TEACHERS' ANNUITY AND RETIREMENT FUND.

	AMOUNT.	TOTAL.
RECEIPTS.		
*Balance cash on hand July 1, 1900.....		\$15,844 01
Contributions of teachers.....		9,840 00
Contributions of teachers, account of retirement.....		2,284 25
Deduction on account of absence.....		2,259 90
Interest on deposits.....		631 33
DISBURSEMENTS.		
Orders paid during year.....	\$14,504 15	
Cash on hand June 29, 1901.....	16,355 34	
The balance as noted above is made up as follows—		\$30,859 49
Deposited in German Savings and Loan Society....	\$5,367 79	
Deposited in Hibernia Savings and Loan Society..	5,119 56	
Deposited in Security Savings Bank.....	2,772 43	
Coir in City and County Treasury.....	3,095 56	
		\$16,355 34

SPECIAL REDEMPTION TAXES.

	AMOUNT.	TOTAL.
RECEIPTS.		
Balance cash on hand July 1, 1900.....		\$1.135 30
Receipts during year.....		230 40
DISBURSEMENTS.		
Paid to purchasers during year.....	\$141 94	
Cash on hand June 29, 1901.....	1,223 76	
		\$1,365 70

POLICE COURT FINES.

	AMOUNT.	TOTAL.
RECEIPTS.		
Receipts during year.....		\$29,092 50
DISBURSEMENTS.		
Transferred to General Fund 1900-1901.....		29,092 50

TREASURER'S REPORT.

COUNTY CLERK, SPECIAL ACCOUNT.

	AMOUNT.	TOTAL.
RECEIPTS.		
Balance cash on hand July 1, 1900.....		\$33,467 50
Receipts during year.....		37,142 43
DISBURSEMENTS.		
Paid by order of Court during year.....	\$49,962 69	
Cash on hand June 29, 1901.....	20,647 24	
		\$70,609 93
		\$70,609 93

ABSENT HEIRS AND ESTATES OF MINORS AND INCOMPETENTS.

	AMOUNT.	TOTAL.
RECEIPTS.		
Balance cash on hand July 1, 1900.....		\$2,431 31
Receipts during year.....		
DISBURSEMENTS.		
Taxes paid.....	\$34 69	
Cash on hand June 29, 1901.....	2,532 50	
		\$2,567 19
		\$2,567 19

TREASURER'S REPORT.

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PUBLIC ADMINISTRATOR.

	AMOUNT.	TOTAL.
RECEIPTS.		
Balance cash on hand July 1, 1900.....		\$25,527 58
Receipts during year.....		1,094 69
		\$26,622 27
DISBURSEMENTS.		
Orders paid during year.....	\$7,798 11	
Cash on hand June 29, 1901.....	18,824 16	
		\$26,622 27

STATE SCHOOL MONEY.

	AMOUNT.	TOTAL.
RECEIPTS.		
Balance cash on hand July 1, 1900.....		\$118,400 39
Amount retained in settlements with State of California under Sec. No. 3866, Political Code.....		1,107,223 07
		\$1,225,623 46
DISBURSEMENTS.		
Apportioned to Common School Fund.....	\$520,127 42	
Partial apportionment to Common School Fund 1900-1901	200,000 00	
Paid to State, difference between estimate and amount of apportionment.....	361,371 54	
Cash on hand June 29, 1901.....	144,124 50	
		\$1,225,623 46

TREASURER'S REPORT.

RECAPITULATION

OF THE BALANCES IN THE VARIOUS SPECIAL AND UNAPPORTIONED FUNDS OF THE
CITY AND COUNTY OF SAN FRANCISCO, JUNE 29, 1901.

	AMOUNT.	TOTAL.
Police Court bail money.....		\$23,086 00
Tax Collector, taxes.....		34,059 73
Tax Collector, poll-taxes, account commissions.....		138 00
Tax Collector, property sold for State.....		990 97
Redemption of property sold to State.....		11,125 82
Assessor, poll-taxes, account commissions.....		30,388 05
Collateral inheritance tax account.....		12,693 37
School Teachers A. and R. Fund.....		3,095 56
Total amount in fund.....	\$16,355 34	
In German S. and L. Society.....\$5,367 79		
In Hibernia S. and L. Society..... 5,119 56		
In Security Savings Bank..... 2,772 43		
In City and County Treasury..... 3,095 56		
	\$16,355 34	
Special redemption taxes.....		1,223 76
County Clerk, special account.....		20,647 24
Absent heirs and estates of minors and incompetents		2,532 50
Public Administrator.....		18,824 16
State School Money.....		144,124 50
Mission Street Widening.....		18 39
Kentucky Street, Grading.....		110 04
Laguna Survey.....		115 23
J. C. Pennie, ex-Public Administrator.....		4 75
GRAND TOTAL.....		\$303,178 07
City and County Funds.....	\$1,819,931 10	
A. C. Widber, Deficiency Account.....	14,885 57	\$1,834,816 67
Special and Unapportioned Funds.....		303,178 07
		\$2,137,994 74

Respectfully submitted,

S. H. BROOKS,
City and County Treasurer.

TAX COLLECTOR'S REPORT.

SAN FRANCISCO, July 1, 1901

To the Honorable James D. Phelan, Mayor
Of the City and County of San Francisco—

DEAR SIR: In compliance with Article XVI, Section 9 of the Charter, I herewith submit my annual report as City and County Tax Collector.

Respectfully yours,

JOSEPH H. SCOTT,
City and County Tax Collector.

OFFICE EXPENSES FROM JULY 1, 1900, TO JUNE 30, 1901.

Salary of Tax Collector.....	\$4,000 00	
Salary of Chief Deputy.....	2,400 00	
Salary of Cashier.....	2,400 00	
Salary of deputies.....	22,479 17	
Salary of clerks.....	34,296 02	
		<hr/>
		\$65,575 19
Publishing delinquent tax list.....	\$3,161 43	
Stationery	2,148 80	
5,000 printed postals.....	54 75	
Postage stamps and postal cards.....	310 00	
One adding machine.....	250 00	
One typewriter.....	100 00	
Horse hire for cartage on coin, etc.....	130 00	
		<hr/>
		6,155 03
Total expenses of Tax Collector's office.....		<hr/>
		\$71,730 22

AMOUNTS COLLECTED FROM LICENSES.

1900—July.....	\$57,379 00
August.....	34,262 50
September.....	28,272 00
October.....	53,338 00
November.....	29,483 75
December.....	27,355 25
1901—January.....	59,376 75
February.....	30,563 25
March.....	29,444 75
April.....	55,910 00
May.....	28,609 75
June.....	26,404 75
	\$460,399 75

LICENSES ISSUED.

NUMBER ISSUED	CHARACTER OF LICENSE.	AMOUNT.
138	Bankers' licenses.....	\$19,638 00
340	Brokers licenses.....	2,375 00
40	Billiard-table licenses.....	624 00
149	Auctioneers' licenses.....	1,034 00
262	Livery-stable licenses.....	1,048 00
15	Bowling-alley licenses.....	75 00
232	Pawn-brokers' licenses.....	7,192 00
44	Theater licenses.....	4,412 00
134	Intelligence office licenses.....	2,144 00
12,575	Retail liquor licenses.....	264,075 00
756	Restaurant liquor licenses.....	2,482 00
184	Bootblack stands licenses.....	1,725 00
27	House-movers' licenses.....	1,350 00
17	House-moving licenses.....	170 00

LICENSES ISSUED—CONTINUED.

NUMBER ISSUED.	CHARACTER OF LICENSES.	AMOUNT.
151	Bath-house licenses.....	\$523 00
25	Ring and ball throwing licenses	125 00
6	Show licenses	30 00
1	Cyclery licenses	4 00
4	Boat licenses.....	20 00
101	Runner and solicitor licenses.....	1,515 00
995	Laundry licenses.....	5,970 00
87	Warehouse licenses	870 00
194	Deadly weapon cards	582 00
21	Carpet-cleaning licenses	210 00
3	Boxing exhibition licenses	3,600 00
2	Baseball game licenses.....	20 00
521	Junk and second-hand dealer licenses	2,152 00
6,740	Municipal licenses.....	48,383 00
5,869	Vehicle licenses.....	19,768 25
24	Street railway licenses.....	7,337 50
4	Chinatown guide badges.....	10 00
2	Street-work solicitor badges.....	3 00
27	Runner and solicitor badges.....	40 50
31	Hack, coupe and coach badges.....	77 50
4,051	Nickel-in-slot tags.....	36,974 00
4,264	Dog tags.....	8,528 00
942	Duplicate dog tags.....	471 00
2,255	Peddlers' licenses.....	13,518 00
160	Scavenger wagon licenses	387 00
1,179	Vehicle numbers.....	1,179 00
358	Drivers' cards.....	358 00
198	Gratuitous licenses .....	.....
43,126		\$460,399 75

ANNUAL SETTLEMENT, FISCAL YEAR 1900.

CITY AND COUNTY AND STATE REAL ESTATE TAXES.

FIRST INSTALLMENT.

	DR.	CR.
To total amount charged	\$2,344,311 48	
By taxes collected and paid to the Treasurer		\$2,326, 69361
By property sold to the State for taxes of previous years		3,906 66
By property sold to the State for taxes of 1900		3,616 66
By property assessed to the Regents of the University of California		3,718 45
By property assessed to the Deaf, Dumb and Blind Asylum		58 50
By property assessed to the City and County of San Francisco		151 29
By property assessed to the Robinson Bequest Fund		170 63
By property withdrawn from sale under Section 3,806, Political Code		1,698 48
By property enjoined from sale, order of Superior Court		4,235 98
By erroneous assessments		43 39
By partial payments—in process of collection		17 83
	\$2,344,311 48	\$2,344,311 48

SECOND INSTALLMENT.

	DR.	CR.
To total amount charged	\$2,344,311 50	
By taxes collected and paid to Treasurer.....		\$2,323,975 14
By property sold to State for taxes of previous years.....		4,162 17
By property sold to the State for taxes of 1900.....		6,073 43
By property assessed to the Regents of the University of California.....		3,718 45
By property assessed to the Deaf, Dumb and Blind Asylum.....		58 50
By property assessed to the City and County of San Francisco....		151 29
By property assessed to the Robinson Bequest Fund.....		170 63
By property withdrawn from sale under Section No. 3,806, Political Code.....		1,098 18
By property enjoined from sale, order of Superior Court.....		4,235 98
By erroneous assessments.....		43 39
By partial payments—in process of collection.....		24 04
	\$2,344,311 50	\$2,344,311 50

PERSONAL PROPERTY SECURED BY REAL ESTATE.

	DR.	CR.
To total amount charged.....	\$1,331,335 83	
By taxes collected and paid to the Treasurer.....		\$1,282,235 12
By property sold to the State for taxes of previous years.....		118 96
By property sold to the State for taxes of 1900.....		356 57
By property withdrawn from sale under Section No. 3,806, Political Code.....		16 25
By property enjoined from sale, order of Superior Court.....		45,042 29
By net reduction by Assessor.....		3,548 06
By partial payments— in process of collection.....		18 58
	\$1,331,335 83	\$1,331,335 83

PERSONAL PROPERTY UNSECURED BY REAL ESTATE.

	DR.	CR.
To total amount charged.....	\$90,293 47	
To net increase by Assessor.....	948 06	
By taxes collected and paid to the Treasurer.....		\$14,861 94
By taxes enjoined from collection, order of the U. S. Circuit Court		18,512 50
By taxes delinquent.....		57,867 09
	\$91,241 53	\$91,241 53

PENALTIES COLLECTED ON TAXES, FISCAL YEAR 1900.

	DR.	CR.
To total amount charged on Real Estate Taxes, first installment.....	\$9,023 68	
To total amount charged on Real Estate Taxes, second installment..	2,403 21	
To total amount charged on Personal Property Taxes, secured by real estate.....	10,737 45	
To total amount charged on unsecured Personal Property Taxes.....	15,302 08	
To total amount charged, increase on unsecured Personal Property by Assessor	189 61	
By cash deposited with City and County Treasurer, first installment, Real Estate		\$5,459 01
By cash deposited with City and County Treasurer, second installment, Real Estate.....		1,375 80
By cash deposited with City and County Treasurer, Personal Property, secured		837 18
By cash deposited with City and County Treasurer, Personal Property, unsecured.....		191 50
By 20 per cent on amount delinquent (\$17,617 89), first installment Real Estate.....		3,523 57
By per cent not collected on partial payments on which per cent had been charged, first installment.....		41 10
By 5 per cent on amount delinquent (\$20,308 36), second installment, Real Estate		1,016 82
By per cent not collected on partial payments on which per cent had been charged, second installment.....		10 59
By 20 per cent on amount delinquent (\$45,552 65) on Personal Property, secured		9,110 53
By 20 per cent on reduction by Assessor (\$3,548 06), Personal Property, secured.....		703 61
By per cent not collected on partial payments on which per cent had been charged, Personal Property, secured.....		60 13
By 20 per cent on amount delinquent (\$76,379 59), Personal Property, unsecured		15,275 92
By per cent not collected on partial payments on which per cent had been charged, Personal Property, unsecured.....		24 27
	\$7,656 03	\$37,656 03

ADDITIONAL AMOUNTS PAID TREASURER.

	DR.	CR.
To total amount collected and paid to Treasurer.....	\$28,303 27	.....
From taxes of previous years		\$16,866 53
From proceeds of property sold for the State of California.....		2,178 27
From advertising charges from taxes of previous years.....		1,477 72
From advertising charges from taxes year 1900.....		1,521 50
From sale of 44 poll-taxes.....		176 00
From duplicate and overpayment of taxes.....		6,083 25
	\$28,303 27	\$28,303 27

RECAPITULATION.

	DR.	CR.
Total amount collected and paid to Treasurer, as follows.....	\$5,983,932 57	.....
From City, County and State Real Estate taxes, 1st installment.....		\$2,326,693 61
From City, County and State Real Estate taxes, 2d installment.....		2,323,975 14
From City, County and State Personal Property Taxes, secured by real estate.....		1,285,235 12
From City, County and State unsecured Personal Property taxes....		14,861 94
From penalties on taxes year 1903.....		7,863 49
From taxes of previous years.....		16,866 53
From proceeds of property sold for the State of California.....		2,178 27
From advertising charges from taxes of previous years.....		1,477 72
From advertising charges from taxes year 1900.....		1,521 50
From sale of 44 poll-taxes.....		176 00
From duplicate and overpayment of taxes.....		6,083 25
	\$5,983,932 57	\$5,983,932 57

RECORDER'S REPORT.

SAN FRANCISCO, July 30, 1901.

To the Honorable Jas. D. Phelan, Mayor
Of the City and County of San Francisco—

Dear Sir: Pursuant to the provisions of the New Charter of the City and County of San Francisco, I herewith submit to your Honor a detailed report of the operations in my department for the fiscal year 1900-1901, covering the period from July 1, 1900, to June 30, 1901, inclusive.

The most important deductions to be drawn from this report may be briefly stated as follows:

1. For the first time in many years the expenditures have fallen below the amount appropriated by the Supervisors for the maintenance of the department, notwithstanding the fact that the work done has been in excess of all previous years.

2. For the first time since the present schedule of fees has been in force the receipts have exceeded the expenditures and a substantial surplus has taken the place of the usual heavy deficit.

3. For the first time in the history of the office, all recorded instruments are made returnable within one week to the parties recording them, as against two weeks in all previous administrations.

During the year which ended June 30, 1901, there were received in this office a total of 25,766 instruments, being 1,144 in excess of the preceding year.

The receipts from all sources during the year amounted to \$39,584 45. The expenses for the same time were \$33,852 00, leaving a net surplus of \$5,732 45.

The significance of these figures may be best understood by comparison with the immediately preceding years, in which the fees for recording were the same as those which now prevail. Thus from July 1, 1896, to January 8, 1900 (three and one-half years, plus eight days), the total deficit in this office amounted to \$30,-434 31—an average annual shortage of \$8,640 70. The wiping out of this average deficit, and the substitution of the surplus above named, make a net saving of \$14,373 15 in the year just closed.

All of the figures above quoted appear of record in the tabulated statements which follow herewith.

During the year past a number of improvements have been inaugurated in my department.

First among these comes the substitution of typewriting in place of penmanship in the transcription of all records. The new books are a marvel of neatness and uniformity, and the adoption of this modern method has met with the approval of all who have had occasion to search the records or inspect the work of this department.

Papers filed for record are made returnable to the parties filing them in one week, instead of two, as heretofore. This is a manifest advantage.

All the book-racks and divisions of the same throughout the Hall of Records

have been newly labeled with printed signs made by the employees of this office. The confusion existing heretofore is entirely removed.

There has been a general renovation and classification of the records stored in the gallery. Hundreds of volumes and tens of thousands of filed documents are now removed from the former disorder and rendered available through systematic arrangement.

The numbering system mentioned in my last report—the filing of documents in numerical rather than alphabetical order, and the filing of a receipt in regular order in place of the document returned—continues to operate with perfect satisfaction.

The force of men now under my control in the work of this department are entitled, I feel, to a word of praise from me. The many improvements inaugurated, and the prompt service accorded the public, would have been impossible without the earnest co-operation of my subordinates.

Since the operations in the Recorder's Office may be taken as a fair index of the general growth and prosperity of the City, it will no doubt interest your Honor to learn that the growth of business in this department has been substantial and steady, the last six months of the fiscal year showing a heavy increase over the first half. Realty transactions and building operations were largely responsible for the increase. Nearly one thousand building contracts were filed during the year, being 95 in excess of the year 1899-1900 and an increase of 279 over the year 1898-1899. All indications point to a continued increase in the number of filed building contracts, and, since new laws compel the filing of detailed drawings, thus adding greatly to the bulk as well as number, I desire to call your attention to the fact that additional facilities must be provided to enable the department to safely care for these important public documents.

As a public officer I also deem it my duty to refer here to the necessity that exists for greater care and diligence in the filing of mortuary and vital statistics. The law requires that a report of all births and deaths be filed with the Board of Health, the records being in due time transferred to this office. Throughout all European countries this duty is considered as important as the proper recording of land titles. This office is constantly besieged with applications for certified copies of such records. These copies must be produced by all Americans who enter in any way in judicial proceedings in foreign countries, and in the matter of inheritances, marriages, schooling, etc. I find that in many cases our books show no records at all, in others they are grossly in error. This always results in much loss of time and annoyance and sometimes in great material loss to the applicant. Parents or relatives should see that the record of birth or death is promptly and correctly made in all cases.

Turning, in conclusion, to the needs of the department, I can say little that is not a reiteration of my statement to your Honor in my previous annual report. During the past year I have secured a few of the many utilities urgently called for by the conditions here. I am gratified in proportion. But the dust and discoloration of a quarter of a century still beguile the walls; a new steam heating plant, though talked of much, is still to come; new racks, new furniture, new fittings—all are sadly needed, while some provision for the filing of rapidly accumulating building contracts is an early necessity.

Now that the regularly recurring annual deficit in the Hall of Records is but a memory of the past, and in its stead a net profit fairly assured under efficient and honest management, I have every reason to hope that the consideration heretofore denied my department will be speedily and cheerfully granted.

Feeling assured of your pleasure and approval in the happy change which new conditions have wrought in this important department of the public service,

I have the honor to remain,

Your obedient servant,

EDMOND GODCHAUX, Recorder.

MONTHLY RECEIPTS PAID INTO THE TREASURY.

MONTH.	RECEIPTS.	PAID INTO TREASURY.
1900 - July.....	\$2,904 70	\$2,904 70
August.....	3,061 35	3,061 35
September.....	2,529 45	2,529 45
October.....	3,276 45	3,276 45
November.....	3,199 60	3,199 60
December.....	3,188 10	3,188 10
1901 - January.....	3,441 55	3,441 55
February.....	3,067 75	3,067 75
March.....	3,779 85	3,779 85
April.....	3,956 55	3,956 55
May.....	3,754 15	3,754 15
June.....	3,424 95	3,424 95
Total.....	\$39,584 45	\$39,584 45

MONTHLY STATEMENT OF SALARIES AS CHARGED AGAINST THE RECORDER'S
APPROPRIATION.

MONTH.	Recorder.....	Three Deputies...	Two Index Clks..	Mortgage Clerk..	Messenger.....	Folio Clerks.....	Total.....
1900—July.....	\$300 00	400 00	\$200 00	\$100 00	\$75 00	\$1,729 84	\$2,804 84
August...	300 00	400 00	200 00	100 00	75 00	1,774 40	2,849 40
Septemb'r	300 00	400 00	200 00	100 00	75 00	1,655 04	2,730 04
October..	300 00	400 00	200 00	100 00	75 00	1,738 80	2,813 80
November	300 00	400 00	200 00	100 00	75 00	1,648 00	2,723 00
December	300 00	400 00	200 00	100 00	75 00	1,619 76	2,694 76
1901—January..	300 00	400 00	200 00	100 00	75 00	1,660 00	2,735 00
February..	300 00	400 00	200 00	100 00	75 00	1,640 00	2,715 00
March....	300 00	400 00	200 00	100 00	75 00	1,600 00	2,675 00
April....	300 00	400 00	200 00	100 00	75 00	1,850 00	2,925 00
May.....	300 00	400 00	200 00	100 00	75 00	2,020 96	3,095 96
June.....	300 00	400 00	200 00	100 00	75 00	2,015 20	3,090 20
Totals...	\$3,600 00	\$4,800 00	\$2,400 00	\$1,200 00	\$900 00	\$20,952 00	\$33,852 00

RECAPITULATION.

	AMOUNT.	TOTAL.
Total Receipts for Fiscal Year 1900-1901.....	\$39,584 45	
Total Expenditures for Fiscal Year 1900-1901.....	33,852 00	
Surplus.....		\$5,732 45

COMPARATIVE STATEMENT

FROM 1859 TO 1901, INCLUSIVE.

YEAR.	PAPERS.	TOTAL RECEIPTS.	TOTAL EXPENSES.	SURPLUS.	DEFICIT.
1859-60.....	5,596	\$18,300 00	\$13,847 00	\$4,453 00	
1860-61.....					
1861-62.....	11,970	34,605 00	26,792 50	7,902 60	
1862-63.....	12,631	33,633 75	24,984 65	8,649 10	
1863-64.....	13,391	34,534 25	33,358 25	1,176 00	
1864-65.....	13,980	37,702 00	29,175 91	8,526 09	
1865-66.....	14,114	37,348 50	28,092 24	9,256 26	
1866-67.....	14,262	43,237 25	30,427 59	12,809 66	
1867-68.....	16,496	51,501 50	37,184 14	4,317 36	
1868-69.....	18,761	55,540 25	42,399 52	13,149 73	
1869-70.....	14,146	44,890 70	36,156 26	8,734 44	
1870-71.....	15,024	44,975 50	35,873 20	11,102 30	
1871-72.....	12,897	41,076 75	35,372 92	5,702 83	
1872-73.....	11,207	34,051 25	34,494 16		\$442 91
1873-74.....	13,138	32,654 00	30,267 64	2,386 36	
1874-75.....	17,486	44,407 50	38,616 11	5,791 39	
1875-76.....	18,218	46,626 60	38,376 23	6,249 37	
1876-77.....	21,396	51,386 75	40,930 41	10,456 34	
1877-78.....	17,632	42,835 25	36,557 83	6,177 45	
1878-79.....	18,871	38,175 00	34,893 62	3,281 38	
1879-80.....	17,778	34,783 75	33,327 82	1,455 93	
1880-81.....	14,002	31,420 50	29,817 40	1,603 10	
1881-82.....	12,835	31,284 85	32,093 14		808 29
1882-83.....	14,266	34,237 00	30,261 34	3,975 66	
1883-84.....	15,340	38,142 25	31,894 21	6,248 04	
1884-85.....	15,500	38,792 50	32,295 00	6,497 50	
1885-86.....	15,092	37,361 00	31,142 27	5,178 73	
1886-87.....	17,065	43,764 00	33,754 78	10,009 22	
1887-88.....	20,005	53,238 45	36,144 02	17,096 43	

COMPARATIVE STATEMENT—CONTINUED.

YEAR.	PAPERS.	TOTAL RECEIPTS.	TOTAL EXPENSES.	SURPLUS.	DEFICIT.
1888-89.....	22,370	\$53,858 56	\$43,476 36	\$10,382 20	.....
1889-90.....	24,907	64,534 80	42,497 14	22,037 66	.....
1890-91.....	26,111	68,284 53	45,136 44	23,148 09	.....
1891-92.....	25,306	66,520 20	38,687 75	27,832 45	.....
1892-93.....	25,262	60,234 00	43,190 51	17,043 49	.....
1893-94.....	23,102	55,389 25	40,490 84	14,898 41	.....
1894-95.....	23,434	58,768 75	41,109 80	17,658 95	.....
1895-96.....	23,637	61,947 50	42,924 46	19,023 04	.....
1896-97.....	22,270	34,559 45	41,217 92	.....	\$6,658 47
1897-98.....	23,713	34,398 85	42,699 02	.....	8,300 17
1898-99.....	22,272	31,803 10	41,679 19	.....	9,876 09
1899-1900*.....	24,622	37,451 05	39,725 22	.....	2,274 17
1900-01.....	25,766	39,584 45	33,852 00	5,732 45	.....

Note.—During the first six months of the fiscal year 1899-1900, under the administration of my predecessor and with the Consolidation Act in force, the deficit amounted to \$5,599 58. During the last six months of the year, being the first of my term, the business produced a surplus of \$3,325 41, leaving a net deficit for the year as above stated.

LIST OF INSTRUMENTS FILED AND RECORDED

DURING THE FISCAL YEAR ENDING JUNE 30, 1901.

INSTRUMENTS.	1900.						Total.....	1901.						Total.....	Grand Total for Year.....
	July.....	August.....	September.....	October.....	November.....	December.....		January.....	February.....	March.....	April.....	May.....	June.....		
Acceptances and Abandonments of Buildings.....	41	45	31	42	35	63	257	39	47	43	63	50	60	302	559
Agreements and Covenants..	6	6	7	11	11	8	49	12	18	22	20	8	18	98	147
Assignments of Mortgages...	17	77	9	10	11	16	80	12	9	20	14	10	8	73	153
Attachments, Releases and Executions.....	21	33	19	31	20	22	146	33	22	35	32	23	25	170	316
Bank Statements.....	1						1	1						1	2
Bills of Sale.....	6	18	14	17	22	15	92	13	16	21	14	16	15	95	187
Bonds.....	3	1	1	1	2	5	13	12	4	2	1	3	14	36	49
Builders' Contracts and Bonds	94	84	43	55	66	49	391	52	70	100	102	96	109	529	920
Certificates of Birth, Death, etc.....	18	22	24	39	13	14	130	16	9	27	19	36	45	152	282
Certificates of Redemption—State.....	9	15	14	23	23	12	96	16	5	3	20	3	7	54	150
Certificates of Sale, Assignments and Redemptions...	7	13	10	11	12	17	70	12	17	18	21	8	19	95	165
Decrees.....	5	7	2	9	5	9	37	6	7	6	8	8	11	46	83
Deeds.....	393	439	368	481	471	471	2,623	491	472	623	678	668	471	3,403	6,026
Deeds of Trust.....	52	53	59	63	57	58	342	75	43	76	81	82	69	426	768
Election Expenses, Statements of.....					51	1	52								52
Homesteads, Declarations and Abandonments.....	17	19	17	20	18	16	107	30	25	29	20	19	15	138	245
Judgments, Abstracts, Transcripts, Satisfactions and Assignments.....	23	20	25	25	11	23	127	19	16	19	32	14	10	110	237
Leases, Assignments and Surrenders.....	14	10	16	23	22	12	97	23	27	25	22	16	18	131	228
Liens and Releases of Liens...	23	38	21	12	16	16	126	54	46	56	22	36	14	228	354
Lis Pendens.....	46	33	32	40	31	40	222	33	34	36	46	26	27	202	424

INSTRUMENTS FILED AND RECORDED—CONTINUED.

INSTRUMENTS AND DATE.	1900.						Total.....	1901.						Total.....	Grand Total for Year.....	
	July.....	August.....	September.....	October.....	November.....	December.....		January.....	February.....	March.....	April.....	May.....	June.....			
Maps.....	1				1	1	3									3
Marriage Certificates and Licenses.....	270	277	307	324	288	292	1,758	366	268	236	359	295	374	1,898	3,656	
Marriage Contracts.....								1		1	1			3	3	
Miscellaneous.....	18	15	10	12	14	26	95	19	20	19	12	10	28	108	203	
Mortgages of Personal Property.....	102	105	89	130	133	151	710	144	129	147	138	142	151	851	1,561	
Mortgages of Real Property..	286	282	215	302	293	293	1,671	346	269	310	331	362	243	1,861	3,532	
Partnerships, Limited.....								1						1	1	
Power of Attorney, Revocation and Substitutions.....	20	17	27	31	18	17	130	16	16	20	25	35	27	139	269	
Probate Decrees of Distribution, etc.....	70	67	43	63	61	78	382	76	63	75	95	95	75	479	861	
Reconveyances.....	60	42	28	40	48	47	265	43	47	71	41	63	49	314	579	
Releases of Personal Property Mortgages.....	38	50	53	52	86	59	338	60	62	84	74	62	47	389	727	
Releases of Real Estate Mortgages.....	228	213	147	218	217	204	1,227	252	233	263	291	209	224	1,472	2,699	
Separate Property of Wife.....				1	2		3						1	1	4	
Sole Traders.....								2					1	3	3	
Tax Certificates.....	1				2		3	1						1	4	
Tax Deeds.....		313					313								313	
Cattle Brand.....								1						1	1	
Totals.....	1890	2254	1631	2086	2060	2035	11,956	2277	1994	2387	2582	2395	2175	13,810	25,766	

REPORT
OF THE
DEPARTMENT OF ELECTRICITY.

SAN FRANCISCO, July 1, 1901.

*To the Honorable Jas. D. Phelan, Mayor
Of the City and County of San Francisco—*

Dear Sir: We herewith transmit the report of the Department of Electricity for the year ending June 30, 1901.

Very respectfully,

GEO. A. NEWHALL,
Vice Chairman Board of Commissioners, Department of Electricity.

SAN FRANCISCO, July 1, 1901.

To the Honorable the Commission of the Department of Electricity—

Gentlemen: I have the honor to submit herewith the second annual report of the Department of Electricity, and the thirty-sixth for this service, for the fiscal year ending June 30, 1901.

Very respectfully,

W. R. HEWITT,
Chief, Department of Electricity.

During the past year this department received a total of 1,139 alarms of fire, of which 493 were direct, 621 first, 21 second and 4 third alarms, and a total of 124,106 police calls.

There are in operation 232 tappers, 91 gongs, 2 automatic whistles, 2 tower bells, 588 miles of wire, 1,304 poles, 2,616 cells of battery, 330 fire boxes, 199 police boxes, 49 engine house and 5 police station equipments.

Thirty-seven miles of No. 12 H. D. W. P. copper wire were used in reconstruction and extensions and twenty-seven new fire boxes were located as follows:

No. 414—7th avenue and Lake street.	No. 482—California st. and 10th ave.
No. 483—13th avenue and Lake street.	No. 379—Geary and Hyde sts.
No. 481—Point Lobos and 9th avenues.	No. 373—Bush and Taylor sts.
No. 424—Union and Devisadero sts.	No. 463—Alabama and Montcalm sts.
No. 311—Broadway and Webster sts.	No. 486—Point Lobos and 32d aves.
No. 113—Geary and Stockton sts.	No. 375—Eddy and Leavenworth sts.
No. 573—Sunnyside ave. and Foerester	No. 13—Sacramento and Davis sts.
No. 169—Chestnut and Hyde sts.	No. 322—Pine and Baker sts.
No. 476—10th ave. and K st.	No. 376—McAllister and Hyde sts.
No. 484—20th ave. and California st.	No. 613—Orpheum and Alcazar Theaters
No. 115—Ellis and Mason sts.	No. 422—Octavia and Greenwich sts.
No. 511—Kansas and Alameda sts.	No. 526—Mississippi and 16th sts.
No. 433—California and Maple sts.	No. 112—Post st. and Grant ave.
No. 612—Grand Opera House.	

Two police boxes were installed; No. 153 at Howard and East streets and No. 64 at Washington and East.

Seven old fire alarm boxes and one old police box were rebuilt and placed in service.

Fire alarm boxes moved were: No. 572, from Flood and Arcadia to Sunnyside and Baden; No. 326, from Sutter and Baker to Post and Baker; No. 372, from Geary and Leavenworth to Jones and Geary.

Thirty-three fire boxes and thirty-nine police boxes were repaired and placed back in service.

There occurs under the heading of "New Work" the following major articles:

Forty-three new fire boxes, 60 box keys, 50 underground standards, 50 bronze cable rod carriers, 5 sounder switches, 86 character wheels, 6 contact holders, 110 number and name plates, 2 galvanometers and 25 box movements. In addition to the above 1,546 articles of various kinds were turned out and 659 emergency shop repair jobs were attended to.

The 43 new fire boxes completed consist of: 129 iron shells, painted and japanned; 43 movements, finished and lacquered; 43 insulated special contacts; 43 key boards, carrying operating key and ground test switches; 43 automatic cut-outs, 43 box relays, 43 glass fronts, 43 number plates and 43 blank character wheels.

The final setting of conduit in the district south of Market and east of Third streets is now being actively carried out, and it is hoped during the coming year to complete districts One and Two, which will permit the removal of all overhead wires, practically clearing the districts east of Third and Stockton streets and north and south of Market of all overhead wires except those for the District Messenger service.

Your attention is respectfully called to the necessity of a new central office, made urgent by underground extensions. Upon the completion of the underground districts One and Two, it becomes necessary to fix a point of destination for the

main feed cables of these districts. Provision should be made for this purpose, either at the City Hall or at the present quarters. The objections to the present quarters are: First, that they are entirely inadequate in accommodations; second, that a very considerable outlay for cable equipment is involved, which, if at any time in the future we should move to the City Hall would be rendered useless, so that an effort should be made to reach the City Hall immediately if possible.

Under Ordinance No. 267, second series, Board of Supervisors, this department has systematically inspected 2,920 wiring installations for incandescent electric lights and issued 2,874 certificates. This work has proved to be very successful in reducing the fire hazard and meets with the approval of the electrical community generally.

Herewith I submit a draft of an ordinance providing for the registration of all employing electricians, which would assist materially in raising the standard of all electrical work in buildings.

Section 1. Every corporation, copartnership or individual engaged in conducting the business of placing, installing or operating electrical wires, appliances, apparatus or construction in or on buildings in the City and County of San Francisco, shall appear in person, or by a duly authorized representative, at the office of the Department of Electricity, and shall there register his name and place of business in said City and County, which act, upon being sworn, shall entitle him to a certificate of registration; provided, however, that no certificate of registration shall be granted for a period of more than one fiscal year or the unexpired portion thereof.

Sec. 2. It shall be unlawful for any corporation, copartnership or individual to engage in conducting the business of placing, installing or operating electrical wires, appliances, apparatus or construction in or on buildings in the City and County of San Francisco, without first obtaining a certificate of registration from the Department of Electricity, and said certificate must be renewed, as provided for in Section 1 of this order, within thirty days after the first day of July of each fiscal year.

Sec. 3. The placing, installing or operating of electrical wires, appliances, apparatus or construction in or on buildings in the City and County of San Francisco shall be executed in accordance with plans and specifications previously approved in writing by the Chief of the Department of Electricity of said City and County; provided, however, that a copy of said plans and specifications as approved shall be placed on file in the office of the Department of Electricity.

Sec. 4. Every corporation, copartnership or individual engaged in conducting the business of placing, installing or operating electrical wires, appliances, apparatus or construction in or on buildings in the City and County of San Francisco, before registration, shall give a bond to the State of California in the sum of five hundred (500) dollars, with good and sufficient surety, for the faithful compliance with the provisions of this Ordinance, and said bond shall be approved by and filed with the Chief of the Department of Electricity.

Sec. 5. The failure, neglect or refusal on the part of any corporation, copartnership or individual, after due notification by the Department of Electricity, to correct, obviate or remove any default, error or deficiency in placing, installing or operating electrical wires, appliances, apparatus or construction in or on buildings in said City and County, shall be deemed sufficient cause for the Chief of the Department of Electricity, and he is hereby authorized, to suspend said certificate of registration for a period not exceeding thirty days.

Sec. 6. Any corporation, copartnership or individual who shall continue to fail, neglect or refuse to comply with the provisions of this order shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be fined not more than one hundred (100) dollars or be imprisoned not more than ninety days, or by both such fine and imprisonment.

Sec. 7. This order shall take effect and be in force on and after its passage.

EXPENDITURES FOR

MONTH.	Battery Material.....	Line Material.....	Shop Supplies.....	Tools and Hard- ware.....	Paints and Oils.....	Drugs and Chemi- cals.....	Brass Castings.....	Iron Castings.....
1900—July.....	.....	\$29 35	\$119 20	\$49 60	\$1 27	\$2 85	.....	.....
August.....	\$82 38	47 81	194 33	26 88	20 61	.....	.....	.....
September.....	67 80	57 45	52 65	35 62	16 30	.....	.....	.....
October.....	167 50	44 70	90 42	23 02	6 55	.....	\$6 75	.....
November.....	7 20	303 75	191 37	51 53	95	.....	.....	.....
December.....	51 00	252 94	70 64	11 94	2 90	16 75	.....	\$488 27
1901—January.....	105 94	56 72	111 96	45 06	1 90	5 10	108 85	.....
February.....	.....	322 16	215 27	94 37	61 71	.....	.....	113 04
March.....	69 00	271 51	385 91	76 48	40 17	.....	.....	429 35
April.....	156 50	582 60	359 58	163 32	51 02	.....	.....	.....
May.....	76 24	67 74	165 80	102 41	15 27	3 95	56 06	555 25
June.....	70 54	62 05	63 62	44 53	22 74	2 25	.....	40 00
Totals.....	\$854 10	\$2,089 78	\$2,029 75	\$724 76	\$241 39	\$30 90	\$171 66	\$1,625 91

Total appropriation.....\$50,000 00

Total expenditures.....49,927 82

Surplus.....

\$72 18

FISCAL YEAR 1900-01.

Manhole Castings..	Underground Sup- plies	Engine-house Sup- plies.....	Instruments.....	Lumber	Horse Expenses....	Wagon Repairs	Miscellaneous.....	Time.....	Salaries	Totals
.....	.....	.....	.....	\$14 19	\$182 00	.....	\$4 75	\$25 00	\$2,523 00	\$2,942 21
.....	.....	.....	.....	.....	189 35	\$14 35	19 50	25 00	2,572 50	3,192 71
.....	.....	.....	.....	1 25	188 50	15 55	2 25	25 00	2,596 50	3,058 87
.....	.....	.....	.....	2 45	381 50	48 00	3 50	25 00	2,670 00	3,478 39
.....	.....	.....	.....	2 75	285 70	113 10	9 75	25 00	2,649 00	3,640 10
.....	.....	.....	.....	.....	328 50	3 75	2 75	25 00	2,670 00	3,924 44
.....	.....	.....	\$78 90	20 38	264 50	92 00	30 75	25 00	2,670 00	3,617 06
.....	.....	.....	.....	11 18	95 50	.....	3 50	25 00	2,742 00	3,683 73
.....	.....	\$270 00	.....	27 20	101 00	.....	44 85	25 00	3,151 55	4,892 02
\$185 00	.....	324 00	.....	1 90	90 00	76 30	2 75	.....	3,638 50	5,631 47
140 00	\$66 00	.....	.....	49 06	117 10	.....	93 93	.....	4,330 00	5,838 81
280 00	346 75	144 75	.....	.....	126 65	65 20	160 68	.....	4,598 25	6,028 01
\$605 00	\$412 75	\$738 75	\$78 90	\$130 36	\$2,350 30	\$428 25	\$378 96	\$225 00	\$36,811 30	\$49,927 82

Housemover deposits settled.....	\$805 00
Charges—City, \$76 25; Men, \$180 00.....	256 25
Refunded.....	\$548 75
Total deposits.....	\$965 00
Deposits settled.....	805 00
Carried forward with Treasurer.....	\$160 00

REPORT OF THE

TABLE No. 1.

SHOWING THE NUMBER OF ALARMS EACH DAY AND MONTH
DURING THE YEAR.

DAY OF WEEK.	1900.						1901.						Totals
	July.....	August.....	September...	October.....	November...	December....	January.....	February....	March.....	April.....	May.....	June.....	
Monday	9	7	4	12	3	9	4	2	4	11	6	13	84
Tuesday	13	10	4	12	12	12	6	6	6	7	9	9	106
Wednesday.....	26	13	7	8	5	3	12	3	7	5	8	7	104
Thursday	13	14	8	3	6	3	7	6	6	12	5	8	91
Friday	8	8	7	2	4	10	8	3	8	8	14	5	85
Saturday.....	4	8	12	6	6	3	4	8	7	7	4	7	76
Sunday.....	10	5	11	8	6	11	5	4	8	15	7	10	100
Totals.....	83	65	53	51	42	51	46	32	46	65	53	59	646

TABLE NO. 2.
SHOWING THE NUMBER OF ALARMS FOR EACH HOUR OF THE DAY DURING THE YEAR.

MONTH.	A. M.												P. M.												Totals.....	Grand Totals
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12		
	Totals.. . .												Totals.. . .													
1900—July.....	3	10	1	4	1	.....	.....	.....	2	5	4	4	6	6	6	7	4	1	1	2	5	5	2	4	49	8
August.....	1	.....	.....	2	1	1	3	2	.....	.....	3	4	7	5	3	5	7	7	2	5	2	1	2	2	48	65
September.....	1	1	.....	1	.....	.....	1	3	5	1	4	5	3	2	3	3	2	4	3	4	3	2	2	.....	31	53
October.....	.....	3	.....	.....	.....	1	.....	5	2	2	2	2	4	2	4	3	4	4	3	4	4	1	1	.....	34	51
November.....	2	.....	.....	1	1	1	8	.....	1	1	.....	.....	.....	2	.....	3	4	4	2	9	5	1	2	.....	32	42
December.....	1	.....	3	.....	.....	1	2	.....	3	3	5	.....	1	1	2	.....	8	3	6	6	2	1	3	.....	33	51
1901—January.....	3	3	.....	5	.....	2	.....	1	.....	3	1	1	.....	1	3	2	3	2	4	4	1	3	.....	27	46	
February.....	2	.....	.....	.....	.....	.....	2	1	.....	.....	5	1	1	2	1	.....	4	1	.....	5	4	.....	3	.....	21	32
March.....	3	1	4	1	1	.....	1	1	2	1	2	1	2	1	3	3	3	4	2	2	3	.....	3	2	28	46
April.....	5	.....	1	.....	.....	1	.....	1	.....	3	6	5	3	3	4	4	6	4	5	2	6	.....	3	3	43	65
May.....	.....	.....	.....	.....	2	1	.....	2	.....	1	2	3	.....	2	5	2	7	.....	6	3	2	4	7	4	42	53
June.....	4	.....	.....	1	.....	.....	1	.....	2	1	4	3	3	5	3	4	2	5	3	7	4	2	1	4	43	59
Totals.....	25	18	9	15	6	8	13	16	17	21	37	30	30	32	37	36	54	39	37	53	41	20	29	23	431	646

TABLE No. 3.

SHOWING THE NUMBER OF ALARMS FROM EACH BOX DURING THE YEAR.

BOX.	Alarms....	BOX.	Alarms....	BOX.	Alarms....	BOX.	Alarms....
8.....	2	46.....	3	82.....	3	134.....	4
9.....	1	47.....	4	83.....	1	135.....	5
13.....	...	48.....	3	84.....	5	136.....	3
14.....	2	49.....	4	85.....	2	137.....	8
15.....	3	51.....	4	86.....	...	138.....	1
16.....	1	52.....	...	87.....	1	139.....	...
17.....	3	53.....	2	91.....	7	142.....	4
18.....	2	54.....	3	92.....	1	143.....	...
19.....	5	56.....	1	93.....	3	144.....	...
21.....	2	57.....	4	94.....	3	145.....	...
23.....	1	58.....	3	95.....	8	146.....	1
24.....	7	59.....	...	96.....	11	147.....	...
25.....	12	61.....	6	97.....	1	148.....	2
26.....	1	62.....	7	98.....	4	149.....	6
27.....	3	63.....	3	112.....	1	152.....	6
28.....	...	64.....	2	115.....	2	153.....	4
29.....	1	65.....	4	117.....	10	154.....	7
31.....	4	67.....	3	121.....	...	155.....	...
32.....	5	68.....	4	122.....	2	156.....	5
34.....	1	69.....	4	123.....	3	157.....	6
35.....	2	71.....	3	124.....	4	158.....	1
36.....	7	72.....	4	125.....	1	159.....	7
37.....	...	73.....	2	126.....	...	162.....	1
38.....	...	74.....	1	127.....	...	163.....	...
39.....	6	75.....	5	128.....	1	164.....	...
41.....	11	76.....	3	129.....	2	165.....	4
42.....	3	78.....	6	131.....	1	166.....	...
43.....	2	79.....	9	132.....	5	167.....	...
45.....	4	81.....	3	133.....	6	169.....	...

TABLE No. 3—CONTINUED.

BOX.	Alarms...	BOX.	Alarms...	BOX.	Alarms...	BOX.	Alarms...
172.....	1	219.....	...	266.....	...	318.....	1
173.....	5	231.....	1	267.....	2	321.....	1
174.....	1	233.....	1	268.....	...	322.....	...
175.....	1	234.....	...	271.....	1	324.....	...
176.....	2	235.....	...	273.....	...	325.....	3
178.....	...	236.....	3	274.....	5	326.....	2
179.....	...	237.....	...	275.....	5	327.....	...
182.....	8	238.....	1	276.....	2	328.....	1
183.....	4	239.....	1	277.....	1	341.....	...
184.....	7	241.....	2	278.....	2	342.....	1
185.....	2	243.....	1	279.....	2	343.....	...
186.....	4	244.....	2	281.....	1	344.....	...
187.....	8	245.....	1	283.....	1	345.....	...
188.....	2	246.....	2	284.....	4	346.....	...
189.....	4	247.....	1	285.....	1	351.....	4
191.....	...	248.....	1	286.....	2	352.....	3
192.....	1	249.....	1	287.....	2	354.....	5
193.....	...	251.....	1	288.....	1	355.....	3
194.....	...	253.....	5	289.....	3	356.....	2
195.....	2	254.....	1	293.....	5	357.....	1
196.....	...	255.....	2	294.....	8	358.....	2
197.....	1	256.....	1	295.....	...	361.....	1
198.....	5	257.....	...	296.....	4	362.....	1
213.....	4	258.....	...	311.....	1	364.....	5
214.....	1	259.....	1	312.....	4	365.....	2
215.....	1	261.....	6	314.....	...	366.....	2
216.....	6	263.....	3	315.....	1	367.....	1
217.....	2	264.....	4	316.....	1	368.....	1
218.....	...	265.....	4	317.....	...	369.....	1

TABLE No. 3—CONCLUDED.

BOX.	Alarms ...	BOX.	Alarms ...	BOX	Alarms ...	BOX.	Alarms ...
371.....		415.....	1	471.....		531.....	
372.....	5	416.....	1	474.....		532.....	5
373.....		417.....	1	475.....		534.....	
374.....		418.....	1	476.....		536.....	
375.....	1	419.....	1	481.....		537.....	
376.....		424.....		482.....		538.....	
379.....		425.....	6	483.....		539.....	1
381.....		426.....	2	484.....		541.....	
382.....	1	431.....	2	485.....		542.....	
384.....		432.....	1	486.....		544.....	
385.....		433.....	1	488.....		546.....	1
386.....		435.....		492.....		561.....	
387.....		451.....	1	493.....		563.....	2
388.....	1	452.....	2	511.....		566.....	1
389.....	2	453.....	1	512.....	1	571.....	
391.....	2	454.....	1	513.....	1	572.....	2
392.....		455.....	1	514.....	4	573.....	
393.....	1	456.....		516.....	3	574.....	1
394.....		457.....		517.....		577.....	
395.....		458.....	3	518.....		578.....	
396.....	1	459.....	1	519.....	2	612.....	
397.....		461.....	1	521.....		613.....	
412.....		462.....	2	522.....			
413.....	3	463.....		523.....	1		
414.....		465.....		526.....			

BOXES

NUMBERS AND LOCATIONS.

No.	LOCATION.	No.	LOCATION.
8	Montgomery ave.-Union.	61	Howard-Third.
9	Montgomery ave.-Vallejo.	62	Mission-Fourth.
*13	Davis-Sacramento.	63	Harrison-Fourth.
14	Clay-Drumm.	64	Howard-Fifth.
15	East, opp. Clay.	65	Mission-Sixth.
16	Pacific-Mason.	67	Harrison-Hawthorne.
17	Pacific-Kearny.	68	Brannan-Fourth.
18	Sansome-Jackson.	69	Bryant-Third.
19	Davis-Washington.	71	Mission-Eleventh.
21	Clay-Kearny.	72	Mission-Thirteenth.
23	Clay-Taylor.	73	Howard-Seventh.
24	Clay-Powell.	74	Guerrero-Sixteenth.
25	Washington-Dupont.	75	McAllister-Jones.
26	Clay-Battery.	76	Market-Hayes.
27	Washington-Montgomery.	78	Howard-Ninth.
28	Pine-Dupont.	79	Folsom-Twelfth.
29	California-Stockton.	81	Hayes-Franklin.
31	Sansome-Sacramento.	82	Fulton-Gough.
32	California-Drumm.	83	Octavia-Oak.
34	Mission-Steuart.	84	Market, opp. Haight.
35	Pine-Montgomery.	85	Hayes-Laguna.
36	Folsom-Steuart.	86	Market-Van Ness ave.
37	Bush-Battery.	87	Hayes-Steiner.
38	Market-Second.	91	Turk-Larkin.
39	Howard-Spear.	92	Turk-Franklin.
41	Sutter-Jones.	93	Turk-Jones.
42	Geary-Mason.	94	Ellis-Polk.
43	Market-Grant ave.	95	Taylor-Golden Gate ave.
45	Ellis-Jones.	96	Taylor-Eddy.
46	Sutter-Kearny.	97	McAllister-Polk.
47	Market-Powell.	98	Stockton-Ellis.
48	Market-Kearny.	*112	Post-Grant ave.
49	Sutter-Stockton.	*113	Geary-Stockton.
51	Folsom-Beale.	*115	Ellis-Mason.
52	Howard-Fremont.	117	Post-Taylor.
53	Third-King.	121	Vallejo-Jones.
54	Howard-Second.	122	Larkin-Greenwich.
56	Bryant-Rincon place.	123	Union-Hyde.
57	Brannan-Second.	124	North Point-Larkin.
58	Folsom-First.	125	Jones-Filbert.
59	Brannan-First.	126	Washington-Hyde.

BOXES—CONTINUED.

No.	LOCATION.	No.	LOCATION.
†127	Broadway-Larkin.	183	Mission-Eighth.
128	Clay-Leavenworth.	184	Folsom-Eighth.
129	Pacific-Leavenworth.	185	Harrison-Tenth.
131	Sacramento-Jones.	186	Bryant-Fifth.
132	Pine-Mason.	187	Bryant-Eighth.
133	Bush-Powell.	188	Brannan-Ninth.
134	Bush-Hyde.	189	Sixth-Hooper.
135	Bush-Polk.	†191	Mason-Green.
136	Post-Van Ness ave.	192	Montgomery ave.-Chestnut.
137	Post-Larkin.	193	Lombard-Leavenworth.
138	California-Larkin.	194	Stockton-Chestnut.
139	Ellis-Hyde.	195	Montgomery ave.-Greenwich.
142	Valencia-Twentieth.	196	Stockton-Greenwich.
143	Mission-Twenty-second.	197	Bay-Powell.
144	Howard-Seventeenth.	198	Filbert-Dupont.
145	Folsom-Twenty-second.	213	Bush-Buchanan.
146	Folsom-Sixteenth.	214	Sutter-Pierce.
147	Howard-Twentieth.	215	Washington-Webster.
148	Mission-Sixteenth.	216	Sacramento-Fillmore.
149	Folsom-Eighteenth.	217	Pine-Devisadero.
152	Brannan-Seventh.	218	Bush-Fillmore.
153	Harrison-Seventh.	†219	Green-Fillmore.
154	Bryant-Sixth.	231	Howard-Twenty-fourth.
155	Folsom-Third.	233	Folsom-Twenty-fifth.
156	Fourth-Berry.	234	Harrison-Twenty-fourth.
157	Folsom-Fourth.	235	Potrero ave.-Twenty-second.
158	Folsom-Fifth.	236	Mission-Twenty-sixth.
159	Folsom-Sixth.	237	Dolores-Twenty-second.
162	Pacific ave.-Franklin.	238	Potrero ave.-Sixteenth.
163	California-Franklin.	239	Bryant-Nineteenth.
164	Clay-Polk.	241	Bush-Gough.
165	Lombard-Van Ness ave.	243	Clay-Scott.
166	Washington-Gough.	244	O'Farrell-Broderick.
167	Union-Polk.	245	Geary-Steiner.
*169	Hyde-Chestnut.	246	Post-Devisadero.
172	McAllister-Buchanan.	247	Turk-Scott.
173	Eddy-Buchanan.	248	Fulton-Devisadero.
174	Turk-Fillmore.	249	McAllister-Central ave.
175	Webster-Grove.	251	Broadway-Octavia.
176	Post-Octavia.	253	Union-Laguna.
178	Geary-Buchanan.	254	Union-Pierce.
179	O'Farrell-Gough.	255	Vallejo-Buchanan.
182	Sixth-Townsend.	256	Fillmore-Pacific ave.

BOXES—CONTINUED.

No.	LOCATION.	No.	LOCATION.
257	Fillmore-Chestnut.	341	Ellis-Pierce.
258	Pacific-Pierce.	342	Golden Gate ave.-Octavia.
259	Bay-Buchanan.	343	Fulton-Fillmore.
261	Mission-First.	344	McAllister-Pierce.
263	Main-Bryant.	345	Hayes-Central ave.
264	California-Front.	346	Broderick-Golden Gate ave.
265	Mission-Main.	351	Broadway-Montgomery.
266	Mission-New Montgomery.	352	Bay-Kearny.
267	Market-Beale.	354	Broadway-Front.
271	Seventeenth-Church.	355	Battery-Union.
273	Noe-Eighteenth.	356	Sansome-Greenwich.
274	Guerrero-Twenty-fourth.	357	Kearny-Green.
275	Church-Twenty-fourth.	358	East, opp. Pacific.
276	Valencia-Eighteenth.	361	Guerrero-Thirteenth.
277	Castro-Twentieth.	†362	Noe-Fourteenth.
278	Castro-Twenty-fourth.	364	Howard-Fourteenth.
279	Mission-Nineteenth.	365	Harrison-Fourteenth.
281	San Bruno ave.-Army.	366	Diamond-Nineteenth.
283	Church-Twenty-eighth.	367	Douglass-Seventeenth.
284	Mission-Twenty-ninth.	368	Market-Church.
285	Florida-Twenty-fifth.	369	Eighteenth-Danvers.
286	Twenty-fourth-York.	371	Sutter-Mason.
287	Twenty-ninth-Sanchez.	†372	Geary-Jones.
288	California ave.-Powell ave.	*373	Bush-Taylor.
289	Folsom-Precita ave.	374	Pine-Jones.
293	Jackson-Stockton.	*375	Eddy-Leavenworth.
294	Sacramento-Dupont.	*376	McAllister-Hyde.
295	Broadway-Powell.	*379	Geary-Hyde.
296	California-Kearny.	381	Haight-Buchanan.
*311	Broadway-Webster.	382	Waller-Fillmore.
312	Jackson-Laguna.	384	Webster-Oak.
314	California-Laguna.	385	Haight-Scott.
315	Jackson-Baker.	386	Oak-Devisadero.
316	Vallejo-Scott.	387	Hayes-Broderick.
317	Clay-Buchanan.	388	Haight-Baker.
318	Jackson-Devisadero.	389	South Broderick-Thirteenth.
321	California-Pierce.	391	Ashbury-Frederick.
*322	Pine-Baker.	392	Page-Central ave.
324	Sacramento-Broderick.	393	Buena Vista ave.-Central ave.
325	California-Central ave.	394	Page-Cole.
†326	Post-Baker.	395	Haight-Stanyan.
327	Point Lobos ave.-Parker ave.	396	Stanyan-Parnassus ave.
328	Point Lobos ave.-Wood.	397	Oak-Ashbury.

BOXES—CONTINUED.

No.	LOCATION.	No.	LOCATION.
412	Point Lobos ave.-First ave.	Tel. 488	Cliff ave.-Forty-eighth ave.
413	Seventh ave.-Clement.	492	Castro-Seventeenth.
*414	Seventh ave.-Lake.	493	Seventeenth-Uranus.
415	Twelfth ave.-Clement.	*511	Kansas-Alameda.
416	Fulton-Stanyan.	512	Fourth-Kentucky.
417	Fulton-Eighth ave.	513	Kentucky-Eighteenth.
418	Point Lobos ave.-Fifth ave.	514	Michigan-Twentieth.
419	California-Fourth ave.	516	Georgia-Twenty-second.
*422	Octavia-Greenwich.	†517	Kentucky-Twenty-second.
*424	Union-Devisadero.	518	Connecticut-Twentieth.
†425	Baker-Greenwich.	519	Mississippi-Eighteenth.
426	Baker-Jefferson.	521	Carolina-Seventeenth.
†431	Clay-Cherry.	522	Vermont-Nineteenth.
432	Washington-Walnut.	523	Iowa-Twenty-fifth.
*433	California-Maple.	*526	Mississippi-Sixteenth.
†435	Washington-Spruce.	531	Kentucky-First ave. South.
451	Mission-Highland ave.	532	Sixth ave. South-M.
452	Courtland ave.-North ave.	534	Sixth ave. South-Q.
453	Twenty-sixth-Sanchez.	536	Railroad ave.-Tenth ave. South.
454	Mission-Bosworth.	537	Fifteenth ave. South-Q
455	Douglass-Twenty-fourth.	538	Twelfth ave. South-P.
456	Noe-Twenty-second.	539	Railroad ave.-Eighteenth ave.
457	Church-Twentieth.	541	San Bruno ave-Fifteenth ave.
458	Guerrero-Army.	542	Courtland ave.-Nevada ave.
459	Randall-Chenery.	544	Crescent ave.-Andover ave.
461	Bryant-Twenty-first.	546	San Bruno ave.-Silver ave.
462	Vermont-Twenty-third.	561	Mission-Silver ave.
*463	Alabama-Montcalm.	563	Mission-Onondaga ave.
471	Parnassus ave.-Second ave.	566	Mission-Sickles ave.
Tel. 474	Almshouse.	571	Chenery-Castro.
475	Eighth ave.-I.	572	Sunnyside ave.-Baden.
*476	Tenth ave.- K.	*573	Sunnyside ave-Foerster.
*481	Point Lobos ave.-Ninth ave.	574	Ocean ave.-San Jose ave.
*482	California-Tenth ave.	577	Ocean ave.-Faxon ave.
*483	Thirteenth ave.-Lake.	578	Plymouth ave.-Sagamore.
*484	California-Twentieth ave.	*612	Grand Opera House.
485	Point Lobos-Twenty-second ave.	*613	Orpheum and Alcazar Theaters.
*486	Point Lobos-Thirty-second ave.		

Total number in service, 330.

Erected during the year, 27.

*New boxes.

†New locations.

‡Changed numbers.

CENTRAL STATION.

No.	CIRCUIT No. 1.	No.	CIRCUIT No. 2.
4	Bush-Montgomery.	7	Union-Seawall.
5	Clay-Battery.	13	Jackson-Davis.
6	Bush-Dupont.	15	Union-Dupont.
8	Post-Stockton.	17	Broadway-Front.
12	Stockton, bet. Ellis & O'Farrell.	21	Lombard-Battery.
14	Geary-Kearny.	23	Vallejo-Montgomery ave.
22	Market-Sansome.	25	Pacific-Montgomery ave.
24	California-Sansome.	26	Bay-Kearny.
33	O'Farrell-Grant ave.	31	Union-Powell.
36	California-Montgomery.	32	Francisco-Powell.
45	Clay-Montgomery.	34	Bay-Taylor.
52	Sutter-Kearny.	35	Washington-Mason.
54	Bush-Powell.	41	Pacific-Powell.
62	Pine-Front.	42	Montgomery ave.-Mason.
121	Pine-Kearny.	43	Washington-Dupont.
122	Pine-Sansome.	46	Broadway-Montgomery.
132	Powell-Eddy.	51	Clay-Stockton.
134	Powell-O'Farrell.	63	Pacific-Battery.
152	Bush-Battery.	64	Washington-East.
		71	Union-Battery.
		73	Jackson-Sansome.
		112	Broadway-Stockton.
		144	Bay-Hyde.

SOUTHERN STATION.

No.	CIRCUIT No. 1.	No.	CIRCUIT No. 2.
21	Folsom-Steuart.	12	Bryant-Third.
22	Mission-Steuart.	13	Bryant-Second.
23	Mission, bet. Main & Beale.	14	Bryant-Beale.
24	Mission-First.	15	Harrison-Beale.
25	Howard-Second.	33	Silver-Fourth.
31	Mission-Third.	34	Townsend-Fourth.
32	Howard-Fourth.	35	King-Third.
44	Harrison-Spear.	41	Townsend-Second.
51	Folsom-First.	42	Brannan-First.
153	Howard-East.	43	Folsom-Main.
314	Market-Beale.	45	Howard-Beale.
323	Jessie-Second.	52	Folsom-Third.
412	Market-Post.	132	Harrison-Fifth.
413	Market, opp. Grant ave.	321	Howard-Third.
512	Stevenson-Fourth.	332	Berry-Fourth.
		341	Freelon-Fourth.

No.	CIRCUIT No. 3.	No.	CIRCUIT No. 4.
53	Brannan-Fifth.	131	Harrison-Sixth.
54	Berry-Sixth.	141	Harrison-Tenth.
121	Townsend-Seventh.	142	Howard-Eighth.
122	Brannan-Ninth.	143	Howard-Tenth.
123	Folsom-Ninth.	144	Mission-Ninth.
124	Harrison-Eighth.	151	Mission-Seventh.
125	Folsom-Seventh.	152	Howard-Sixth.
133	Brannan-Sixth.	212	Howard-Fifth.
134	Bryant-Seventh.	322	Market-Sixth.
		331	Market-Fifth.

SEVENTEENTH STREET STATION.

No.	CIRCUIT NO. 1.	No.	CIRCUIT NO. 2.
21	Folsom-Sixteenth.	31	Folsom-Twenty-fourth.
22	Howard-Fourteenth.	32	Folsom-Twenty-sixth.
23	Folsom-Twelfth.	33	Alabama-Precita ave.
24	Mission-Eleventh.	34	Potrero ave.-Twenty-fourth.
25	Valencia-Sixteenth.	35	San Bruno ave.-Army.
324	Valencia-Hermann.	41	Potrero ave.-Seventeenth.
		42	Bryant-Nineteenth.
		52	Potrero ave.-Twenty-second.
		53	Folsom-Nineteenth.
		54	Florida-Twenty-sixth.
		55	Florida-Twenty-third.

No.	CIRCUIT NO. 3.	No.	CIRCUIT NO. 4.
43	Dolores-Twenty-second.	232	Guerrero-Fifteenth.
44	Church-Twenty-eighth.	233	Church-Seventeenth.
45	San Jose ave.-Thirtieth.	234	Market-Seventeenth.
213	Mission-Twenty-ninth.	241	Noe-Fourteenth.
214	Mission-Randall.	242	Castro-Nineteenth.
215	Courtland ave.-North ave.	243	Castro-Twenty-fourth.
221	Mission-Valencia.	244	Guerrero-Twenty-fourth.
222	Mission-Twenty-sixth.	245	Mission-Nineteenth.
223	Valencia-Twenty-fifth.	312	Church-Twenty-fourth.
224	Mission-Twenty-fourth.	313	Valencia-Twentieth.
225	Guerrero-Eighteenth.	414	Market-Church.
231	Howard-Twentieth.		
235	Sanchez-Twenty-sixth.		

CITY HALL STATION.

No.	CIRCUIT No. 1.	No.	CIRCUIT No. 2.
5	Oak-Van Ness ave.	4	McAllister-Gough.
7	Hayes-Broderick.	6	Ellis-Steiner.
13	Haight-Stanyan.	16	McAllister-Steiner.
15	Fulton-Devisadero.	34	Geary-Scott.
17	Haight-Scott.	46	Turk-Laguna.
21	Haight-Gough.	54	Point Lobos ave.-First ave.
25	Haight-Fillmore.	123	Ellis-Gough.
31	Fell-Gough.	125	Geary-Central ave.
41	Fulton-Seventh ave.		
45	McAllister-Central ave.		
51	Fulton-Stanyan.		
53	Ashbury-Waller.		

No.	CIRCUIT No. 3.	No.	CIRCUIT No. 4.
8	Grove-Van Ness ave.	24	Turk-Mason.
22	Hayes-Laguna.	26	Geary-Mason.
23	Geary-Van Ness ave.	32	Sutter-Leavenworth.
35	Sutter-Octavia.	52	Ellis-Taylor.
42	Grove-Webster.	61	Eddy-Leavenworth.
43	Geary-Buchanan.	62	Post-Jones.
44	O'Farrell-Larkin.	124	Pine-Jones.
122	Hayes-Larkin.	131	McAllister-Jones.
141	Golden Gate ave.-Fillmore.		

NORTH END STATION.

No.	CIRCUIT No. 1.	No.	CIRCUIT No. 2.
51	Union-Hyde.	132	Union-Octavia.
121	Broadway-Hyde.	133	Francisco-Fillmore.
122	Vallejo-Leavenworth.	134	Baker-Jefferson.
123	Washington-Leavenworth.	135	Lombard-Baker.
124	California-Hyde.	141	Union-Steiner.
125	Sutter-Polk.	142	Pacific-Fillmore.
131	Sacramento-Polk.	144	Broadway-Laguna.
424	Pacific-Jones.	145	Pacific-Gough.
432	Union-Polk.		

No.	CIRCUIT No. 3.	No.	CIRCUIT No. 4.
143	Pacific-Scott.	423	Pine-Franklin.
151	Washington-Buchanan.	425	Sutter-Steiner.
153	Jackson-Central ave.	431	Sutter-Devisadero.
154	Clay-Broderick.	433	California-Central ave.
155	Sacramento-Scott.	434	California-Fillmore.
421	Sacramento-Webster.		
422	California-Laguna.		

POUNDKEEPER'S REPORT.

SAN FRANCISCO, July 1, 1901.

To the Honorable Jas. D. Phelan, Mayor
Of the City and County of San Francisco—

DEAR SIR: As per requirements of Charter, I herewith submit to you my annual report.

DOGS.

On hand July 1, 1900.....	34	
Impounded during the year.....		5,782
Redeemed during the year.....	877	
Sold.....	153	
Destroyed.....	4,653	
Released without fees, dogs that escaped from their inclosures or having young at home.....	83	
On hand July 1, 1901.....	50	
Total.....	5,816	5,816

LARGE STOCK.

On hand July 1, 1900.....	1	
Impounded during the year.....		251
Redeemed.....	203	
Sold.....	17	
Destroyed.....	19	
Released, escaped, etc.....	13	
Total.....	252	252

SMALL STOCK.

Impounded during the year.....		211
Redeemed.....	179	
Sold.....	26	
Destroyed.....	1	
Released without fees.....	4	
Escaped from Pound.....	1	
Total.....	211	211

POUNDKEEPER'S REPORT.

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CASH STATEMENT.

Received for dogs redeemed.....	\$1,878 70
Received for dogs sold	460 00
Received for large stock redeemed	778 00
Received for large stock sold	142 00
Received for small stock redeemed.....	347 50
Received for small stock sold.....	39 75
Total.....	\$3,645 95

All of the above cash was paid in to the City Treasury as per receipts attached to monthly reports on file in Board of Supervisors and Auditor's office.

FEEES AND CHARGES.

Received for fees on all animals redeemed, sold and destroyed	\$6,510 75
Disbursed in conducting the Public Pound.....	3,265 40

Respectfully submitted,

J. W. WALTON,

Poundkeeper of the City and County of San Francisco.

REPORT

OF THE

DEPARTMENT OF ELECTIONS.

SAN FRANCISCO, June 30, 1901.

*To the Honorable James D. Phelan, Mayor
Of the City and County of San Francisco—*

Dear Sir: I hereby submit the annual report of the Department of Elections for the fiscal year ending June 30, 1901.

The report includes the financial statement of this department, together with a statement of the nativity of all registered voters, a table showing date of election, number of precincts, registration, and vote polled since the adoption of the Purity of Election Law March 18th, 1878; a statement showing comparison of registered vote for the years 1896-1898 and 1900, with vote polled November 6th, 1900, and also the official canvass of votes polled at the General Election held in the City and County of San Francisco, November 6th, 1900.

BOARD OF ELECTION COMMISSIONERS.

JEREMIAH DEASY, President,
A. W. VOORSANGER,
OLIVER EVERETT,
SHELDON G. KELLOGG,
M. GREENBLATT.

Respectfully submitted,

THOS. J. WALSH,

Secretary and Registrar of Voters.

REPORT OF DEPARTMENT OF ELECTIONS. 371

FINANCIAL STATEMENT OF THE BOARD OF ELECTION COMMISSIONERS
FOR FISCAL YEAR COMMENCING JULY 1, 1900, AND ENDING JUNE
30, 1901.

OFFICE OF THE REGISTRAR OF VOTERS.

	Salaries fixed by Charter.....	Proposed Primary, Aug. 14, 1900.....	General Election, Nov. 6, 1900.....	Preparation for Primary and Mu- nicipal Elections, 1901.....	General Office Ex- penses.....
Salaries of Commissioners.....	\$5,000 00				
Salary of Registrar.....	2,400 00				
Salaries deputies, clerks and messenger.....		\$2,700 00	\$28,994 54	\$2,000 00	
Advertising.....		314 17	1,053 25		
Ballot paper.....			880 00		
BOOTHES.					
Repairs, erecting, taking down, storing and furnishings, etc.....		1,457 64	5,121 81		
PRECINCT REGISTRATION.					
Polling place.....			2,265 00		
Salaries registration officers.....			10,908 00		
POLLING PLACES AND OFFICERS.					
Rent of precinct polling places.....			795 50		
Salaries of election officers.....			25,280 00		
Delivery and return of election supplies.....			484 00		
Printing index.....			6,258 30		
Printing sample ballots.....		150 00	675 15		
Rubber stamps.....		41 50	149 83		
Election stationery.....		1,016 29	1,759 42		
Horse hire.....		158 00	347 50		
Printing tally lists.....			1,187 75		
Renovating and fitting up new offices.....					\$500 00
General office expenses.....					2,269 82
Incinerating ballots.....					1 00
Twenty booths in course of erection.....				5,000 00	
	\$7,400 00	\$5,837 60	\$86,160 05	\$7,000 00	\$2,770 82

REPORT OF DEPARTMENT OF ELECTIONS.

To Appropriation—Salaries fixed by Charter.....	\$7,400 00	
To Appropriation—General Expenses.....	102,500 00	
		<hr/>
Total Appropriation		\$109,900 00
By Salaries fixed by law.....	\$7,400 00	
By Expenses Primary Election August 14, 1900..	5,837 60	
By Expenses General Election November 6, 1900	86,160 05	
By Expenses for Proposed Primary and General Election, 1901	7,000 00	
By General Office Expenses.....	2,770 82	
		<hr/>
Total Expenses		\$109,168 47
		<hr/>
Surplus		\$731 53

STATEMENT

SHOWING NATIVITY OF REGISTERED VOTERS ON NOVEMBER 6, 1900,
CITY AND COUNTY OF SAN FRANCISCO,

UNITED STATES.

Alabama.....	83	Montana	12
Arizona.....	12	North Dakota.....	2
Arkansas	52	North Carolina.....	85
Alaska	1	Nebraska.....	83
California.....	23,248	Nevada.....	572
Colorado.....	56	New Hampshire.....	306
Connecticut.....	361	New Jersey.....	491
Delaware.....	60	New Mexico	5
District of Columbia.....	110	New York.....	5,037
Florida.....	23	Ohio.....	1,486
Georgia.....	85	Oregon.....	339
Idaho.....	25	Pennsylvania	1,613
Illinois	1,429	Rhode Island.....	215
Indiana	558	South Dakota.....	11
Indian Territory.....	3	South Carolina	88
Iowa	596	Tennessee.....	214
Kansas.....	215	Texas.....	133
Kentucky.....	414	Utah.....	71
Louisiana	327	Vermont	268
Maine.....	961	Virginia	313
Maryland.....	423	West Virginia	76
Massachusetts.....	2,325	Washington.....	90
Michigan	598	Wisconsin.....	566
Minnesota.....	232	Wyoming.....	9
Mississippi.....	68		
Missouri.....	839	Total.....	45,189

OTHER COUNTRIES.

Africa	4	Japan	5
Azores.....	38	Morocco.....	
Asia.....	12	Malta.....	2
Australia.....	251	Mexico.....	62
Austria.....	720	New Foundland.....	20
Argentine Republic.....	5	New Zealand.....	43
At sea.....	21	Norway.....	420
Belgium.....	83	Poland.....	179
Bohemia.....	11	Portugal.....	80
China.....	3	Peru.....	10
Chili.....	21	Philippine Islands.....	3
Cyprus.....	1	Prince Edward's Island.....	59
Central America.....	11	Russia.....	455
Dominion of Canada.....	1,482	Roumania.....	20
Denmark.....	761	Scotland.....	924
Dalmatia.....	1	Spain.....	21
England.....	2,513	South Africa.....	10
East Indies.....	10	South America.....	18
France.....	738	Sweden.....	1,209
Finland.....	101	Switzerland.....	524
Germany.....	8,082	Sandwich Islands.....	23
Greece.....	33	Shetland Islands.....	2
Gibraltar.....	1	Tahiti.....	5
Hungary.....	81	Turkey.....	33
Holland.....	106	New South Wales.....	13
Iceland.....	1	Wales.....	144
Ireland.....	8,261	West Indies.....	53
Italy.....	814		
Total for other countries.....			28,444
Total for United States.....			45,189
Grand Total.....			73,633

TABLE

SHOWING DATE OF ELECTION, THE NUMBER OF PRECINCTS, THE TOTAL OF EACH GENERAL REGISTRATION AND OF VOTES CAST AT EACH ELECTION UNDER THE "ACT TO REGULATE THE REGISTRATION OF VOTERS AND SECURE THE PURITY OF ELECTIONS," APPROVED MARCH 18, 1878, AND CHARTER ADOPTED JANUARY 26, 1899.

DATE OF ELECTION.	Number of Precincts.	Registration	Total Vote Follwed.....	
June 19, 1878.....	136	.....	27,098	Delegates to Constitutional Convention
May 7, 1879.....	136	.....	38,034	Adoption New Constitution.
September 3, 1879.....	136	44,764	41,575	General.
March 30, 1880.....	136	.....	30,877	Freeholders'.
September 8, 1880.....	136	.....	23,398	Charter.
November 2, 1880.....	152	43,775	41,292	General-Presidential.
September 7, 1881.....	152	.....	33,216	Municipal.
November 7, 1882.....	152	42,135	39,102	General.
March 3, 1883.....	152	.....	18,764	Charter.
March 18, 1884.....	.....	.....	2,655	Assemblyman.
November 4, 1884.....	164	50,542	47,535	General-Presidential.
November 2, 1886.....	176	48,792	45,716	General.
April 12, 1887.....	176	.....	25,959	Amendments and Charter.
November 6, 1888.....	176	58,549	55,313	General-Presidential.
November 4, 1890.....	310	59,770	55,565	General.
November 8, 1892.....	275	67,849	60,790	General-Presidential.
November 6, 1894.....	293	68,039	61,548	General.
November 3, 1896.....	313	72,992	64,820	General-Presidential.
December 27, 1897.....	94	72,782	26,202	Freeholders'.
May 26, 1898.....	94	73,410	26,969	Charter.
November 8, 1898.....	303	62,965	55,275	General.
August 8, 1899.....	106	62,410	32,521	Primary.
November 7, 1899.....	303	71,786	51,965	Municipal.
December 27, 1899.....	73	70,681	29,972	Bond, " Parks."
December 29, 1899.....	73	70,726	22,331	Bond, " Sewers, etc."
November 6, 1900.....	303	73,633	65,161	General-Presidential.

STATEMENT

SHOWING COMPARISON OF REGISTERED VOTE FOR THE YEARS 1896, 1898 AND 1900, BY PRECINCTS AND ASSEMBLY DISTRICTS, AND VOTE POLLED NOVEMBER 6, 1900.

PRECINCTS.	Registered vote, 1896.....	Registered vote, 1898.....	Registered vote, Nov 6, 1900...	Vote polled, Nov 6, 1900...	PRECINCTS.	Registered vote, 1896.....	Registered vote, 1898.....	Registered vote, Nov 6, 1900...	Vote polled, Nov 6, 1900...
23th District—					29th District—				
1.....	269	185	231	177	8.....	217	273	319	253
2.....	241	172	209	144	9.....	196	209	247	203
3.....	198	150	169	143	10.....	233	196	222	194
4.....	200	156	180	157	11.....	211	204	221	187
5.....	193	219	225	195	12.....	285	150	165	148
6.....	212	181	181	136	13.....	201	176	174	146
7.....	262	248	296	227	14.....	238	191	246	208
8.....	208	146	163	136	15.....	219	138	182	149
9.....	250	182	217	173	16.....	231	167	205	180
10.....	219	90	99	82	17.....	188	195	196	181
11.....	193	147	195	166	18.....	203			
12.....	231	180	215	193	19.....	255			
13.....	234	158	211	185	Totals.....	4,044	3,287	3,954	3,234
14.....	241	234	207	163	30th District—				
15.....	206	251	239	198	1.....	244	220	220	185
16.....	198	203	219	194	2.....	212	177	201	171
17.....	236				3.....	239	211	274	222
Totals.....	3,791	2,902	3,256	2,669	4.....	213	236	264	222
th District—					5.....	245	253	278	229
1.....	254	138	193	154	6.....	204	220	274	227
2.....	186	241	296	225	7.....	220	263	347	274
3.....	184	176	180	139	8.....	191	187	204	175
4.....	206	120	193	152	9.....	296	255	270	246
5.....	214	233	314	231	10.....	232	287	357	301
6.....	158	222	300	246	11.....	231	233	254	217
7.....	165	258	301	258	12.....	154	178	207	183

REGISTERED VOTE—CONTINUED.

PRECINCTS.	Registered vote, 1896.....	Registered vote, 1898.....	Registered vote, Nov. 6, 1900...	Vote polled Nov. 6, 1900...	PRECINCTS.	Registered vote, 1896.....	Registered vote, 1898.....	Registered vote, Nov. 6, 1900...	Voted po last, Nov. 6, 1900...
30th District—					32d District—				
13.....	268	185	216	197	3.....	198	157	174	144
14.....	240	222	229	198	4.....	202	185	224	190
15.....	235				5.....	300	242	273	231
16.....	252				6.....	194	177	210	188
17.....	210				7.....	132	180	180	162
Totals.....	3,866	3,137	3,595	3,047	8.....	207	216	220	193
31st District—					33d District—				
1.....	258	200	241	208	1.....	219	228	246	223
2.....	239	232	259	221	2.....	27	211	255	236
3.....	279	233	237	202	3.....	262	250	302	285
4.....	293	211	269	231	4.....	240	220	241	217
5.....	222	191	226	194	5.....	241	251	267	254
6.....	245	224	253	215	6.....	241	196	242	220
7.....	271	182	197	172	7.....	264	249	275	252
8.....	257	205	254	220	8.....	225	211	238	217
9.....	263	231	242	213	9.....	185	268	319	294
10.....	199	156	201	186	10.....	285	217	253	228
11.....	223	227	282	238	11.....	302	250	288	257
12.....	249	201	225	192	12.....	288	200	210	182
13.....	240	210	207	185	13.....	225	272	291	261
14.....	225	208	262	231					
15.....	193	176	191	172					
16.....	214	228	244	224					
17.....	194								
Totals.....	4,064	3,315	3,790	3,304					

REGISTERED VOTE—CONTINUED.

PRECINCTS.	Registered vote, 1896.....	Registered vote, 1898.....	Registered vote, Nov. 6, 1900...	Vote polled, Nov. 6, 1900...	PRECINCTS.	Registered vote, 1896.....	Registered vote, 1898.....	Registered vote, Nov. 6, 1900...	Vote polled, Nov. 6, 1900...
33d District					35th District—				
14.....	237	196	210	187	2.....	246	234	250	228
15.....	284	191	210	190	3.....	279	242	263	243
Totals.....	3,725	3,410	3,847	3,503	4.....	234	213	246	219
34th District—					5.....	186	168	220	196
1.....	235	225	250	223	6.....	224	231	243	224
2.....	276	233	250	221	7.....	222	218	241	221
3.....	199	223	237	207	8.....	228	188	197	179
4.....	230	229	308	272	9.....	208	190	258	228
5.....	300	191	228	203	10.....	215	259	297	274
6.....	211	195	194	173	11.....	247	193	234	211
7.....	164	225	227	206	12.....	260	227	282	261
8.....	243	202	216	189	13.....	248	201	245	228
9.....	226	181	220	196	14.....	282	219	269	254
10.....	302	231	276	251	Totals.....	3,344	3,015	3,525	3,227
11.....	259	221	265	247	36th District—				
12.....	236	199	208	188	1.....	264	183	270	244
13.....	203	182	205	189	2.....	265	229	297	268
14.....	235	213	220	205	3.....	244	198	231	209
15.....	273	215	280	246	4.....	258	188	232	208
16.....	223	190	243	211	5.....	210	206	212	197
17.....	236	185	219	195	6.....	253	222	245	229
18.....	220	210	293	266	7.....	248	238	259	248
19.....	211	165	216	190	8.....	305	256	304	282
20.....	208	214	244	224	9.....	229	225	266	246
21.....	256	177	218	203	10.....	247	228	266	245
Totals.....	4,946	4,306	5,017	4,505	11.....	250	225	266	242
35th District—					12.....	290	219	260	240
1.....	265	232	280	261	13.....	205	216	258	236
					14.....	276	181	221	202

REGISTERED VOTE—CONTINUED.

PRECINCTS.	Registered vote, 1896.....	Registered vote, 1898.....	Registered vote, Nov. 6, 1900...	Vote polled, Nov. 6, 1900...	PRECINCTS.	Registered vote, 1896.....	Registered vote, 1898.....	Registered vote, Nov. 6, 1900...	Vote polled, Nov. 6, 1900...
36th District—					37th District—				
15.....	262	199	241	225	20.....	191	267	349	317
16.....	305	227	243	231	21.....	263	251	341	316
17.....	247	187	227	213	Totals.....	4,960	4,556	5,575	5,072
18.....	266	252	380	323	38th District—				
19.....	268	224	249	223	1.....	207	211	307	278
20.....	294	256	298	272	2.....	220	201	258	231
21.....	.....	220	272	250	3.....	237	232	257	214
22.....	.....	173	204	188	4.....	223	240	274	239
Totals.....	5,206	4,752	5,701	5,221	5.....	254	224	275	233
37th District—					6.....	239	239	269	253
1.....	226	196	233	207	7.....	224	200	234	219
2.....	246	218	259	227	8.....	208	183	201	187
3.....	199	170	242	216	9.....	264	243	278	245
4.....	245	222	245	215	10.....	239	233	266	240
5.....	258	218	271	246	11.....	253	274	324	301
6.....	246	201	250	231	12.....	244	217	255	235
7.....	215	205	228	215	13.....	255	250	283	260
8.....	256	225	251	222	14.....	270	266	289	254
9.....	268	204	227	206	15.....	231	220	229	214
10.....	272	226	289	270	16.....	241	235	276	258
11.....	261	203	261	235	17.....	241	234	265	267
12.....	231	235	275	248	18.....	132	182	232	205
13.....	232	202	280	249	Totals.....	4,182	4,084	4,792	4,333
14.....	258	243	282	261	39th District—				
15.....	228	218	288	265	1.....	209	171	176	156
16.....	209	198	220	203	2.....	241	195	.....	236
17.....	216	232	305	287	3.....	280	196	203	163
18.....	204	191	229	210	4.....	241	200	2 47	208
19.....	236	231	250	226					

REGISTERED VOTE—CONTINUED.

PRECINCTS.	Registered vote, 1898.....	Registered vote, 1898.....	Registered vote, Nov. 6, 1900....	Vote polled, Nov. 6, 1900....	PRECINCTS.	Registered vote, 1898.....	Registered vote, 1898.....	Registered vote, Nov. 6, 1900....	Vote polled, Nov. 6, 1900....
39th District—					40th District—				
5.....	285	217	285	236	11.....	255	196	207	189
6.....	291	218	255	214	12.....	187	197	246	229
7.....	197	176	239	204	13.....	230	214	242	216
8.....	187	142	178	153	14.....	267	240	304	276
9.....	254	218	289	237	15.....	213	186	199	184
10.....	272	185	238	196	16.....	212	253	277	254
11.....	302	214	251	219	17.....	241	231	248	228
12.....	192	177	250	216	18.....	269	225	261	235
13.....	243	209	291	246	19.....	226	243	287	271
14.....	236	202	262	217	20.....	273	208	269	246
15.....	196	189	239	215	Totals.....	4,662	4,240	4,906	4,495
16.....	261	247	289	249	41st District—				
17.....	258	158	199	180	1.....	189	180	217	200
18.....	289	246	289	249	2.....	258	214	244	228
19.....	205	207	258	221	3.....	242	216	237	218
20.....	215	160	208	188	4.....	253	203	227	206
21.....	191	191	219	197	5.....	265	234	237	22
Totals.....	4,854	4,118	5,134	4,400	6.....	259	209	235	213
40th District—					7.....	211	173	222	205
1.....	197	213	244	225	8.....	224	196	261	240
2.....	295	197	251	237	9.....	235	191	211	190
3.....	241	214	230	207	10.....	229	225	276	255
4.....	236	219	241	219	11.....	227	209	215	200
5.....	159	186	239	221	12.....	213	207	265	247
6.....	235	205	233	212	13.....	241	196	263	248
7.....	194	188	226	209	14.....	193	191	211	184
8.....	244	213	252	232	15.....	252	219	246	228
9.....	268	229	253	227	16.....	231	236	303	277
10.....	220	183	197	178					

REGISTERED VOTE—CONTINUED.

PRECINCTS.	Registered vote, 1896.....	Registered vote, 1898.....	Registered vote, Nov. 6, 1900....	Vote polled, Nov. 6, 1900....	PRECINCTS.	Registered vote, 1896.....	Registered vote, 1898.....	Registered vote, Nov. 6, 1900....	Vote polled, Nov. 6, 1900....
41st District—					43d District—				
17.....	250	211	240	213	6.....	237	219	314	271
18.....	313	198	281	247	7.....	228	196	231	190
.....	229	257	378	354	8.....	289	275	313	280
Totals.....	4,514	3,965	4,769	4,374	9.....	242	273	249	209
42d District—					44th District—				
1.....	236	200	213	170	10.....	210	222	292	261
2.....	258	194	203	172	11.....	227	182	226	193
3.....	230	164	224	174	12.....	190	194	211	189
4.....	212	159	208	179	13.....	202	164	193	177
5.....	241	274	367	320	14.....	216	203	232	207
6.....	180	239	306	273	15.....	173			
7.....	275	282	376	332	16.....	171			
8.....	229	187	242	217	Totals.....	3,425	2,909	3,352	2,906
9.....	228	141	166	155	43d District—				
10.....	238	206	233	208	1.....	256	218	225	201
11.....	239	250	278	258	2.....	252	192	177	161
12.....	168	236	281	255	3.....	213	179	210	176
13.....	218	165	209	185	4.....	191	139	144	129
14.....	265	192	236	217	5.....	230	212	218	198
15.....	225	217	221	205	6.....	232	226	227	210
16.....	203				7.....	257	235	272	247
Totals.....	3,645	3,106	3,763	3,320	8.....	190	177	171	151
43d District—					44th District—				
1.....	191	217	204	162	9.....	267	229	269	249
2.....	263	204	230	178	10.....	241	197	209	196
3.....	169	217	285	254	11.....	216	170	184	171
4.....	196	176	214	188	12.....	176	156	158	142
5.....	221	167	158	147	13.....	205	202	218	200
					14.....	219	195	216	201
					15.....	288	216	260	242
					Totals.....	3,433	2,943	3,158	2,874

REGISTERED VOTE—CONTINUED.

PRECINCTS.	Registered vote, 1896.....	Registered vote, 1898.....	Registered vote, Nov. 6, 1900...	Vote polled, Nov. 6, 1900...	PRECINCTS.	Registered vote, 1896.....	Registered vote, 1898.....	Registered vote, Nov. 6, 1900...	Vote polled, Nov. 6, 1900...
45th District—					45th District—				
1.....	207	173	180	155	9.....	220	168	207	174
2.....	180	131	162	139	10.....	244	206	198	172
3.....	182	179	209	154	11.....	166	153	152	128
4.....	258	183	225	184	12.....	190	263	266	245
5.....	255	208	220	176	13.....	204			
6.....	180	118	136	107	14.....	210			
7.....	313	205	305	209	Totals.....	3,006	2,198	2,466	2,009
8.....	197	205	206	166					

RECAPITULATION.

ASSEMBLY DISTRICTS.	Registered vote, 1898.....	Registered vote, 1898.....	Registered vote, Nov. 6, 1900....	Vote polled Nov 9, 1900....
Twenty-eighth	3,791	2,902	3,256	2,669
Twenty-ninth	4,044	3,287	3,954	3,234
Thirtieth.....	3,886	3,137	3,595	3,047
Thirty-first	4,064	3,315	3,790	3,304
Thirty-second.....	3,305	2,722	3,033	2,668
Thirty-third.....	3,725	3,410	3,847	3,503
Thirty-fourth.....	4,946	4,306	5,017	4,505
Thirty-fifth.....	3,344	3,015	3,525	3,227
Thirty-sixth.....	5,236	4,752	5,701	5,221
Thirty-seventh.....	4,960	4,556	5,575	5,072
Thirty-eighth	4,182	4,084	4,792	4,333
Thirty-ninth	4,854	4,118	5,134	4,400
Fortieth.....	4,662	4,240	4,906	4,495
Forty-first	4,514	3,965	4,769	4,374
Forty-second.....	3,645	3,106	3,763	3,320
Forty-third	3,425	2,909	3,352	2,906
Forty-fourth.....	3,433	2,943	3,158	2,874
Forty fifth	3,006	2,198	2,466	2,009
Totals.....	72,992	62,965	73,633	65,161

REPORT OF THE BOARD OF PARK COMMISSIONERS.

SAN FRANCISCO, July 1, 1901.

To the Honorable Jas. D. Phelan, Mayor
Of the City and County of San Francisco—

Pursuant to Section 9, Article XVI of the Charter of the City and County of San Francisco, the Park Commissioners herewith present their report for the fiscal year ending June 30, 1901.

Yours respectfully,

PHILIP J. FAY, Secretary.

RECEIPTS.

	AMOUNT	TOTAL
By balance brought forward.....	\$28 50	
By subscription from property owners for the improve- ment of Duboce Park.....	1,000 00	
By rent of Children's Quarters.....	750 00	
By boarding and keeping Park Mounted Police, horses and rent of telephone.....	1,689 30	
By rent of boat house.....	275 00	
By Police Court fines.....	140 00	
By sale of horse.....	20 90	
By sale of iron.....	3 40	
By damages to fish exhibit.....	100 00	
By Market-street Railroad Company privileges.....	100 00	
By labor demands (Bernal Park Fund).....	565 96	
By sale of Museum Guides.....	25 50	
By automobile permits.....	48 00	
By programme privileges	140 00	
By refunding of bill A. S. W. Co.....	53 85	
By revenue from Children's Quarters.....	4,241 97	
By taxes	265,008 51	\$274,190 89

DISBURSEMENTS.

	AMOUNT.	TOTAL.
To construction account	\$73,236 30	
To maintenance account	126,623 31	
To salaries: Superintendent, Secretary and Clerks.....	7,302 65	
To office expenses: Freight, telephones, lights, printing, stationery, postage, coal and sundry expenses.....	789 80	
To small parks and squares—		
Construction	\$14,463 88	} 45,409 16
Maintenance	30,945 25	
To refunding protested taxes.....	1,911 62	
Balance forwarded to next fiscal year.....	18,828 05	
		\$274,190 89

CONSTRUCTION ACCOUNT.

STRUCTURES.	AMOUNT.	TOTAL.
To concrete steps at new music stand (continued from last year).....	\$56 63	
To tunnel into Concert Valley (continued from last year).	1,644 49	
To benches for music court.....	8,125 23	
To moving back shed on speed track.....	291 80	
To repairing statuary in music courts.....	150 00	
To fence around D-street quarry.....	246 00	
To fence at Ninth avenue.....	68 00	
To pedestals for statues in music courts.....	100 75	
To fencing elk grove.....	2,388 76	

CONSTRUCTION ACCOUNT—CONTINUED.

	AMOUNT.	TOTAL.
To cave in bear cage.....	\$140 91	
To toilet at ball grounds.....	1,065 93	
To inscription on new music stand.....	35 00	
To fence around new deer park.....	1,421 44	
To rustic shelter, deer park.....	500 95	
To fountains in Concert Valley.....	241 44	
To fence on B. V. P.....	22 00	
To donkey shed.....	111 21	
To addition to ladies' lavatory (not finished).....	1,407 40	
To tennis courts.....	39 41	
To addition to gents' lavatory (not finished).....	192 50	
To sundries on structures.....	15 54	
To labor on bicycle rest.....	13 50	
		\$18,278 28
WATER WORKS.		
To extension of water pipe (labor and material).....	\$1,067 44	
To oil burners, heaters, etc.....	231 00	
To hardware and sundries.....	31 39	
To Norton's improved engine lathe.....	490 00	
To Cushman chuck, plates ret'd.....	140 00	
		1,959 83
NURSERY.		
To seeds from Australia.....		26 10
MUSEUM.		
To constructing gun carriage.....	\$54 55	
To copper sheet for roof.....	10 64	
To automatic damper regulator.....	76 75	
To mahoganzed screens.....	54 00	
		195 94

CONSTRUCTION ACCOUNT—CONTINUED.

	AMOUNT.	TOTAL.
DRAINAGE.		
To labor, material, pipe and fittings.....	\$769 85	
		\$769 85
CONSERVATORY.		
To plants, etc.....	\$30 00	
		30 00
STOCK AND IMPLEMENTS.		
To cage for condor.....	\$450 18	
To chipmunks	12 00	
To hardware, tools and lumber.....	126 52	
To birds	6 00	
To Bob White quails.....	12 00	
To hydraulic spray pump.....	36 00	
		542 70
ROADS AND WALKS.		
To constructing drive from Nineteenth avenue to South Drive (continued from last year).....	\$492 56	
To constructing walk from Ninth avenue to Music Court (continued from last year).....	1,675 89	
To constructing on bicycle path at music stand.....	120 55	
To constructing drive to sheds on speed track.....	394 62	
To constructing walks about Chain of Lakes.....	706 85	
To constructing drive from music stand to main drive near Japanese Garden	586 50	
To constructing walk at cut.....	22 00	
To constructing walk from Stanyan street to Conservatory Valley, parallel with main drive.....	477 50	
To constructing walk from Conservatory to Music Court..	1,506 75	
To constructing walk around new deer park.....	533 62	
To sundries: Powder, fuse, etc.....	40 00	
		6,756 84

CONSTRUCTION ACCOUNT—CONTINUED.

	AMOUNT.	TOTAL.
GROUNDS.		
To labor, material, etc., for grading, forming, dressing, trimming and fertilizing grounds and purchasing of loam, manure and trees—		
Improving grounds in Deer Park: Labor, loam, clay and material	\$1,640 98	
Improving new grounds in general.....	2,500 00	
Improving ground about Concert Valley: Labor, loam and clay	282 50	
Improving ground at Nineteenth avenue: Labor, loam and clay.....	876 00	
Improving grounds at Chain of Lakes: Labor, loam, plants, etc.....	13,708 90	
Improving ground about borders of drive near Japanese Gardens	246 00	
Improving ground in Elk Meadow: Labor, loam, etc....	657 87	
Improving grounds about Broom Point: Labor, loam, etc.	723 50	
Improving grounds in De Laveaga Dell: Labor, loam, clay and trees.....	690 75	
Fittings about tennis courts.....	14 00	
Improving grounds, general: Labor, loam, clay, trees, seeds, etc.....	2,280 74	
		\$23,621 24
FOREST PLANTATION AND RECLAMATION.		
Planting trees, spreading loam, manure, etc., reclaiming the sand drifts—		
To labor in hauling and spreading loam and manure.....	\$6,401 34	
To loam purchased.....	6,861 88	
To manure hauled.....	1,291 25	

CONSTRUCTION ACCOUNT—CONTINUED.

	AMOUNT.	TOTAL.
To forestry, B. V. P.....	\$163 00	
To trees at entrance to speed road.....	262 50	
To hauling brush to beach, drifting sands.....	337 00	
To constructing track for street sweepings.....	141 00	
To planting forest in Golden Gate Park.....	1,500 00	
		\$16,957 90
SMALL WORKS.		
To, construction of lakelets: Labor, sundry material clay, cement.....	\$9,029 99	
To construction rockwork and tunnel.....	230 25	
To construction rockwork in deer park.....	86 00	
To construction rockwork in De Laveaga Dell.....	330 75	
To construction of private park telephone system.....	132 65	
		9,809 64
SMALL PARKS AND SQUARES.		
To constructing and improving the following parks and squares—		
City Hall grounds.....	\$302 25	
Union Square.....	566 00	
Jefferson Square.....	6 15	
Alamo Square.....	137 90	
Denman School grounds.....	73 38	
Lafayette Square.....	251 50	
Portsmouth Square.....	1,537 84	
Franklin Square, grading, etc.....	3,711 20	
Holly Park.....	1,070 90	
Alta Plaza (terrace steps).....	3,871 12	
Columbia Square.....	10 00	
Duboce Park (constructing).....	4,798 56	

CONSTRUCTION ACCOUNT—CONTINUED.

	AMOUNT.	TOTAL.
Bernal Park.....	\$750 32	
Telegraph Hill (fence and trees).....	1,403 40	
CHILDREN'S QUARTERS.		
To putting in gas pipe.....	\$66 00	18,429 52
To building donkey shed.....	158 52	
To pipe, plumbing, etc.....	504 75	
To goat sulkies.....	42 00	
To donkey.....	15 00	786 27

MAINTENANCE ACCOUNT.

	AMOUNT.	TOTAL.
STRUCTURES.		
To labor, lumber, paints, oils, hardware, etc., used in the general maintenance of buildings—		
Labor	\$4,903 70	
Material	2,116 32	
		\$7,020 02
WATER WORKS.		
To labor in repairing water pipe, engineer, coal, labor and material—		
Labor	\$3,248 91	
Coal	2,280 57	
Labor on wood.....	2,015 08	
Tools, hardware, oil and fittings, etc.....	1,617 35	
		9,161 91

MAINTENANCE ACCOUNT—CONTINUED.

	AMOUNT.	TOTAL.
DRAINAGE.		
To labor and material for maintenance of sewers and drains	\$336 75	
		\$336 75
ROADS AND WALKS.		
To labor and material, repairing, cleaning, dressing, sprinkling, roads and walks.....	\$12,233 15	
Oil, powder, fuse, hardware, etc.....	1,097 97	
		13,331 12
GROUNDS.		
To the maintenance of lawns and grounds generally—		
To labor.....	\$43,086 07	
To hauling and planting trees (scrub).....	3,836 95	
To hose, poison, seed, hardware, lumber, etc.....	1,375 63	
		48,298 65
FOREST PLANTATION AND RECLAMATION.		
To labor.....	1,428 50	
		1,428 50
CONSERVATORY.		
To labor.....	\$4,099 15	
To coal.....	1,190 90	
To insurance, seeds and sundries.....	389 45	
		5,679 50
STOCK AND IMPLEMENTS.		
To labor on stock.....	\$3,278 45	
To repairing implements.....	1,220 27	
To feed for birds and animals.....	1,273 71	
To hardware.....	890 46	
To keeping mounted park police horses.....	1,536 00	
To horse purchased.....	300 00	
To sundries: Birds, oil, wire rope, tools, etc.....	125 01	
		8,623 90

MAINTENANCE ACCOUNT—CONTINUED.

	AMOUNT.	TOTAL.
MUSEUM.		
To labor.....	\$5,418 90	
To gas.....	184 70	
To coal.....	529 29	
To damage to painting.....	100 00	
To catalogues.....	350 00	
To general expense and repairs: Paints, oil, labor, stationery, printing press, lumber, etc.....	2,206 53	
		\$8,789 42
SUNDRY EXPENSES.		
To expressage, freight, rent of filters, carfares, electric lights in Park Lodge, telephone, etc.....	\$893 03	893 03
MUSIC.		
To weekly concerts.....	\$1,682 00	1,682 00
ELECTRIC LIGHTS.		
To labor and carbons, lamps, etc.....	\$1,735 32	1,735 32
STOW LAKE.		
To cleaning lake, labor, brooms, boots, etc.....	\$2,400 79	
To paints and oils.....	24 00	
SMALL SQUARES AND PARKS.		
To labor, water, hose and sundries—		
Alamo Square.....	\$3,872 91	
Alta Plaza Square.....	3,612 81	
Columbia Square.....	1,529 20	
Garfield Square.....	1,662 29	
Hamilton Square.....	2,660 76	
Jefferson Square.....	4,740 47	
Lafayette Square.....	2,635 10	
New City Hall Square.....	1,901 15	
Portsmouth Square.....	999 31	
		2,424 79

MAINTENANCE ACCOUNT—CONTINUED.

	AMOUNT.	TOTAL.
South Park.....	\$906 71	
Union Square.....	2,231 79	
Washington Square.....	985 80	
School grounds.....	832 50	
City and County Hospital grounds.....	834 25	
Duboce Park.....	426 25	
Holly Park.....	74 00	
Bernal Park.....	155 08	
General account, hose, etc.....	1,014 90	
CHILDREN'S QUARTERS.		
To salaries, superintendent and attendants.....	\$1,975 15	\$31,075 28
To labor on improvements: Painters, carpenters, etc.....	775 05	
To supplies: Coffee, chocolate, candies, bread, groceries, coal, cake, stationery, telephone, etc., hay and feed..	1,711 15	
To material used on improvements: Paint, lumber, pipe, hardware, etc.....	1,992 09	
		6,453 44

PARK COMMISSIONERS' REPORT.

APPORTIONED ACCOUNTS.

	AMOUNT.	TOTAL.
STABLES.		
To labor.....	\$3,054 97	
To hay, grain, feed, etc.....	5,652 65	
To veterinary services.....	200 15	
To medicine.....	50 45	
To mt. harness.....	122 78	
To sundries: Sponges, oil, soap, sweat pads, salt brick, etc.	84 17	
NURSERY.		\$9,165 17
To labor.....	\$8,017 08	
To seeds, plants, etc.....	469 87	
		8,486 95

DISTRICT ATTORNEY'S REPORT.

SAN FRANCISCO, July 1, 1901.

To the Honorable Jas. D. Phelan, Mayor

Of the City and County of San Francisco—

Dear Sir: I have the honor to herewith submit a report of the informations and indictments filed in the District Attorney's Office, together with a statement of the disposition of the cases covered thereby during my incumbency of the office; supplemented by the yearly report, which is a continuation of the reports of prior terms.

It has been the practice for years to carry upon the official reports from the office a long list of cases undisposed of, which includes a great number against defendants sentenced on other charges, fugitives from justice, persons dead, etc. This encumbers and complicates the record, and a person gets a very indefinite idea of the work performed during any one year or term. Of cases dismissed, many are against the same defendant held on several charges, and the same is true of the term "cases pending," which further includes the dead, fugitives, etc. This clogs the report with the debris of years. Schedule "A" shows in a concrete form the work performed during this administration.

There has been a hearing granted in 271 felony cases, during the term, resulting in 238 convictions and 33 acquittals, a percentage of convictions amounting to .878.

It has been the aim of the office to grant a speedy trial in all cases, and this has resulted in keeping the calendars free from old actions and left us with fewer cases pending than there have been in years. Of the cases now pending, many have been tried once, others are against minors, and there are several consisting of two or more charges against one defendant.

Notwithstanding the fact that many duties have been thrown upon the District Attorney's Office, under the Charter, which were never before performed by it or by the departments whose duties it now covers, nevertheless the office has been conducted with a very material saving to the City and County.

The yearly pay-roll of the office now included within the District Attorney's Office was in 1899 \$42,000. In 1900 it was \$36,200, a saving to the City of \$6,600 per year.

In addition to this the District Attorney acts as adviser to several commissions that formerly employed special counsel, thus making a further saving.

Respectfully,

LEWIS F. BYINGTON,
District Attorney.

INFORMATIONS FILED IN DISTRICT ATTORNEY'S OFFICE FROM

OFFENSES CHARGED.	Dismissed — second information filed.
Burglary	1
Forgery	
Assault to commit robbery.....	
Manslaughter	
Embezzlement	
Mayhem	
Infamous crime against nature.....	
Assault to rape.....	
Attempt to commit burglary.....	
Attempt to commit grand larceny.....	
Attempt to commit infamous crime against nature.....	
Felony	
Assault with deadly weapon.....	
Seduction under promise of marriage.....	
Subornation of perjury.....	
Perjury	
Assault with attempt to commit murder.....	
Obtaining money by false pretenses.....	
Grand larceny.....	
Robbery	2
Misdemeanor	

INFORMATIONS

OFFENSES CHARGED.	Dismissed - Second Information filed.
Murder .....	.....
Rape	1
Petit larceny, second offense.....	.....
Arson .....	.....
Receiving stolen goods.....	.....
	4

FILED—CONCLUDED.

CONVICTED.			Acquitted	DISMISSED.						PENDING.					Total
As charged	Of lesser offense	Of misdemeanor		No evidence to convict	Defendants sentenced on other charges	Defendants dead	Defendants insane	On habeas corpus	On demurrer	Defendants discharged on their own recognizance	Against defendants insane on other charges	Against defendants insane	Against minors in Industrial School	Ag'nt fugitives from justice		For trial June 30, 1901
3	2		5	2										8	20
1		1		1											4
7				1											8
1															1
1			1											3	5
167	28	43	33	21	7	1	1	6	5	7	6	2	3	50	389

Cases received since January 8, 1900 (defendants).....	389
Convicted as charged.....	167
Convicted of lesser offense.....	28
Convicted of misdemeanor.....	43
Acquitted	33
Dismissed—no evidence to convict.....	22
Dismissed—defendants sentenced on other charges.....	7
Dismissed—defendants dead.....	1
Dismissed—on habeas corpus.....	6
Dismissed—on demurrer.....	5
Dismissed—second information filed.....	4
Pending—defendants discharged on their own recognizance.....	7
Pending—sentenced on other charges.....	6
Pending—defendants insane.....	2
Pending—minors in Industrial School.....	3
Pending—fugitives from justice.....	5
Pending—for trial.....	50
	<hr/>
	389 389

Total number of cases heard.....	271
Total number of convictions.....	238
Total number acquittals.....	33
Percentage of convictions.....	87.8

DISPOSITION OF CRIMINAL CASES FOR THE

OFFENSES CHARGED.	Cases pending July 1, 1900.....	Informations filed during fiscal year.....	Indictments filed during fiscal year.....	Granted new trial.....	Total number of cases.....
Abduction.....	3				3
Arson.....	3			1	4
Assault by means and force likely to produce great bodily injury.....	12			1	13
Adultery.....	1				1
Assault with deadly weapon.....	29	24		9	62
Assault with intent to commit murder.....	29	23		4	56
Assault with intent to commit rape.....	8	3		1	12
Assault with intent to commit robbery.....	7	4			11
Attempt to commit burglary.....	11	4			15
Attempt to extort.....	2			1	3
Attempt to commit grand larceny.....	3	1			4
Attempt to commit the infamous crime against nature.....		2			2
Attempt to commit mayhem.....	1				1
Attempt to rescue prisoners.....	1				1
Bigamy.....	1	1			2
Burglary.....	191	77		17	285
Child stealing.....	2				2
Conspiracy.....	2				2
Crime against nature.....	5	4			9
Destroying telegraph message.....	1				1
Embezzlement.....	47	6		23	76
Extortion.....	2				2

DISTRICT ATTORNEY'S REPORT.

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FISCAL YEAR ENDING JUNE 30, 1901.

CONVICTED.			Acquitted.....	DISMISSED.						PENDING.					Total.....	
As charged.....	Of lesser offense	Of misdemeanor.....		No evidence to convict.....	Defendants sentenced on other charges.....	Defendants dead.....	In furtherance of justice...	On habeas corpus.....	On demurrer.....	Against defendants insane.	Against defendants sentenced on other charges.....	Against defendants sentenced on their own re-organization ..	Against minors in Industrial School.....	Against fugitives from justice		For trial June 30, 1901.....
.....	3	3
1	1	.....	.....	.....	1	.....	4
.....	4	.....	.....	.....	8	1	13
.....	1	.....	1
11	7	2	3	.....	.....	.....	.....	.....	.....	12	4	1	.....	14	8	62
3	7	4	3	.....	.....	.....	.....	.....	.....	9	6	6	.....	9	9	56
2	2	.....	.....	.....	.....	.....	.....	4	3	.....	.....	1	.....	12
1	3	2	.....	.....	1	4	11
1	2	.....	.....	.....	.....	.....	.....	.....	.....	5	3	.....	.....	.....	.....	15
.....	1	.....	.....	.....	.....	1	3
1	1	.....	4
1	1	2
.....	1
.....	1
1	1	.....	.....	.....	.....	.....	2
58	20	.....	3	3	.....	.....	.....	90	74	6	.....	11	20	285
.....	2
.....	2
2	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	9
.....	1
5	2	.....	.....	.....	.....	6	18	.....	.....	21	23	76
.....	2

DISPOSITION OF

OFFENSES CHARGED.	Cases pending July 1, 1900.....	Informations filed during fiscal year.....	Indictments filed during fiscal year.....	Granted new trial.....	Total number of cases.....
Felony under Section 51, Penal Code.....	3				3
Felony under Section 222, Penal Code.....	1				1
Felony under Section 266, Penal Code.....	1				1
Felony under Section 470, Penal Code.....	1				1
Felony under Section 475, Penal Code.....	2				2
Felony under Section 476, Penal Code.....	9				9
Felony under Section 479, Penal Code.....	1				1
Felony under Section 564, Penal Code.....	1				1
Felony under Section 587, Penal Code.....	1				1
Felony under Section 596, Penal Code.....	2				2
Felony under Section 22, Purity of Elections Act.....	1				1
Felony under Section 29, Purity of Elections Act.....	3				3
Felony under Act of March 23, 1893 (compulsory prostration of women)	1				1
Felony under Section 247, Penal Code.....		1			1
Forgery.....	69	10			79
Fraudulently concealing property.....	2				2
Gaming.....	4				4
Grand Larceny.....	135	37			172
Incest.....	1				1
Libel.....	14				14
Manslaughter.....	5	3			8
Mayhem.....	3				3

CRIMINAL CASES—CONTINUED.

CONVICTED.			Acquitted.....	DISMISSED.							PENDING.					Total.....
As charged.....	Of lesser offense	Of misdemeanor.....		No evidence to convict.....	Defendants sentenced on other charges.....	Defendants dead.....	In furtherance of justice.....	On habeas corpus	On demurrer.....	Defendants discharged on their own recognizance	Defendants sentenced on other charges.....	Against defendants insane..	Against Minors in Industrial School.....	Against fugitives from justice.....	For trial June 30, 1901.....	
														3	3	
									1						1	
													1		1	
														1	1	
															2	
									1						2	
															9	
													1		1	
															1	
															1	
									1						2	
															2	
															1	
1															1	
4			1						17	30	4		7	16	79	
									1				1		2	
														4	4	
26		9	2	4	1				39	36	1		37	17	172	
													1		1	
									3	3	1			7	14	
1			2						1	1			1	2	8	
1									1					1	3	

DISPOSITION OF

OFFENSES CHARGED.	Cases pending July 1, 1900	Informations filed during fiscal year.....	Indictments filed during fiscal year.....	Granted new trial.....	Total number of cases.....
Misdemeanor.....	2				2
Murder.....	36	12			48
Obtaining money or property by false pretenses.....	33	4			37
Perjury.....	34	2			36
Petit larceny (second offense).....	10	6			16
Rape.....	15	1			16
Receiving stolen goods.....	11	3			14
Robbery.....	40	19			59
Seduction under promise of marriage.....	1				1
Subornation of perjury.....	1				1
Totals.....					1,108

GENERAL RECAPITULATION.

Cases reported pending July 1, 1900, against defendants discharged on their own recognizance.....	244
Cases reported pending July 1, 1900, against defendants sentenced on other charges.....	205
Cases reported pending July 1, 1900, against defendants insane.....	26
Cases reported pending July 1, 1900, against defendant minors in Industrial School	5
Cases reported pending July 1, 1900, against defendants fugitives from justice.....	186
Cases reported pending July 1, 1900, against defendants for trial.....	164
Cases reported pending July 1, 1900, against defendants convicted and judgment suspended.....	28
Cases reported pending July 1, 1900, against defendants convicted and new trial granted.....	2
Cases reported pending July 1, 1900, against defendants for examination.....	1
Cases received during the year ending June 30, 1901.....	247
Writs of habeas corpus pending July 1, 1901.....	3
Writs of habeas corpus issued during the year ending June 30, 1900.....	69
Appeals from Police Court pending July 1, 1900.....	14
Appeals from Police Courts filed during the year ending June 30, 1901.....	48
Complaints filed against incorrigible minors.....	6
Convicted as charged.....	129
Convicted of lesser offense.....	22
Convicted of misdemeanor.....	25
Acquitted.....	30
Dismissed—on habeas corpus.....	2
Dismissed—no evidence to convict.....	22
Dismissed—defendants sentenced on other charges.....	1
Dismissed—in furtherance of justice.....	2
Dismissed—on demurrer.....	2
Pending against defendants discharged on their own recognizance.....	253
Pending against defendants sentenced on other charges.....	210
Pending against defendants insane.....	30
Pending against defendants minors in industrial schools.....	6
Pending against defendants fugitives from justice.....	188
Pending against defendants convicted and judgment suspended.....	28
Pending against defendants for examination.....	1
Pending against defendants for trial.....	155
Writs of habeas corpus—Prisoners discharged.....	22
Writs of habeas corpus—Prisoners remanded.....	46
Writs of habeas corpus—Pending.....	4
Appeals from Police Court—Judgments affirmed.....	13
Appeals from Police Court—Judgments modified.....	1
Appeals from Police Court—Judgments dismissed.....	5
Appeals from Police Court—Judgments reversed and cause dismissed.....	26

Appeals from Police Court—Judgments dismissed and new trial ordered.....	1
Appeals from Police Court—Judgments pending.....	11
Incorrigibles committed to reform schools.....	2
Complaints dismissed, prisoners discharged.....	1
Pending June 30, 1901.....	3
	<hr/>
	1,248 1,248

WRITS OF HABEAS CORPUS.

Writs pending July 1, 1900.....	3
Writs issued during the year ending June 30, 1901.....	69
Prisoners remanded.....	46
Prisoners discharged.....	22
Writs pending June 30, 1901.....	4
	<hr/>
	72 72

**CRIMES AGAINST INCORRIGIBLE MINORS OTHER THAN
FELONY INFORMATIONS.**

Complaints filed during the year ending June 30, 1901.....	6
Committed to reform school.....	2
Complaint dismissed, prisoner discharged.....	1
Pending June 30, 1901.....	3
	<hr/>
	6 6

APPEALS FROM POLICE COURTS.

Appeals pending June 30, 1900.....	14
Appeals filed during the fiscal year ending June 30, 1901.....	48
Judgments affirmed.....	18
Judgments modified.....	1
Judgments dismissed.....	5
Judgments reversed and cause dismissed.....	26
Judgments reversed and new trial ordered.....	1
Pending June 30, 1901.....	11
	<hr/>
Totals.....	62 62

RECEIPT AND DISPOSITION OF CASES.

ABDUCTION -

Cases reported pending July 1, 1900, against defendants fugitives from justice.....	3	
Pending June 30, 1901, against defendants fugitives from justice.....		3
	3	3

ARSON -

Cases reported pending July 1, 1900, against defendants fugitives from justice.....	1	
Cases reported pending July 1, 1900, against defendants insane.....	1	
Cases reported pending July 1, 1900, against defendants discharged on their own recognizance.....	1	
Cases reported pending July 1, 1900, against defendants for trial.....	1	
Convicted as charged.....		1
Pending June 30, 1901, against defendants fugitives from justice.....		1
Pending June 30, 1901, against defendants insane.....		1
Pending June 30, 1901, against defendants discharged on their own recognizance....		1
	4	4

ASSAULT BY MEANS AND FORCE LIKELY TO PRODUCE GREAT BODILY
INJURY -

Cases reported pending July 1, 1900, against defendants discharged on their own recognizance.....	4	
Cases reported pending July 1, 1900, against defendants fugitives from justice.....	8	
Cases reported pending July 1, 1900, against defendants for trial.....	1	
Pending June 30, 1901, against defendants discharged on their own recognizance....		4
Pending June 30, 1901, against defendants fugitives from justice.....		8
Pending June 30, 1901, against defendants for trial.....		1
	13	13

ADULTERY -

Cases reported pending July 1, 1900, against defendants fugitives from justice.....	1	
Pending June 30, 1901, against defendants fugitives from justice.....		1
	1	1

ASSAULT WITH A DEADLY WEAPON -

Cases reported pending July 1, 1900, against defendants discharged on their own recognizance.....	11
Cases reported pending July 1, 1900, against defendants sentenced on other charges.	2
Cases reported pending July 1, 1900, against defendants insane.....	1
Cases reported pending July 1, 1900, against defendants convicted and judgments sus- pended.....	1

DISTRICT ATTORNEY'S REPORT.

Cases reported pending July 1, 1900, against defendants fugitives from just ce.....	14	
Cases reported pending July 1, 1900, against defendants for trial.....	9	
Cases received during the year ending June 30, 1901.....	24	
Convicted as charged.....		11
Convicted of misdemeanor.....		5
Convicted of lesser offense.....		7
Pending June 30, 1901, against defendants discharged on their own recognizance....		11
Pending June 30, 1901, against defendants sentenced on other charges.....		4
Pending June 30, 1901, against defendants insane.....		1
Pending June 30, 1901, against defendants convicted and judgment suspended.....		1
Pending June 30, 1901, against defendants fugitives from justice.....		14
Pending June 30, 1901, against defendants for trial.....		5
Acquitted.....		3
		<hr/>
	62	62

ASSAULT WITH INTENT TO COMMIT MURDER—

Cases reported pending July 1, 1900, against defendants discharged on their own recognizance.....	9	
Cases reported pending July 1, 1900, against defendants sentenced on other charges	6	
Cases reported pending July 1, 1900, against defendants insane.....	5	
Cases reported pending July 1, 1900, against defendants fugitives from justice.....		
Cases reported pending July 1, 1900, against defendants for trial.....	4	
Cases received during the year ending June 30, 1901.....	23	
Convicted as charged.....		3
Convicted of lesser offense.....		7
Convicted of misdemeanor.....		6
Acquitted.....		3
Pending June 30, 1901, against defendants discharged on their own recognizance....		9
Pending June 30, 1901, against defendants sentenced on other charges.....		6
Pending June 30, 1901, against defendants insane.....		6
Pending June 30, 1901, against defendants fugitives from justice.....		9
Pending June 30, 1901, against defendants for trial.....		7
		<hr/>
	56	56

ASSAULT WITH INTENT TO COMMIT RAPE—

Cases reported pending July 1, 1900, against defendants discharged on their own recognizance.....	4	
Cases reported pending July 1, 1900, against defendants fugitives from justice.....	1	
Cases reported pending July 1, 1900, against defendants sentenced on other charges	3	
Cases reported pending July 1, 1900, against defendants for trial.....	1	
Cases received during the year ending June 30, 1901.....	3	
Convicted as charged.....		2
Acquitted.....		2
ending June 30, 1901, against defendants discharged on their own recognizance....		4
Pending June 30, 1901, against defendants sentenced upon other charges.....		3
Pending June 30, 1901, against defendants fugitives from justice.....		1
		<hr/>
	12	12

ASSAULT WITH INTENT TO COMMIT ROBBERY—

Cases reported pending July 1, 1900, against defendants discharged on their own recognizance.....	3	
Cases reported pending July 1, 1900, against defendants fugitives from justice.....	1	
Cases reported pending July 1, 1900, against defendants for trial.....	3	
Cases received during the year ending June 30, 1901.....	4	
Convicted as charged.....		1
Pending June 30, 1901, against defendants discharged on their own recognizance....	3	
Pending June 30, 1901, against defendants fugitives from justice.....	1	
Pending June 30, 1901, against defendants sentenced on other charges.....	2	
Pending June 30, 1901, against defendants for trial.....	4	
	<hr/>	<hr/>
	11	11

ATTEMPT TO COMMIT BURGLARY—

Cases reported pending July 1, 1901, against defendants discharged on their own recognizance.....	5	
Cases reported pending July 1, 1900, against defendants sentenced on other charges.....	3	
Cases reported pending July 1, 1900, against defendants sentenced to reform school on other charges.....	3	
Cases received during the year ending June 30, 1901.....	4	
Convicted as charged.....		1
Pending June 30, 1901, against defendants discharged on their own recognizance....	5	
Pending June 30, 1901, against defendants sentenced on other charges.....	3	
Pending June 30, 1901, against defendants committed to reform school on other charges.....	4	
Convicted of lesser offense.....	2	
	<hr/>	<hr/>
	15	15

ATTEMPT TO EXTORT—

Cases reported pending July 1, 1900, against defendants discharged on their own recognizance.....	1	
Cases reported pending July 1, 1900, against defendants fugitives from justice.....	1	
Cases reported pending July 1, 1900, against defendants for trial.....	1	
Dismissed in furtherance of justice.....		1
Pending June 30, 1901, against defendants discharged on their own recognizance....	1	
Pending June 30, 1901, against defendants for trial (dead).....	1	
	<hr/>	<hr/>
	3	3

ATTEMPT TO COMMIT GRAND LARCENY—

Cases reported pending July 1, 1900, against defendants discharged on their own recognizance.....	2	
Cases reported pending July 1, 1900, against defendants fugitives from justice.....	1	
Cases received during the year ending June 30, 1901.....	1	
Pending June 30, 1901, against defendants discharged on their own recognizance....		2
Pending June 30, 1901, against defendants fugitives from justice.....		1
Convicted as charged.....		1
	<hr/>	<hr/>
	4	4

DISTRICT ATTORNEY'S REPORT.

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ATTEMPT TO COMMIT THE INFAMOUS CRIME AGAINST NATURE—

Cases received during the year ending June 30, 1901.....	2	
Convicted as charged		1
Pending June 30, 1901, against defendants for trial.....		1
	<u>2</u>	<u>2</u>

ATTEMPT TO COMMIT MAYHEM—

Cases reported pending July 1, 1900, against defendants sentenced on other charges.	1	
Pending June 30, 1901, against defendants sentenced on other charges.....		1
	<u>1</u>	<u>1</u>

ATTEMPT TO RESCUE PRISONERS—

Cases reported pending July 1, 1900, against defendants fugitives from justice.....	1	
Pending June 30, 1901, against defendants fugitives from justice.....		1
	<u>1</u>	<u>1</u>

BIGAMY—

Cases reported pending July 1, 1900, against defendants discharged on their own recognizance.....	1	
Cases received during the year ending June 30, 1901.....	1	
Convicted as charged.....		1
Pending June 30, 1901, against defendants discharged on their own recognizance....		1
	<u>2</u>	<u>2</u>

BURGLARY—

Cases reported pending July 1, 1900, against defendants discharged on their own recognizance.....	86	
Cases reported pending July 1, 1900, against defendants sentenced on other charges..	73	
Cases reported pending July 1, 1900, against defendants insane	5	
Cases reported pending July 1, 1900, against defendants convicted and judgment suspended.....	16	
Cases reported pending July 1, 1900, against defendants fugitives from justice.....	11	
Cases reported pending July 1, 1900, against defendants for trial.....	17	
Cases received during the year ending June 30, 1901.....	77	
Convicted as charged.....		59
Acquitted		4
Dismissed—no evidence to convict.....		
Dismissed—defendants sentenced on other charges.....		3
Pending June 30, 1901, against defendants discharged on their own recognizance....		90
Pending June 30 1901, against defendants sentenced on other charges.....		76
Pending June 30, 1901, against defendants insane.....		6
Pending June 30, 1901, against defendants convicted and judgment suspended.....		16
Pending June 30, 1901, against defendants fugitives from justice.....		11
Pending June 30, 1901, against defendants for trial.....		17
		<u>285</u>

CHILD-STEALING—

Cases reported pending July 1, 1900, against defendants discharged on their own recognizance.....	2	
Pending June 30, 1901, against defendants discharged on their own recognizance....		2
	2	2

CONSPIRACY—

Cases reported pending July 1, 1900, against defendants for trial.....	2	
Pending June 30, 1901, against defendants for trial.....		2
	2	2

CRIME AGAINST NATURE—

Cases reported pending July 1, 1900, against defendants discharged on their own recognizance.....	4	
Cases reported pending July 1, 1900, against defendants fugitives from justice.	1	
Cases received during the year ending June 30, 1901.....	4	
Pending June 30, 1901, against defendants discharged on their own recognizance....		4
Pending June 30, 1901, against defendants fugitives from justice.....		1
Pending June 30, 1901, against defendants for trial.....		1
Convicted as charged.....		2
Convicted of lesser offense.....		1
	9	9

DESTROYING TELEGRAPH MESSAGE—

Cases reported pending July 1, 1900, against defendants discharged on their own recognizance.....	1	
Pending June 30, 1901, against defendants discharged on their own recognizance....		1
	1	1

EMBEZZLEMENT—

Cases reported pending July 1, 1900, against defendants discharged on their own recognizance.....	6	
Cases reported pending July 1, 1900, against defendants sentenced on other charges. 13		
Cases reported pending July 1, 1900, against defendants convicted and judgment sus- pended.....	2	
Cases reported pending July 1, 1900, against defendants fugitives from justice.....	21	
Cases reported pending July 1, 1900, against defendants for trial.....	23	
Cases received during the year ending June 30, 1901.....	6	
Convicted as charged.....		3
Dismissed—no evidence to convict.....		2
Dismissed—on writ of habeas corpus.....		2
Pending June 30, 1901, against defendants discharged on their own recognizance....		6
Pending June 30, 1901, against defendants sentenced on other charges.....		18
Pending June 30, 1901, against defendants convicted and judgment suspended.....		2
Pending June 30, 1901, against defendants fugitives from justice.....		23
Pending June 30, 1901, against defendants for trial.....		20

EXTORTION—

Cases reported pending July 1, 1900, against defendants discharged on their own recognizance	2	
Pending June 30, 1901, against defendants discharged on their own recognizance....		2
	<u>2</u>	<u>2</u>

FELONY UNDER SECTION 51—

Cases reported pending July 1, 1900, against defendants for trial.....	3	
Pending June 30, 1901, against defendants for trial.....		3
	<u>3</u>	<u>3</u>

FELONY UNDER SECTION 222, PENAL CODE—

Cases reported pending July 1, 1900, against defendants discharged on their own recognizance	1	
Pending June 30, 1901, against defendants discharged on their own recognizance....		1
	<u>1</u>	<u>1</u>

FELONY UNDER SECTION 266 PENAL CODE—

Cases reported pending July 1, 1900, against defendants fugitives from justice.....	1	
Pending June 30, 1901, against defendants fugitives from justice.....		1
	<u>1</u>	<u>1</u>

FELONY UNDER SECTION 470 PENAL CODE—

Cases reported pending July 1, 1900, against defendants for trial	1	
Pending June 30, 1901, against defendants for trial.....		1
	<u>1</u>	<u>1</u>

FELONY UNDER SECTION 475, PENAL CODE—

Cases reported pending July 1, 1901, against defendants sentenced on other charges. .	2	
Pending June 30, 1901, against defendants sentenced on other charges		2
	<u>2</u>	<u>2</u>

FELONY UNDER SECTION 476 PENAL CODE—

Cases reported pending July 1, 1900, against defendants discharged on their own recognizance.....	1	
Cases reported pending July 1, 1900, against defendants fugitives from justice.....	3	
Cases reported pending July 1, 1900, against defendants for trial.....	2	
Cases reported pending July 1, 1900, against defendants sentenced on other charges. .	3	
Pending June 30, 1901, against defendants discharged on their own recognizance....		1
Pending June 30, 1901, against defendants fugitives from justice.....		3
Pending June 30, 1901, against defendants for trial.....		2
Pending June 30, 1901, against defendants sentenced on other charges		3
		<u>9</u>
	<u>9</u>	<u>9</u>

FELONY UNDER SECTION 479 PENAL CODE—

Cases reported pending July 1, 1900, against defendants fugitives from justice.....	1	
Pending June 30, 1901, against defendants fugitives from justice.....		1
	1	1

FELONY UNDER SECTION 564 PENAL CODE—

Cases reported pending July 1, 1900, against defendants fugitives from justice.....	1	
Pending July 1, 1901, against defendants fugitives from justice.....		1
	1	1

FELONY UNDER SECTION 587 PENAL CODE—

Cases reported pending July 1, 1900, against defendants discharged on their own recognizance.....	1	
Pending June 30, 1901, against defendants discharged on their own recognizance....		1
	1	1

FELONY UNDER SECTION 596 PENAL CODE—

Cases reported pending July 1, 1901, against defendants for trial.....	2	
Pending July 1, 1901, against defendants for trial.....		2
	2	2

FELONY UNDER SECTION 22 OF PURITY OF ELECTIONS ACT—

Cases reported pending July 1, 1900, against defendants sentenced on other charges.	1	
Pending June 30, 1901, against defendants sentenced on other charges.....		1
	1	1

FELONY UNDER SECTION 29 OF PURITY OF ELECTIONS ACT—

Cases reported pending July 1, 1900, against defendants for trial.....	3	
Pending June 30, 1901, against defendants for trial.....		3
	3	3

FELONY UNDER ACT OF MARCH 23, 1893—

Cases received during the year ending June 30, 1901.....	1	
Pending June 30, 1901, against defendants for trial.....		1
	1	1

FELONY UNDER SECTION 847 OF PENAL CODE—

Cases received during the year ending June 30, 1901.....	1	
Convicted as charged.....		1
	1	1

FORGERY—

Cases reported pending July 1, 1900, against defendants discharged on their own recognizance.....	17	
Cases reported pending July 1, 1900, against defendants sentenced on other charges.	30	
Cases reported pending July 1, 1900, against defendants insane.....	4	

FORGERY—Continued.

Cases reported pending July 1, 1900, against defendants fugitives from justice.....	7
Cases reported pending July 1, 1900, against defendants for trial.....	11
Cases received during the year ending June 30, 1901.....	10
Convicted as charged.....	4
Acquitted.....	1
Pending June 30, 1901, against defendants discharged on their own recognizance....	17
Pending June 30, 1901, against defendants sentenced on other charges.....	30
Pending June 30, 1901, against defendants insane.....	4
Pending June 30, 1901, against defendants fugitives from justice.....	7
Pending June 30, 1901, against defendants for trial.....	16
	79
	79

FRAUDULENTLY CONCEALING PROPERTY—

Cases reported pending July 1, 1900, against defendants discharged on their own recognizance.....	1
Cases reported pending July 1, 1900, against defendants fugitives from justice.....	1
Pending June 30, 1901, against defendants discharged on their own recognizance....	1
Pending June 30, 1901, against defendants fugitives from justice.....	1
	2
	2

GAMING—

Cases reported pending July 1, 1900, against defendants for trial.....	4
Pending June 30, 1901, against defendants for trial.....	4
	4
	4

GRAND LARCENY—

Cases reported pending July 1, 1900, against defendants discharged on their own recognizance.....	39
Cases reported pending July 1, 1900, against defendants sentenced on other charges.	36
Cases reported pending July 1, 1900, against defendants insane.....	1
Cases reported pending July 1, 1900, against defendants convicted and judgment sus- pended.....	8
Cases reported pending July 1, 1900, against defendants fugitives from justice.....	37
Cases reported pending July 1, 1900, against defendants for trial.....	14
Cases received during the year June 30, 1901.....	37
Convicted as charged.....	18
Dismissed—no evidence to convict.....	6
Convicted of misdemeanor.....	11
Acquitted.....	2
Dismissed—defendant sentenced on other charges.....	1
Pending June 30, 1901, against defendants discharged on their own recognizance....	39
Pending June 30, 1901, against defendants sentenced on other charges.....	36
Pending June 30, 1901, against defendants insane.....	1
Pending June 30, 1901, against defendants convicted and judgment suspended.....	8
Pending June 30, 1901, against defendants fugitives from justice.....	37
Pending June 30, 1901, against defendants for trial.....	13
	172
	172

INCEST—

Cases reported pending July 1, 1900, against defendants fugitives from justice	1	
Pending June 30, 1901, against defendants fugitives from justice		1
	<u>1</u>	<u>1</u>

LIBEL—

Cases reported pending July 1, 1900, against defendants discharged on their own recognizance	3	
Cases reported pending July 1, 1900, against defendants sentenced on other charges	3	
Cases reported pending July 1, 1900, against defendants insane	1	
Cases reported pending July 1, 1900, against defendants for trial	7	
Pending June 30, 1901, against defendants discharged on their own recognizance		3
Pending June 30, 1901, against defendants sentenced on other charges		3
Pending June 30, 1901, against defendants insane		1
Pending June 30, 1901, against defendants for trial		7
	<u>14</u>	<u>14</u>

MANSLAUGHTER—

Cases reported pending July 1, 1900, against defendants discharged on their own recognizance	1	
Cases reported pending July 1, 1900, against defendants sentenced on other charges	1	
Cases reported pending July 1, 1900, against defendants for trial	3	
Cases received during the year ending June 30, 1901	3	
Convicted		1
Acquitted		2
Pending June 30, 1901, against defendants discharged on their own recognizance		1
Pending June 30, 1901, against defendants sentenced on other charges		1
Pending June 30, 1901, against defendants fugitives from justice		1
Pending June 30, 1901, against defendants for trial		2
	<u>8</u>	<u>8</u>

MAYHEM—

Cases reported pending July 1, 1900, against defendants discharged on their own recognizance	1	
Cases reported pending July 1, 1900, against defendants for trial	2	
Convicted		1
Pending June 30, 1901, against defendants discharged on their own recognizance		1
Pending June 30, 1901, against defendants for trial		1
	<u>3</u>	<u>3</u>

MISDEMEANOR—

Cases reported pending July 1, 1901, against defendants discharged on their own recognizance	1	
Cases reported pending July 1, 1901, against defendants for trial	1	
Pending June 30, 1901, against defendants discharged on their own recognizance		1
Pending June 30, 1901, against defendants for trial		1
	<u>2</u>	<u>2</u>

DISTRICT ATTORNEY'S REPORT.

MURDER—

Cases reported pending July 1, 1900, against defendants discharged on their own recognizance.....	4	
Cases reported pending July 1, 1900, against defendants sentenced on other charges.	2	
Cases reported pending July 1, 1900, against defendants insane.....	6	
Cases reported pending July 1, 1900, against defendants fugitives from justice.....	10	
Cases reported pending July 1, 1900, against defendants for trial.....	12	
Cases reported pending July 1, 1900, against defendants convicted and new trial granted	2	
Cases received during the year ending June 30, 1901.....	12	
Convicted as charged.....		4
Convicted of lesser offense.....		2
Acquitted.....		6
Dismissed—no evidence to convict.....		1
Pending June 30, 1901, against defendants discharged on their own recognizance....	4	
Pending June 30, 1901, against defendants sentenced on other charges.....	3	
Pending June 30, 1901, against defendants insane.....	8	
Pending June 30, 1901, against defendants fugitives from justice.....	10	
Pending June 30, 1901, against defendants for trial.....	10	
	48	48

OBTAINING MONEY OR PROPERTY BY FALSE PRETENSES—

Cases reported pending July 1, 1900, against defendants discharged on their own recognizance.....	1	
Cases reported pending July 1, 1900, against defendants sentenced on other charges.	2	
Cases reported pending July 1, 1900, against defendants fugitives from justice.....	23	
Cases reported pending July 1, 1900, against defendants for trial.....	7	
Cases received during the year ending June 30, 1901.	4	
Convicted as charged.....		1
Acquitted.....		1
Dismissed—no evidence to convict.....		4
Pending June 30, 1901, against defendants discharged on their own recognizance....	1	
Pending June 30, 1901, against defendants sentenced on other charges.....	3	
Pending June 30, 1901, against defendants fugitives from justice.....	23	
Pending June 30, 1901, against defendants for trial.....	4	
	37	37

PERJURY—

Cases reported pending July 1, 1900, against defendants discharged on their own recognizance.....	4
Cases reported pending July 1, 1900, against defendants sentenced on other charges.	2
Cases reported pending July 1, 1900, against defendants insane.....	2
Cases reported pending July 1, 1900, against defendants fugitives from justice.....	11
Cases reported pending July 1, 1900, against defendants for trial.....	15
Cases received during the year ending June 30, 1901.....	2

PERJURY—Continued.

Dismissed—on demurrer.....	2
Pending June 30, 1901, against defendants discharged on their own recognizance....	4
Pending June 30, 1901, against defendants sentenced on other charges.....	2
Pending June 30, 1901, against defendants insane.....	2
Pending June 30, 1901, against defendants fugitives from justice.....	11
Pending June 30, 1901, against defendants for trial.....	15
	<hr/>
	36
	36

PETIT LARCENY, SECOND OFFENSE—

Cases reported pending July 1, 1900, against defendants discharged on their own recognizance.....	2
Cases reported pending July 1, 1900, against defendants sentenced on other charges. 8	8
Cases received during the year ending June 30, 1901.....	6
Convicted as charged.....	5
Acquitted.....	1
Pending June 30, 1901, against defendants discharged on their own recognizance....	8
Pending June 30, 1901, against defendants sentenced on other charges.	2
	<hr/>
	16
	16

RAPE—

Cases reported pending July 1, 1900, against defendants discharged on their own recognizance.....	4
Cases reported pending July 1, 1900, against defendants sentenced on other charges. 2	2
Cases reported pending July 1, 1900, against defendants convicted and judgment suspended.....	1
Cases reported pending July 1, 1900, against defendants fugitives from justice.....	3
Cases reported pending July 1, 1900, against defendants for trial.....	5
Cases received during the year ending June 30, 1901.....	1
Convicted of misdemeanor.....	3
Acquitted.....	1
Dismissed—no evidence to convict.....	2
Pending June 30, 1901, against defendants discharged on their own recognizance....	4
Pending June 30, 1901, against defendants sentenced on other charges.....	2
Pending June 30, 1901, against defendants convicted and judgment suspended.....	1
Pending June 30, 1901, against defendants fugitives from justice.....	3
	<hr/>
	16
	16

RECEIVING STOLEN GOODS—

Cases reported pending July 1, 1900, against defendants discharged on their own recognizance.....	1
Cases reported pending July 1, 1900, against defendants for examination.....	1
Cases reported pending July 1, 1900, against defendants fugitives from justice.....	5
Cases reported pending July 1, 1901, against defendants for trial.....	4
Cases received during the year ending June 30, 1901.....	3
Acquitted.....	1

RECEIVING STOLEN GOODS—Continued.

Pending June 30, 1901, against defendants sentenced on their own recognizance.....	1	
Pending June 30, 1901, against defendants for examination.....	1	
Pending June 30, 1901, against defendants fugitives from justice.....	6	
Pending June 30, 1901, against defendants for trial.....	5	
		14 14

ROBBERY—

Cases reported pending July 1, 1901, against defendants discharged on their own recognizance.....	19	
Cases reported pending July 1, 1901, against defendants sentenced on other charges.....	7	
Cases reported pending July 1, 1901, against defendants fugitives from justice.....	7	
Cases reported pending July 1, 1900, against defendants minors in industrial school.....	2	
Cases reported pending July 1, 1900, against defendants for trial.....	5	
Cases received during the year ending June 30, 1901.....	19	
Convicted as charged.....		7
Convicted of lesser offense.....		3
Acquitted.....		4
Dismissed—no evidence to convict.....		4
Pending June 30, 1901, against defendants discharged on their own recognizance.....	19	
Pending June 30, 1901, against defendants sentenced on other charges.....	7	
Pending June 30, 1901, against defendants fugitives from justice.....	7	
Pending June 30, 1901, against defendants minors in industrial school.....	2	
Pending June 30, 1901, against defendants for trial.....	6	
		59 59

SEDUCTION UNDER PROMISE OF MARRIAGE—

Cases reported pending July 1, 1900, against defendants fugitives from justice.....	1	
Pending June 30, 1901, against defendants fugitives from justice.....		1
		1 1

SUBORNATION OF PERJURY—

Cases reported pending July 1, 1900, against defendants for trial.....	1	
Pending June 30, 1901, against defendants for trial.....		1
		1 1

REPORT OF CHIEF OF POLICE.

SAN FRANCISCO, July 31, 1901.

*To the Honorable Jas. D. Phelan, Mayor
Of the City and County of San Francisco—*

Dear Sir: In compliance with Section 9, Article 16 of the Charter, I submit herewith the Annual Report of the Police Department for the fiscal year ending June 30, 1901.

Respectfully yours,

W. P. SULLIVAN JR.,
Chief of Police.

EXHIBIT "A."
TABULATED STATEMENT OF OFFENSES CHARGED AND ARRESTS MADE BY THE POLICE DEPARTMENT OF SAN FRANCISCO
FOR THE FISCAL YEAR ENDING JUNE 30, 1901.

OFFENSE.	1901.												Totals.....
	July.....	August.....	September...	October.....	November...	December...	January.....	February....	March.....	April.....	May.....	June.....	
Abduction.....				1						2			3
Adultery.....	2	1	1		1								5
Arson.....	1												1
Arson (attempted).....						3							3
Assault.....		1			1			1	2	1	2		8
Assault to commit bodily injury.....		1				1		2				1	5
Assault with caustic chemical.....										1			1
Assault with deadly weapon.....	10	16	9	10	12	20	19	12	10	21	10	8	157
Assault to murder.....	15	8	6	12	10	10	9	12	10	9	5	4	110
Assault to rape.....	1	1		1								2	7
Assault to rob.....	1		2	3	1		2		5	4	2	4	24
Battery.....	70	75	87	87	94	83	67	83	91	62	89	88	976
Begging.....	10	7	7	28	30	40	68	39	13	22	6	9	279
Bicycle ordinance, violating.....	3	5	3									1	12
Bigamy.....						1							1

EXHIBIT "A"—CONTINUED.

OFFENSE.	1901.												Totals
	July.....	August.....	September...	October.....	November...	December...	January.....	February....	March.....	April.....	May.....	June.....	
Blasting, careless.....					1								1
Boulevard ordinance, violating.....				2		1				67	13	25	215
Bribery, attempted.....					1								1
Burglary.....	16	10	19	19	29	26	32	17	20	23	10	25	246
Burglary, (attempted).....	1	2				3	2	2	5	1			16
Burglars' tools, in possession.....	1	2	1		1	1	3		2	1		1	13
Concealed weapon, 'blackjack'.....							1						1
Concealed weapon, brass knuckles						1		1	1		1	1	5
Concealed weapon, knife.....	1	1		1			12	3	2	1		1	22
Concealed weapon, pistol.....	6	14	8	6	11	11		10	10	7	10	13	106
Concealed weapon, slung-shot.....			1				1						2
Conspiracy, to defraud.....												6	6
Contempt of Court.....	3	1	2	2			3		1	2	5	12	31
Counterfeit money, in possession.....	1												1
Counterfeit money, passing.....			1										1
Cruelty to animals.....	7	4	12	13	6	9	4	10	12	8	5	11	101
Cruelty to children.....	5	2	2	3	2	2	1	3	5	6	3	2	30

EXHIBIT "A"—CONTINUED.

OFFENSE.	1900.						1901.						Totals
	July	August	September...	October.....	November...	December ...	January.....	February ...	March.....	April	May	June.....	
Defrauding hotel-keeper.....	1	1				3	2	1	5	1	3	4	28
Deserter from United States Army			2	1				4		4	8	5	24
Disorderly house, keeping.....				1		1		2					4
Disturbing the peace	130	113	175	160	138	183	237	163	133	169	150	156	1,907
Driving off horse and wagon without consent of owner.....	2	2	3	4	4		2	3	4	3	1	2	30
Dog (keeping vicious)	1											3	4
Dog (unlicensed).....			2	2		2	1						7
Drug Order, violating.....					1				1				2
Drunk.....	980	1,175	1,391	1,164	1,357	1,517	1,227	1,074	1,415	1,207	1,147	1,083	14,737
Drunk, common.....						1	3				1		5
Eight o'clock ordinance, violating..	14	15	18	14	17	6	11	7	16	54	23	16	211
Embezzlement, felony.....	3	2	4	9	1	5	1	6	6	5	2	8	52
Embezzlement, misdemeanor	10	10	6	6	6	8	4	5	12	3	11	3	84
Exhibiting deadly weapon in a rude and threatening manner.....	3		1	2	2	5	2	1	2	3	4	2	27
Extortion.....		1								1			2

EXHIBIT "A"—CONTINUED.

OFFENSE.	1900.												1901.					
	July	August	September	October	November	December	January	February	March	April	May	June	Totals					
Obscene pictures, having in possession.....				1				1					2					
Obstructing an officer.....		3	1	1			1		3	1			10					
Opium, carrying into City Prison ..									1	2	1		4					
Opium place, keeping.....	1	7	3	6	4	4			5	5	2	11	48					
Opium place, visiting.....	1	4		8	29	31			18	40	8	49	188					
Park ordinance, violating	6	11		20	1		1	6	11	3	1		60					
Perjury.....							1	1		1		1	4					
Personating an officer.....			3			1	1						5					
Poison, mixing in drinks.....						2	1			4	1	1	9					
Race-track ordinance, violating									3				3					
Rape.....	3	3	2		1							1	12					
Receiving stolen goods.....		3	6		5	3		4	1	1			23					
Refusing to show books of corporation.....	1		1		1								3					
Resisting an officer.....	1	1		1					1	1	2	4	11					

EXHIBIT "A"—CONTINUED.

OFFENSE,	1901.												Totals.....
	1900.						1901.						
	July.....	August.....	September...	October.....	November...	December....	January.....	February....	March.....	April.....	May.....	June.....	
Robbery.....	5	2	3	6	7	5	1	6	10	3	5	9	62
Saloon, allowing minors in.....			1										1
Saloon, playing music in after 1 A. M.									1				1
Seduction.....			1						1	1		2	5
Shooting-gallery ordinance, violating								1					1
Sidewalk, expectorating on.....										4			4
Sidewalk order, violating.....	2	9	10	12	9	20	20	13	61	17	9	9	191
Sign ordinance, violating.....												1	1
Sodomy.....					2	1			3				6
Sodomy, attempted.....												2	2
Street-car, expectorating o.j.....										2		1	3
Street-car, obstructing.....					1	1	1		1				4
Street, distributing hand-bills on.....		11	1			3		2	2		1		20
Street order, violating.....	8	2	5	7	4		3	12	2	4	1	11	59
Street, playing ball on.....	1							2	1		4	15	23

EXHIBIT "A"—CONCLUDED.

OFFENSE.	1900.						1901.						Totals.....
	July	August	September	October	November	December	January	February	March	April	May	June	
Telephones on party line, having more than 5.....										1			1
Threats to kill.....	5	6	8	10	7	9	7	9	9	8	8	8	94
Trespass.....			1		2					10			13
Urinating in public places.....	40	1	4		4	12		1		10	1		73
Vagrancy.....	135	117	142	147	15	212	139	181	186	173	88	163	1,848
Wagon, uncovered scavenger.....	30		12	5									47
Warrant, maliciously procuring.....			1										1
Totals.....	1,849	2,064	2,361	2,339	2,329	2,567	2,182	2,084	2,772	2,661	2,058	2,115	27,562

SUPPLEMENT No. 1

FELONY CASES HELD TO ANSWER IN THE POLICE COURT, AND SEN

OFFENSES CHARGED.	Cases pending July 1, 1900.....	Informations filed during fiscal year.....	Indictments filed during fiscal year.....	Granted new trial.....	Total number of cases.....
Abduction.....	3				3
Arson.....	3			1	4
Assault by means and force likely to produce great bodily injury.....	12			1	13
Adultery.....	1				1
Assault with deadly weapon.....	29	24		9	62
Assault with intent to commit murder.....	29	23		4	56
Assault with intent to commit rape.....	8	3		1	12
Assault with intent to commit robbery.....	7	4			11
Attempt to commit burglary.....	11	4			15
Attempt to extort.....	2			1	3
Attempt to commit grand larceny.....	3	1			4
Attempt to commit the infamous crime against nature.....		2			2
Attempt to commit mayhem.....	1				1
Attempt to rescue prisoners.....	1				1
Bigamy.....	1	1			2
Burglary.....	191	77		17	285
Child stealing.....	2				2
Conspiracy.....	2				2
Crime against nature.....	5	4			9
Destroying telegraph message.....	1				1
Embezzlement.....	47	6		23	76
Extortion.....	2				2

SUPPLEMENT No. 1

OFFENSES CHARGED.	Cases pending July 1, 1900.	Informations filed during fiscal year	Indictments filed during fiscal year	Granted new trial	Total number of cases
Felony under Section 51, Penal Code	3				3
Felony under Section 222, Penal Code	1				1
Felony under Section 266, Penal Code	1				1
Felony under Section 470, Penal Code	1				1
Felony under Section 475, Penal Code	2				2
Felony under Section 476, Penal Code	9				9
Felony under Section 479, Penal Code	1				1
Felony under Section 564, Penal Code	1				1
Felony under Section 587, Penal Code	1				1
Felony under Section 596, Penal Code	2				2
Felony under Section 22, Purity of Elections Act	1				1
Felony under Section 20, Purity of Elections Act	3				3
Felony under Act of March 23, 1893 (compulsory prostitution of women)	1				1
Felony under Section 247, Penal Code		1			1
Forgery	69	10			79
Fraudulently concealing property	2				2
Gaming	4				4
Grand Larceny	135	37			172
Incest	1				1
Libel	14				14
Manslaughter	5	3			8
Mayhem	3				3

TO EXHIBIT "A"—CONTINUED.

CONVICTED.			Acquitted	DISMISSED.							PENDING.							Total
As charged	Of lesser offense	Of misdemeanor		No evidence to convict	Defendants sentenced on other charges	Defendants dead	In furtherance of justice	On habeas corpus	On demurrer	Defendants discharged on their own recognizance	Against defendants sentenced on other charges	Against defendants insane	Against Minors in Industrial School	Against fugitives from justice	For trial June 30, 1901			
.....	3	3			
.....	1	.....	.....	.....	.....	.....	1			
.....	1	.....	1			
.....	2	.....	.....	.....	.....	2			
.....	1	3	.....	.....	3	2	9			
.....	1	.....	1			
.....	1	.....	1			
.....	1	.....	.....	.....	.....	2	1			
.....	1	.....	.....	.....	.....	1			
.....	3	3			
.....	1	.....	.....	.....	.....	1			
1	1			
4	1	.....	.....	.....	.....	.....	17	30	4	.....	7	16	79		
.....	1	.....	.....	.....	1	.....	2			
.....	4	4			
26	9	2	4	1	.....	.....	.....	30	36	1	.....	37	17	172	
.....	1	.....	1			
.....	3	3	1	.....	.....	7	14			
1	2	.....	.....	.....	.....	.....	1	1	.....	.....	1	2	8		
1	1	.....	.....	.....	.....	1	3			

SUPPLEMENT No. 1

OFFENSES CHARGED.	Cases pending July 1, 1900	Informations filed during fiscal year.....	Indictments filed during fiscal year	Granted new trial.....	Total number of cases.....
Misdemeanor.....	2				2
Murder.....	36	12			48
Obtaining money or property by false pretenses.....	33	4			37
Perjury.....	34	2			36
Petit larceny (second offense)	10	6			16
Rape.....	15	1			16
Receiving stolen goods.....	11	3			14
Robbery	40	19			59
Seduction under promise of marriage.....	1				1
Subornation of perjury.....	1				1
Totals.....					1,108

TO EXHIBIT "A"—CONTINUED.

CONVICTED.			Acquitted.....	DISMISSED.						PENDING.					Total.....	
As charged.....	Of lesser offense.....	Of misdemeanor.....		No evidence to convict.....	Defendants sentenced on other charges.....	Defendants dead.....	In furtherance of justice...	On habeas corpus.....	On demurrer	Defendants discharged on their own recognizance..	Other charges.....	Defendants sentenced on	Against defendants insane..	Against minors in Industrial School.....		Against fugitives from justice .....	For trial June 30, 1901.....
									1						1	2
4	2		6	1					4	3	8			10	10	48
1			1	4					1	3				23	4	37
								1	4	2	2			11	16	36
			1						8	2						16
		3	1	2					4	2				3		16
			1						1					6	6	14
		3	4	4					19	7			2	7	6	59
														1		1
															1	1
															1,108	

SUPPLEMENT No. 2 TO EXHIBIT "A."

REPORT OF POLICE COURT APPEALS TO THE SUPERIOR COURT, AND DISPOSITION
OF SAME FOR THE FISCAL YEAR ENDING JUNE 30, 1901.

Appeals pending June 30, 1900.....	14	
Appeals filed during the fiscal year ending June 30, 1901.....	48	
Judgments affirmed.....		18
Judgments modified.....		1
Judgments dismissed.....		5
Judgments reversed and cause dismissed.....		26
Judgments reversed and new trial ordered.....		1
Pending June 30, 1901.....		11
Totals.....	62	62

RECAPITULATION

OF SUPPLEMENTS Nos. 1 AND 2 TO EXHIBIT "A," SUPERIOR COURT CASES.

Cases reported pending July 1, 1900, against defendants discharged on their own recognizance.....	244
Cases reported pending July 1, 1900, against defendants sentenced on other charges.....	205
Cases reported pending July 1, 1900, against defendants insane.....	26
Cases reported pending July 1, 1900, against defendant minors in Industrial School	5
Cases reported pending July 1, 1900, against defendants fugitives from justice.....	186
Cases reported pending July 1, 1900, against defendants for trial.....	164
Cases reported pending July 1, 1900, against defendants convicted and judgment suspended.....	28
Cases reported pending July 1, 1900, against defendants convicted and new trial granted.....	2
Cases reported pending July 1, 1900, against defendants for examination.....	1
Cases received during the year ending June 30, 1901.....	247
Writs of habeas corpus pending July 1, 1901.....	3
Writs of habeas corpus issued during the year ending June 30, 1900.....	69
Appeals from Police Court pending July 1, 1900.....	14
Appeals from Police Courts filed during the year ending June 30, 1901.....	48
Complaints filed against incorrigible minors.....	6
Convicted as charged.....	129
Convicted of lesser offense.....	22
Convicted of misdemeanor.....	25
Acquitted.....	30
Dismissed—on habeas corpus.....	2
Dismissed—no evidence to convict.....	22
Dismissed—defendants sentenced on other charges.....	1
Dismissed—in furtherance of justice.....	2
Dismissed—on demurrer.....	2
Pending against defendants discharged on their own recognizance.....	253
Pending against defendants sentenced on other charges.....	210
Pending against defendants insane.....	30
Pending against defendants minors in industrial schools.....	6
Pending against defendants fugitives from justice.....	188

RECAPITULATION—CONTINUED.

Pending against defendants convicted and judgment suspended.....	28
Pending against defendants for examination.....	1
Pending against defendants for trial.....	155
Writs of habeas corpus—Prisoners discharged.....	22
Writs of habeas corpus—Prisoners remanded.....	46
Writs of habeas corpus—Pending.....	4
Appeals from Police Court—Judgments affirmed.....	18
Appeals from Police Court—Judgments modified.....	1
Appeals from Police Court—Judgments dismissed.....	5
Appeals from Police Court—Judgments reversed and cause dismissed.....	26
Appeals from Police Court—Judgments dismissed and new trial ordered.....	1
Appeals from Police Court—Judgments pending.....	11
Incorrigibles committed to reform schools.....	2
Complaints dismissed, prisoners discharged.....	1
Pending June 30, 1901.....	3

 1,248 1,248

SUPPLEMENT No. 3 TO EXHIBIT "A."

ESCAPES, PRISONERS EN ROUTE, INSANE PERSONS ARRESTED, WITNESSES
DETAINED, ETC., DURING THE FISCAL YEAR ENDING JUNE 30, 1901.

Escapes from Boys and Girls' Aid Society.....	6
Escapes from prison.....	6
Homeless persons lodged in City Prison.....	1,082
Indigent persons committed to Alms House.....	72
Insane persons arrested.....	234
Minors en route to public institutions.....	295
Persons arrested on bench warrants.....	97
Persons for medical treatment.....	1,708
Persons surrendered by bondsmen.....	18
Prisoners detained for United States Marshal.....	9
Prisoners en-route to other cities.....	91
Prisoners en-route to State Prisons.....	30
Witnesses detained in custody.....	5
Total number of arrests charged with various offenses, as per Exhibit "A".....	<u>27,362</u>
Total number of arrests and detentions.....	31,015
Number of Chinese offenders arrested.....	2,555
Number of Japanese offenders arrested.....	266

EXHIBIT "B."

COMPARATIVE STATEMENT OF THE NUMBER OF ARRESTS AND STRENGTH OF
THE POLICE FORCE FOR THE THIRTY YEARS ENDING JUNE 30, 1901.

YEARS.	NUMBER OF POLICE.	NUMBER OF ARRESTS.	YEARS.	NUMBER OF POLICE.	NUMBER OF ARRESTS.
1871-72.....	104	11,035	1886-87.....	406	20,385
1872-73.....	104	12,810	1887-88.....	406	19,466
1873-74.....	121	13,007	1888-89.....	406	23,462
1874-75.....	152	16,820	1889-90.....	406	23,549
1875-76.....	150	20,108	1890-91.....	406	24,528
1876-77.....	154	21,789	1891-92.....	456	28,417
1877-78.....	172	18,627	1892-93.....	456	25,987
1878-79.....	329	22,120	1893-94.....	456	25,824
1879-80.....	340	21,063	1894-95.....	482	25,960
1880-81.....	400	23,011	1895-96.....	557	30,462
1881-82.....	400	25,969	1896-97.....	559	29,168
1882-83.....	400	24,149	1897-98.....	559	28,013
1883-84.....	400	25,591	1898-99.....	559	27,769
1884-85.....	400	24,432	1899-1900.....	588	26,448
1885-86.....	406	26,587	1900-01.....	588	27,362

EXHIBIT "C."

NUMBER OF WITNESSES SUBPENAED BY THE POLICE DEPARTMENT FOR THE POLICE COURTS, SUPERIOR COURTS AND GRAND JURY, AND LOST CHILDREN RESTORED TO THEIR PARENTS OR GUARDIANS, DURING THE FISCAL YEAR ENDING JUNE 30, 1901.

MONTHS.	WITNESSES SUBPENAED.	LOST CHILDREN RESTORED.
1900—July.....	772	20
August.....	765	24
September.....	821	16
October.....	914	10
November.....	748	18
December.....	856	12
1901—January.....	974	15
February.....	845	10
March.....	927	21
April.....	801	12
May.....	783	31
June.....	696	22
Totals.....	9,902	211

EXHIBIT "D."

AMOUNT OF PROPERTY REPORTED STOLEN AND LOST AND AMOUNT RECOVERED
BY THE POLICE DURING THE FISCAL YEAR ENDING JUNE 30, 1901.

DATE.	STOLEN AND LOST.	RECOVERED.
1900—July.....	\$5,331 00	\$2,607 90
August.....	3,446 00	4,017 50
September.....	5,179 00	3,288 50
October.....	4,223 00	4,472 60
November.....	6,350 00	11,952 35
December.....	5,025 00	11,764 00
1901—January.....	8,041 00	6,434 75
February.....	5,489 00	7,092 75
March.....	6,280 00	5,009 05
April.....	4,380 00	3,585 55
May.....	6,709 00	5,054 15
June.....	5,120 00	5,123 80
Totals.....	\$65,573 00	\$70,402 90

SUPPLEMENT TO EXHIBIT "D."

COMPARATIVE STATEMENT OF AMOUNT OF PROPERTY STOLEN AND LOST, AND
AMOUNT RECOVERED BY THE POLICE FOR THE SIXTEEN
YEARS ENDING JUNE 30, 1901.

DATE.	STOLEN AND LOST.	RECOVERED.
1885-86.....	\$83,771 15	\$43,042 35
1886-87.....	95,115 88	41,319 07
1887-88.....	123,753 39	85,558 15
1888-89.....	106,103 93	58,155 35
1889-90.....	75,570 10	44,420 25
1890-91.....	98,868 63	62,310 10
1891-92.....	90,953 99	52,320 55
1892-93.....	97,645 10	46,443 60
1893-94.....	119,159 48	67,371 63
1894-95.....	98,666 78	59,901 36
1895-96.....	114,405 70	60,934 40
1896-97.....	110,442 31	54,375 24
1897-98.....	96,210 64	61,606 23
1898-99.....	87,995 80	81,239 04
1899-1900.....	87,375 00	77,238 05
1900-01.....	65,573 00	70,402 90
Grand Totals.....	\$1,551,610 88	\$966,638 37

EXHIBIT "E."

AMOUNT OF MONEY RECEIVED FROM SHERIFFS OF OTHER COUNTIES, MASTERS OF VESSELS, UNITED STATES MARSHALS, AND OTHERS, FOR DETENTION AND KEEPING OF PRISONERS IN THE CITY PRISON DURING THE FISCAL YEAR ENDING JUNE 30, 1901.

DATE.	NAME.	WHERE FROM.	AMOUNT.
1900—July 14.....	Dep. Sheriff A. M. Ayres.....	Kings Co.....	\$1 00
July 26.....	Sheriff R. J. Langford.....	Santa Clara Co.....	1 00
July 27.....	Constable J. Stanton.....	Solano Co.....	2 00
Aug. 3.....	Sheriff R. M. Keef.....	Monterey Co.....	1 00
Aug. 9.....	Sheriff M. V. Buckner.....	Kings Co.....	1 00
Aug. 13.....	Sheriff J. F. Fournellotte.....	Trinity Co.....	1 00
Aug. 15.....	Sheriff A. J. Bogart.....	Tehama Co.....	1 00
Aug. 18.....	Constable William Treanor.....	Marin Co.....	1 00
Aug. 18.....	Captain Ivanchi.....	Fr. ship Fredericka.....	15 00
Aug. 30.....	Chief of Police C. S. Read.....	Seattle, Wash.....	9 00
Sept. 11.....	Constable M. A. Wright.....	Stanislaus Co.....	1 00
Sept. 12.....	Sheriff C. H. Behren.....	Shasta Co.....	1 00
Sept. 16.....	Constable W. L. Scott.....	Riverside Co.....	1 00
Sept. 26.....	Sheriff R. J. Langford.....	Santa Clara Co.....	1 00
Sept. 27.....	Sheriff M. V. Buckner.....	Kings Co.....	1 00
Oct. 1.....	Sheriff H. L. Borgwardt.....	Kern Co.....	1 00
Oct. 1.....	Sheriff M. V. Buckner.....	Kings Co.....	1 00
Oct. 2.....	Constable Fred Taylor.....	Santa Clara Co.....	1 00
Oct. 6.....	Sheriff D. B. Getchell.....	Nevada Co.....	1 00
Oct. 18.....	Sheriff H. L. Borgwardt.....	Kern Co.....	3 00
Oct. 19.....	Constable J. Vasques.....	San Mateo Co.....	2 00
Oct. 22.....	Sheriff T. F. Bergin.....	Trinity Co.....	1 00
Nov. 3.....	Constable Ed. Haley.....	Santa Clara Co.....	1 00
Nov. 10.....	Sheriff W. L. Borgwardt.....	Kern Co.....	1 00
Nov. 15.....	Sheriff R. J. Langford.....	Santa Clara Co.....	1 00
Nov. 16.....	Sheriff S. W. Johnson.....	Contra Costa Co.....	1 00
Nov. 17.....	Constable J. Collins.....	Sonoma Co.....	1 00

EXHIBIT "E"—CONTINUED.

DATE.	NAME.	WHERE FROM.	AMOUNT.
1900—Nov. 22.....	Constable J. Moyles.....	Contra Costa Co.....	\$1 00
Nov. 24.....	Sheriff R. J. Langford.....	Santa Clara Co.....	1 00
Dec. 4.....	Dep. Sheriff J. Church.....	Monterey Co.....	3 00
Dec. 5.....	Sheriff M. V. Buckner....	Kings Co.....	1 00
Dec. 7.....	Dep. Sheriff J. J. White....	Fresno Co.....	1 00
Dec. 17.....	Sheriff R. J. Langford.....	Santa Clara Co.....	1 00
Dec. 20.....	Dep. Sheriff L. Fish, Jr.....	Tehama Co.....	2 00
1901—Jan. 2.....	Sheriff W. F. Sibley.....	San Joaquin Co.....	2 00
Jan. 7.....	Sheriff W. L. Borgwardt....	Kern Co.....	1 00
Jan. 12.....	Constable F. A. Parker.....	Yolo Co.....	1 00
Jan. 14.....	Constable W. H. Puleston...	Fresno Co.....	3 00
Jan. 14.....	U. S. Marshal J. H. Shine...	San Francis-co.....	1 20
Jan. 19.....	Constable J. Douglass.....	Tulare Co.....	1 00
Feb. 4.....	Sheriff W. L. Borgwardt....	Kern Co.	1 00
Feb. 9.....	Det. Sergt. John Hanley....	Chicago, Ill.....	10 00
Feb. 16.....	Dep. Sheriff C. F. Schwilk...	Sacramento Co.....	1 00
Feb. 17.....	Dep. Marshal D. Donders....	Mendocino Co.....	3 00
Feb. 23.....	Dep Sheriff O. J. Haley.....	Humboldt Co.....	1 00
Mar. 1.....	Supt. W. H. Kens.....	Colorado R. R. Co., Denver...	10 00
Mar. 2.....	Dep. Sheriff F. W. Johnson..	Contra Costa Co.	1 00
Mar. 3.....	Sheriff G. H. Crawford.....	Del Norte Co.....	1 00
Mar. 7.....	Officer Robert Chatham.....	San Mateo Co.....	1 00
Mar. 8.....	Sheriff W. L. Borgwardt....	Kern Co.....	1 00
Mar. 25.....	Constable J. R. Saxton.....	Colusa Co.....	2 00
Mar. 27.....	Constable F. A. Carpenter...	Shasta Co.....	1 00
Apr. 6.....	Sheriff J. Thomas.....	State of Iowa.....	19 00
Apr. 12.....	U. S. Marshal J. H. Shine...	San Francisco.....	2 80
Apr. 16.....	Sheriff R. B. Purvis.....	Stanislaus Co.....	1 00
Apr. 20.....	Sheriff Jesse Mills.....	Olympia, Wash.....	4 00
Apr. 22.....	Dep. Sheriff A. M. Ayres....	Kings Co.....	1 00
Apr. 27.....	Constable M. H. Peerman....	Sonoma Co.....	1 00

EXHIBIT "E"—CONTINUED.

DATE.	NAME.	WHERE FROM.	AMOUNT.
1901—May 2.....	Sheriff M. V. Buckner.....	Kings Co.....	\$1 00
May 5.....	Dep. Sheriff A. M. Ayres.....	Kings Co.....	1 00
May 10.....	Dep. Sheriff A. E. Altgelt ...	Comal County, Texas.....	12 00
May 15.....	Sheriff R. A. Prouty.....	Mariposa Co.....	2 00
May 18.....	Sheriff R. L. Spurr	Napa Co.....	1 00
May 18.....	Sheriff F. F. Bergin.....	Trinity Co....	1 00
May 29.....	Sheriff R. J. Langford.....	Santa Clara Co.....	1 00
June 2.....	Dep. Sheriff W. E. Smith....	Los Angeles Co.....	2 00
June 3.....	Sheriff M. V. Buckner.....	Kings Co.....	1 00
June 4.....	Sheriff J. Hall.....	Plumas Co.....	1 00
June 7.....	Constable James Brown	San Joaquin Co.....	2 00
June 8.....	Dep. Sheriff J. T. Evans....	Butte Co.....	1 60
June 17.....	Sheriff W. L. Borgwardt....	Kern Co.....	1 00
June 20....	Sheriff George A. Foster....	Noble Co., Oklahoma Ter....	16 00
June 21.....	A. De Trobriand.....	French Consul.....	16 00
June 22.....	Sheriff S. W. Sibley	San Joaquin Co.....	3 00
		Total.....	\$196 00

EXHIBIT "F."

MONEY AND OTHER PROPERTY TAKEN FROM PERSONS AT THE TIME OF THEIR ARREST AND REMAINING UNCLAIMED IN THE HANDS OF THE CHIEF OF POLICE SINCE LAST REPORT, AND DELIVERED TO THE CITY AND COUNTY TREASURER, JUNE 30, 1901, FOR DISPOSAL IN ACCORDANCE WITH LAW.

No.....	DATE	NAME.	PROPERTY.
1	1900-Jan 17....	Lee Ying.....	Keys and chain.
2	Feb. 10...	Lee Pon.....	Two bunches of keys.
3	March 2..	Leong Tong.....	Fifty-five cents.
4	March 16	Louie Poy.....	Letters and keys.
5	March 25	M. Flza (Jap).....	One 75-100 dollars, 10 Japanese coins and purse
6	March 29.	Kovias (Jap).....	One dollar and papers.
7	1899-Aug. 1....	Adams, Hattie.....	Fifteen cents, key and purse.
8	1900-Jan. 16...	Anderson, H.....	Thirty cents.
9	Feb. 2....	Allen, John.....	Twenty-five cents, foreign coin and two keys.
10	Feb. 14..	Ahern, Albert.....	One dollar.
11	Feb. 20...	Alden, William.....	Steel stamp.
12	March 4..	Alferi, Joseph.....	Thirty cents.
13	March 4..	Alexanderson, C.....	Open face nickel watch.
14	April 16..	Ashton, Frank.....	One 15-100 dollars.
15	May 30...	Allen, Frank.....	Ten cents, purse and memo. book.
16	June 10..	Antonio, G.....	Keys.
17	June 23...	Anderson, James.....	Thirty cents
18	Feb. 21...	Bergin, James.....	Twenty-five cents.
19	1899-Nov. 15...	Benson, Ida.....	Five dollars, lady's open face silver watch and purse.
20	Dec. 25...	Breken, John.....	Gilt vest chain and seal charm.
21	1900-Jan. 20...	Bozzini, Ernesto.....	Ninety-five cents and key.
22	Jan. 23...	Bond, Katie.....	Pair of bracelets.
23	Jan. 31...	Belgium, August.....	Eighty-five cents and key.
24	Feb. 2....	Burbank, Cornelia.....	Three 80-100 dollars.
25	Feb. 8....	Brown, Charles.....	One watch guard.
26	Feb. 28...	Bynon, W. H.....	Keys, chain, clasp, pocket book and papers.

REPORT OF CHIEF OF POLICE.

EXHIBIT "F"—CONTINUED.

No.	DATE.	NAME.	PROPERTY.
27	1900—March 11.	Barton, William.....	Eye glasses and purse.
28	March 29	Bradley, Larry.....	One 80-100 dollars.
29	April 2...	Brennan, Frank.....	C. T. A. of America badge.
30	April 6..	Beanston, W. J.....	Open face nickel watch and gilt chain.
31	April 10..	Boyd, W. T.....	Fifty cents and glasses.
32	April 29..	Brown, E. A.....	Twenty-five cents.
33	May 9....	Burke, Joseph.....	Black silk muffler.
34	May 15...	Benson, Robert.....	One 65-100 dollars and silver foreign coin.
35	May 27...	Benson, Percy.....	One 70-100 dollars.
36	June 4....	Byer, William.....	Two dollars.
37	June 18...	Burns, John.....	Forty cents.
38	June 19..	Bruton, Tim.....	Fifty cents and pair of spectacles.
39	June 22...	Bigley, Perkins.....	Open face nickel watch.
40	Jan. 10..	Cohrn, John.....	One 10-100 dollars, hunting case gilt Standard watch and chain.
41	Feb. 9....	Costello, John.....	Fifty-five cents and pair of spectacles.
42	Feb. 11...	Campbell, J. S.....	Fifty cents.
43	Feb. 13...	Callahan, Nell.....	Thirty cents.
44	Feb. 18..	Conway, Thomas.....	Open-face brass watch.
45	March 1..	Carter, Frank.....	Sixty cents.
46	March 1..	Collins, Frank.....	One 75-100 dollars.
47	March 2..	Curran, Martin.....	Eighty-five cents.
48	March 6..	Curran, James.....	Fifty cents.
49	March 14.	Carroll, John.....	Eleven cents and purse.
50	March 15	Coburn, Charles.....	Fifty cents.
51	March 19.	Conlan, Joseph.....	One 50-100 dollars.
52	March 24	Callaghan, Wilson.....	Four 47-100 dollars.
53	April 1...	Canaban, James.....	Bunch of keys and steel chain.
54	April 1...	Carr, John.....	Papers.

EXHIBIT "F"—CONTINUED.

No.....	DATE.	NAME.	PROPERTY.
55	1900—April 15..	Colby, John.....	Twenty cents.
56	May 2....	Cordi, Joe.....	Three 75-100 dollars.
57	May 5....	Clancy, P. J.....	One 60-100 dollars.
58	May 26..	Crittelle, William.....	Fifteen cents.
59	June 9....	Callahan, Richard.....	Two pair cuff buttons and keys.
60	June 10..	Conlan, Edward.....	Sixty cents, brass watch chain, pair spectacles.
61	1899—March 8..	Dugano, Peter.....	Cards and papers.
62	Dec. 10..	De La Paz, Jose.....	One dollar.
63	1900—Jan. 8....	Devine, John.....	One 30-100 dollars.
64	Jan. 8....	Dudley, William.....	Twenty cents.
65	March 16.	Dolan, Thomas F.....	O. F. nickel watch, gilt chain and pui. e.
66	April 28.	Davis, William.....	Twenty cents.
67	May 1....	Davis, Harry.....	Forty-five cents.
68	May 27...	De Costa, Kate.....	Fifty cents.
69	June 4....	De Costa, Kate.....	Ten cents.
70	June 29..	Devlin, Edward.....	Fifty cents and two purses.
71	Feb. 2....	Evans, Ben.....	One 10-100 dollars.
72	Feb. 7....	Ennels, Thomas.....	O. F. brass watch, chain and charm.
73	March 16.	Everlson, Halfin.....	O. F. silver watch and gilt chain.
74	June 24..	Espinosa, Philip.....	One 30-100 dollars.
75	Jan. 3....	Fox, Harry.....	Two 25-100 dollars, purse, O. F. Silver Wal- tham watch, case No. 2,602, movement No. 5,631,655.
76	March 11	Fraser, Eugene.....	Twenty cents.
77	March 17	Flxen, Henry G.....	Steel chain.
78	April 29..	Flemming, William.....	Match box.
79	June 16..	Flatley, Andrew.....	Seventy cents and account book.
80	June 25...	Forbes, S.....	Ferry tickets.
81	Jan. 5...	Gashi, Joe.....	One dollar.

REPORT OF CHIEF OF POLICE.

EXHIBIT "F"—CONTINUED.

.....ON	DATE.	NAME.	PROPERTY.
82	1900—Jan. 8...	Gregg, William.....	Two 80-100 dollars.
83	Jan. 22...	Gilligan, J. E.....	Four checks, cards, papers and letter.
84	March 17	Goodwin, Jane.....	Book and papers.
85	March 19.	Green, Alex.....	Sixty-five cents.
86	March 27	Gibson, Charles.....	Ten cents.
87	March 27	Gleason, James.....	Twenty-five cents.
88	May 28...	Griffith, S.....	Forty-five cents.
89	Jan. 3....	Haber, Barney.....	Eighty-five cents.
90	Jan. 25...	Hunt, J. C.....	Twenty cents.
91	Jan. 25...	Hayes, John.....	Three 80-100 dollars and purse.
92	March 11.	Hillmer, Louis O.....	Fifty-five cents and purse.
93	March 12.	Hinkson, A.....	Ninety cents.
94	March 18	Henderson, R. A.....	Twenty-five cents and purse.
95	March 22.	Herberstein, S. L.....	Letters.
96	March 22	Helgson, Walter.....	Match-box and gilt scarf-pin.
97	March 24.	Harris, Wayne.....	Pawn ticket.
98	March 25	Hewitt, Joseph.....	Pair eye-glasses and case.
99	May 6....	Hoier, Otto.....	One 20-100 dollars and purse.
100	May 8....	Haggerty, James.....	Thirty cents and memorandum book.
101	May 25...	Hicks Addison.....	Card case.
102	June 9...	Hughes, John.....	Twenty-five cents.
103	June 10..	Higgins, Patrick.....	Fifteen cents.
104	June 17..	Hearst, John.....	Two 30-100 dollars, O. F. silver Elgin watch, No. 7,212,489, and chain.
105	Feb. 7....	Idalgo, Campio.....	Fifty cents.
106	Jan. 8....	Johnson, Annie.....	Forty cents.
107	Jan. 12...	Jones, Elmer.....	One 56-100 dollars and 11 foreign copper coins.
108	Jan. 14...	Johnson, G. V.....	Thirty cents, purse and O. F. nickel watch.
109	Feb. 17...	Johnson, Ben.....	Fifty cents.

EXHIBIT "F"—CONTINUED.

No.	DATE.	NAME.	PROPERTY.
110	1900—March 11	Johnson, Martin.....	O. F. nickel watch.
111	April 24..	Jackson, William.....	Twenty-five cents, purse and matchbox.
112	April 28..	Jacobson, Harry.....	Seventy cents and purse.
113	May 13...	Johnson, Joe.....	One 10-100 dollars.
114	May 19...	Johnson, William.....	Card case and painters' society book.
115	June 5....	Johnson, Richard.....	Seventy-five cents.
116	1899—Jan. 8....	Kelly, William.....	Twenty-five cents.
117	Aug. 24..	Klinds, Robert.....	Eighty-five cents.
118	1900—Jan. 6....	Knape, C. F.....	O. F. silver Geneva watch, No. 14,936, and hair chain.
119	Jan. 17...	Hackie, Otto.....	One dollar.
120	Jan. 28...	Kelly, James H.....	Gilt vest chain, charm and key.
121	Feb. 15...	Kennedy, William.....	Fifty-five cents, purse and key.
122	March 14	Kennedy, V. Paul.....	Fifty-five cents.
123	April 1...	Kondo, George.....	O. F. nickel watch.
124	April 1...	Kenny, James.....	O. F. nickel Waterbury watch.
125	April 7...	Kelly, Frank.....	Sixty cents.
126	May 1....	Kenneally, Dennis.....	Eighty-five cents.
127	May 11..	Knapp, Charles E.....	Book.
128	May 15...	Kirk, E. W.....	Thirty-five cents.
129	May 16..	Kerr, David:.....	One 60-100 dollars and pair kid gloves.
130	Jan. 1....	Lyman, Martin.....	Memorandum book, cards and papers.
131	Jan. 7...	Larson, Peter.....	One 25-100 dollars and purse.
132	March 26	Lawrence, Wm. alias McGinniss, G.....	Letters and papers.
133	April 27.	Lundstrum, Charles.....	O. F. nickel watch, gilt chain and key.
134	May 7....	Logan, George.....	Property delivered per receipt May 20th, 1901.
135	May 17..	Lester, Frank.....	Hunting-case gilt N. Y. Standard watch, case No. 438,483, movement No. 72,658.

EXHIBIT "F"—CONTINUED.

NO.	DATE.	NAME.	PROPERTY.
136	1900—May 20...	Leonard, Frank.....	Eighty-five cents.
137	June 9...	Lundin, Andy M.....	Forty cents.
138	June 13..	Long Thomas.....	Eleven dollars.
139	June 22..	Lyon, John.....	Two 65-100 dollars and purse.
140	June 30..	Lane, Michael.....	Five cents, purse and pair spectacles.
141	Feb. 16..	Mathewson, Thomas.....	O. F. silver Swiss watch, No. 20,752, and gilt chain.
142	Feb. 20..	Maloy, James.....	Thirty-five cents, purse and tie pin.
143	March 5.	Mulvin, William H.....	Three 35-100 dollars, books, letters, papers, etc.
144	March 12	Mann, William.....	Gilt watch, chain and locket.
145	March 12	Martin, Frank.....	One 75-100 dollars.
146	April 13..	Mehammer, Charles.....	Eighty cents.
147	May 3....	Mahoney, Philip.....	Fifty cents.
148	May 8....	Mahoney, P. J. O.....	One 10-100 dollars.
149	May 26..	Mark, Henry.....	One 20-100 dollars and purse.
150	June 21..	Mangus, Alex.....	Seventy cents.
151	June 24..	Murphy, Jane.....	One 75-100 dollars.
152	June 26..	Meyer, Herman, alias Hastings.....	H. C. gilt A. W. W. Co. watch, case No. 9,430 c, movement No. 3,449,024, gilt chain, eight copper coins, purse, pencil, pen and two pawn tickets.
153	Feb. 2...	McKenny, Joseph.....	Five 75-100 dollars.
154	Feb. 11..	McCabe, Joe.....	Twenty cents.
155	Feb. 27..	McCann, David.....	O. F. nickel watch.
156	March 10	McTameny, Nellie.....	Fifty-five cents.
157	March 25	McInerny, Patrick.....	H. C. brass watch and chain.
158	March 27	McGregor, William.....	Sixty-five cents.
159	April 10.	McCarty, M. C.....	Eighty-five cents, O. F. nickel watchchain and charm.

EXHIBIT "F"—CONTINUED.

No.	DATE.	NAME.	PROPERTY.
160	1900—Feb. 18...	McAuliffe, Dennis.....	Tie pin.
161	March 18	Nolan, Thomas.....	Ten cents.
162	March 26	Nussetti, August.....	Eighty cents.
163	May 25...	Nambos, Alexander.....	H. C. silver Mathez watch, gilt chain and charm.
164	May 25...	Nesbit, John.....	Six brass finger-rings.
165	May 26...	Nuff, Patrick.....	Twenty cents.
166	June 16...	Nelson, H.....	Sixty cents and purse.
167	Jan. 27...	O'Brien, James.....	H. C. gold-filled Springfield watch, case No. 4,935,981, movement 148,972, gilt chain and four 50-100 dollars.
168	March 14	O'Dea, Daniel J.....	Photograph.
169	April 27...	Oliver, Austin W.....	Key, chain, package of letters, etc.
170	May 5....	Oliver, John.....	Five cents and shirt stud.
171	May 6....	O'Neil, J.....	One 70-100 dollars.
172	June 10..	O'Brien, John.....	Thirty cents.
173	June 10..	Pusich, Vido.....	Property delivered per receipt, April 6, 1901.
174	March 7..	Pherson, Burt.....	Twenty cents.
175	April 13..	Pedro, Fernando.....	Ninety cents.
176	April 16..	Paddock, William.....	O. F. nickel watch.
177	April 19..	Purcell, Edward.....	Pawn ticket and key.
178	May 19...	Peck, Ferdinand.....	Forty-five cents.
179	May 21..	Pierre, Eaille.....	Twenty-five cents.
180	Feb. 3....	Quamam, Enos.....	Twenty-five cents.
181	Jan. 17...	Riley, Michael.....	Book and discharge papers.
182	Jan. 11...	Rastleton, John.....	Gilt vest chain.
183	Jan. 28...	Reese, Con.....	One 30-100 dollars.
184	Jan. 30...	Rosmore, Edward.....	Sixty cents.
185	Jan. 30..	Roach, James.....	Fifty-five cents.

EXHIBIT "F"—CONTINUED.

.....ON	DATE.	NAME.	PROPERTY.
186	1900—Feb. 18.	Russell, E.....	Eighth Army Corps badge.
187	Feb. 18..	Ryan, Mary.....	Spectacles.
188	March 11	Riley, Joseph.....	O. F. Ansonia brass watch.
189	March 25	Ryan, Michael.....	Fifty-five cents, H. C. brass watch, chain and charm.
190	April 1..	Rechet, Dan.....	One 30-100 dollars.
191	April 3...	Riley, Mary.....	Sixty-five cents, purse and beads.
192	April 17..	Russ. Harry A.....	Photo.
193	May 6....	Russell, Frank.....	One 50-100 dollars.
194	May 14...	Regan, Thomas.....	Japanese silver coin.
195	May 21...	Rigard, Ivers.....	Thirty-five cents.
196	May 23...	Riley, Edward.....	Gilt finger ring.
197	May 27...	Randolph, Fred.....	Twenty-five cents and piece of stone.
198	June 8....	Roach, Thomas.....	One dollar, H. C. brass Waltham watch No. 366,171.
199	June 16..	Rafter, William.....	Seventy cents.
200	June 10..	Riley, Patrick.....	Twenty-five cents and pair of eye glasses.
201	June 9...	Rogers, Joe.....	Fifty cents.
202	Jan. 3....	Smith, Alfred.....	Forty cents and key.
203	Jan. 14...	Shaw, Ellen.....	One dollar.
204	Jan. 15...	Solomon, Arthur.....	Fifty cents.
205	Jan. 20..	Sample, Jim.....	Forty-five cents.
206	Jan. 24..	Shey, William.....	Purse and eye glasses.
207	Jan. 27..	Smith, Eddle.....	Yellow H. C. watch and gilt chain.
208	Jan. 27...	Smart, Charles.....	Fifty cents.
209	Feb. 4...	Storry, George.....	One 5-100 dollars and purse.
210	Feb. 13...	Sheehan, Henry.....	Sixty cents.
211	Feb. 19..	Sanderson, Richard.....	One 15-100 dollars.
212	March 15	Shanaten, Harry.....	Key, papers and mask.

EXHIBIT "F"—CONTINUED.

NO.	DATE.	NAME,	PROPERTY.
213	1900—March 18	Smith, Tom.....	Scarf pin.
214	March 20.	Savage, Frank.....	Fifteen cents.
215	March 27	Schroeder, Ernest.....	One dollar, book and papers.
216	March 28.	Sullivan, Mary.....	Spectacles.
217	April 10..	Salum, Peter.....	Seventy-five cents.
218	April 27..	Silner, Toney.....	Broken O. F. metal watch.
219	April 28	Smith, James.....	O. F. nickel watch, gilt chain.
220	May 3....	Soltman, John.....	One 85-100 dollars.
221	May 5....	Shea, John.....	One 35-100 dollars.
222	May 15...	Seymour, Thomas.....	Book and papers.
223	May 28...	Sonstein, F. W.....	One 75-100 dollars.
224	June 16..	Smith, John.....	Sixteen 60-100 dollars.
225	June 21...	Sullivan, Mary.....	Two pairs of eye-glasses.
226	June 27..	Sullivan, Thomas.....	Four 40-100 dollars.
227	June 30..	Storey, William.....	One 05-100 dollars.
228	June 30...	Sherlock, Andrew.....	Ninety-five cents and O. F. nickel watch.
229	1898—April 13..	Thorn, James, alias Joseph Thereon.....	Gold scarf pin, set with small diamonds, emerald and pearls.
230	1900—Feb. 10...	Tillberg, Carl O.....	Thirty cents; purse; H. C. gilt Waltham watch, case No. 20,385, movement No. 6,107,971; gilt chain, charm and keys.
231	March 14	Thatcher, Charles.....	O. F. nickel watch.
232	March 27	Thompson, George.....	One dollar.
233	April 11..	Thomson, Tom.....	Five 15-100 dollars.
234	May 1....	Thomson, John.....	Five cents.
235	May 14...	Thomas, Charles E.....	Five 20-100 dollars.
236	Jan. 2....	Wilson, E. A.....	One 50-100 dollars, key and match box.
237	Jan. 3....	Williams, Frank.....	O. F. nickel watch.

REPORT OF CHIEF OF POLICE.

EXHIBIT "F"—CONTINUED.

No.	DATE.	NAME.	PROPERTY.
238	1900—Jan. 6..	Wagner, Charles.....	Fifty-five cents.
239	Jan. 7....	Weinholtz, Charles.....	Pair of eye glasses, memo. book, key and purse.
240	Jan. 13..	Wilson James.....	Thirty cents.
241	Jan. 26..	Williams, Charles.....	H. C. brass Elgin watch, case No. 203,335, movement No. 3,243,877.
242	Feb. 4....	Wilson, Nellie.....	Fifty cents and purse.
243	March 5..	Williams, John.....	Nine brass finger rings.
244	March 11	Wright, Albert.....	Three 20-100 dollars, O. F. nickel watch, gilt chain and ferry ticket.
245	March 16	Walters, Fred.....	Nine dollars and key.
246	March 16	Walsh, Patrick.....	Fifty cents.
247	April 1...	Welch, Al.....	Gold finger ring.
248	April 20..	Welsh, James.....	Ninety-five cents and pair spectacles.
249	April 22..	Williams, Maggie.....	Fifty cents.
250	April 24..	Weiss, Harry.....	Gilt watch chain.
251	May 2....	Woods, Ella.....	Bracelet.
252	May 29...	Woods, W. H.....	One 75-100 dollars and purse.
253	June 2....	Wykes, W. T.....	Books, papers, etc.
254	June 16..	Wright, John.....	O. F. New England watch.
255	1898—Sept. 17..	Zimmerman, Albert.....	Gold finger ring.
256	1893—Oct. 15...	Peterson, C.....	Satchel and contents.
257	1895—March 30	Browning, Samuel O., alias Oscar Brown.....	Trunk and contents.
258	June 28..	Jones, Jennie.....	Two boxes containing clothing and personal effects.
259	Jan. 18..	Paul, George, alias Miller.....	Trunk and contents.
260	1896—April 3...	Mulvihill, Edward.....	Valise and contents.

EXHIBIT "F"—CONTINUED.

NO.	DATE.	NAME.	PROPERTY.
261	1896—July 17...	Webster, Thomas.....	Two books.
262	1897—Sept. 2...	Wee, Tung.....	Box and contents.
263	Sept. 3...	Johnson, Gus (dead)....	Trunk and contents.
264	Sept. 3...	Johnson, Gus (dead)....	Sack and contents.
265	1898—Feb. 26...	Smith, Neal Paulson.....	Book and Bible.
266	March 23	Haynes, Theodore.....	Chest containing clothing, etc.
267	March 24	Melvin, C. J.....	Purse and contents, book, etc.
268	Aug. 27..	Pratt, Chas. (dead).....	Trunk and contents.
269	1899—July 1....	Randal, George.....	Coat and lunch basket.
270	July 2....	Harrington, Ann.....	Package of dry goods.
271	Aug. 23..	Burke, M. T.....	Pair of window shades.
272	Oct. 28..	Dunston, H. (dead).....	Carpenter's tools and apron.
273	Nov. 10..	Mooricot, Lucor.....	Two parcels letter and hat.
274	Nov. 15..	Ah Shue, Yon You, et. al.....	Satchel and contents.
275	Nov. 16..	Thurston, Charles.....	Satchel containing pipes, tobacco, etc.
276	Dec. 12..	Stenhouse, Walter.....	Horse blanket and surcingle.
277	1900—Jan. 11...	Van Berpin, Martin....	Valise and contents.
278	Feb. 2....	McGorman, Harry.....	Steel crowbar.
279	Feb. 15..	Furlong, Edward.....	Hammer and pivot punch.
280	Feb. 10...	Tillgurg, Carl O. (de- ceased).....	Three valises and bundle containing personal effects.
281	March 26	White, James.....	Bag and tools.
282	April 13..	Moran, Thomas.....	Overcoat.
283	May 10...	Bowman, Margaret.....	Basket and clothing.
284	May 19...	Lewie, Louis.....	Box of books.
285	.....	Stubbe, Hugo.....	Trunk and contents.
286	.....	.....	Bundle of walking canes.

EXHIBIT "F"—CONTINUED.

No.	DATE.	NAME.	PROPERTY.
287	.....	.....	Bundle of umbrellas.
288	1893—Sept. 24..	Van Worthen, Joseph Driscall, P., et. al.....	Pair of ear-rings (evidence).
289	1897—Dec. 15...	Dagnio, John.....	O. F. silver Swiss watch No. 42,425 (evidence).
290	1898—Jan. 15...	Maloney, John.....	Five cents (evidence).
291	1899—Sept. 19..	Littlerst, Theodore.....	Three blankets, five sheets and towel (evidence).
292	Sept. 23..	Clark, Richard.....	Gold finger ring (evidence).
293	Dec. 31...	Davis, David.....	Three ladies' belts (evidence).
294	1900—Jan. 27...	Ito, K. (Jap.).....	Books (evidence).
295	March 2..	Blanchard, J. M.....	Wallet, five pawn tickets, cards and papers (evidence).
296	March 14	Gulbana, Guelfo.....	Number memo. books and papers (evidence).
297	March 18	Martin, Eddie.....	Three brass valves and padlock (evidence).
298	April 25..	Barbeau, Chas.....	Book (evidence).
299	April 30.	Sharkey, Lizzie.....	One dollar (evidence).
300	June 1...	Brady, John.....	Thirty cents (evidence).
301	June 4...	Onita, Albert.....	One 25-100 dollars (evidence).
302	June 12..	Carrigg, Bert.....	Fifty-five cents (evidence).
303	June 12..	Jay, Y. B.....	Billiard ball (evidence).
304	June 12..	McDermott, Eddie.....	Thirty-five cents (evidence).
305	June 15..	Brown, George.....	Seven dollars and check No. 16,035 on Martin's Bank, London, for £25 (evidence).
306	1893—Oct. 21...	Decker, Aslam.....	Trunk (evidence).
307	1894—Feb. 24..	Sweeney, J. B.....	Package of books (evidence).
308	March 22	Ryan, Henry.....	Whisky barrel (evidence).
309	April 25..	Berretta, Fernando.....	Satchel and contents (evidence).
310	May 27...	Collison, Andrew, et. al..	Brass faucet (evidence).
311	June 6...	Rollin, George.....	Mallet, shaving, set, etc. (evidence).

EXHIBIT "F"—CONTINUED.

NO.	DATE.	NAME.	PROPERTY.
312	1895—Jan. 6...	Fletcher, J. R.....	Papers, etc. (evidence).
313	Jan. 30...	Reynolds, John.....	Brass journal (evidence.)
314	1896—April 24..	Flynn, John F.....	Satchel (evidence):
315	May 22...	Danahey, Walter.....	Pitchfork (evidence).
316	July 20...	McCloskey, James.....	Hatchet (evidence).
317	Sept. 21..	Murray, John.....	Cigarettes, tobacco, liquor (evidence).
318	1897—Oct. 5...	McNulty, James.....	Two trunks (evidence).
319	Nov. 25..	Durant, Leon.....	Pickax (evidence).
320	1898—Feb. 28..	King, Joseph, alias Martin.....	Telescope basket and contents (evidence).
321	March 23	Haynes, Theodore P.....	Ax (evidence).
322	March 21	Toy, Par.....	Ax (evidence).
323	Aug. 5...	Johnson, William.....	Hatchet (evidence).
324	Aug. 20..	Ties, Tille and Ella Shearer.....	Satchel and contents (evidence).
325	Oct. 3...	Walsh, James.....	Ax (evidence).
326	1899—Feb. 28..	Shaughnessy, John.....	Overcoat (evidence).
327	Feb. 7...	Johnson, Oscar.....	Match box (evidence).
328	March 31	Williams, George.....	Five brass elbows (evidence).
329	May 30..	Doherty, James, et. al..	Ten window weights (evidence).
330	June 5...	De Cicco, Roseno.....	Hatchet (evidence).
331	Aug. 17..	Schwider, Harry.....	Sack of junk (evidence).
332	Aug. 31..	Kane, Thomas.....	Faucet (evidence).
333	Sept. 9...	Carsen, Louis.....	Milk can (evidence).
334	Sept. 30..	Mertins, Matthew.....	Oil stove (evidence).
335	Nov. 11..	Raymond, Nellie.....	Package of dry goods (evidence).
336	Nov. 24..	Numanda, Frank.....	Coat (evidence).
337	Nov. 26..	Zimmerman, F.....	Sword (evidence).

EXHIBIT "F"—CONTINUED.

.....ON	DATE.	NAME.	PROPERTY.
338	1899—Dec. 10..	Thompson, G. J., alias Wren.....	Lap robe (evidence).
339	Dec. 15..	Ah Wing.....	Kitchen utensils (evidence).
340	Dec. 22..	Rosa, Jos., et. al.....	Sack of junk (evidence).
341	1900—Jan. 9....	Moo You.....	Hatchet (evidence).
342	Jan. 16..	Barnes, Thomas.....	Match box (evidence).
343	Jan. 18..	Jeong Yan Chong.....	Hatchet (evidence).
344	Jan. 20..	Driscoll, William.....	Sack of iron spikes (evidence).
345	Feb. 1....	Watts, John.....	Bung starter (evidence).
346	March 19.	Stewart, Robert.....	Sledge hammer (evidence).
347	April 1...	Kelly, James.....	Four sacks of malt (evidence).
348	April 13..	Murphy, E. J.....	Horse blanket and harness (evidence).
349	April 19.	Deneri, John.....	Coat, vest and shirt (evidence).
350	April 19..	Tierney, Thomas.....	Bundle of brooms (evidence).
351	May 2....	Burris, John.....	Tin kettle (evidence).
352	May 10...	Shoekart, Charles.....	Plane (evidence).
353	May 13...	Rudonick, George and Michael, et. al.....	Hatchet (evidence).
354	May 17...	Burriss, Charles.....	Can of oil (evidence).
355	1899—Dec. 1....	Turushie, T. (Jap.).....	Book and tin box (evidence).
356	1895—May 25...	Smith, W. H., alias St. Clair.....	Pistol (evidence).
357	1896—Jan. 26..	Ah Young.....	Pistol (evidence).
358	1897—Jan. 23..	Ah Yet, et. al.....	Pistol (evidence).
359	1898—June 12..	Ah Gem.....	Pistol (evidence).
360	March 30	Eah Non & Yeong Yee...	Pistol (evidence).
361	June 12..	Ah Loy.....	Pistol (evidence).
362	June 12..	Ah Jing.....	Pistol (evidence).
363	June 12..	Ah Foo.....	Pistol (evidence).

EXHIBIT "F"—CONTINUED.

NO.	DATE.	NAME.	PROPERTY.
364	1898—Aug. 2..	Walsh, William, and George John.....	Pistol (evidence).
365	Aug. 5...	Josslyn Marcus.....	Pistol (evidence).
366	Oct. 7...	Yokanna, G. (Jap.).....	Pistol (evidence).
367	Dec. 7...	Martin, Eva.....	Pistol (evidence).
368	Dec. 26..	Barrett, A. M.....	Pistol (evidence).
369	1899—Jan. 17..	Shaughnessy, John.....	Pistol (evidence).
370	Feb. 24..	Clark, W. C.....	Pistol (evidence).
371	April 4..	Rappa, A. and A. De Gros.....	Pistol (evidence).
372	May 24..	Feln, Louis.....	Pistol (evidence).
373	July 1....	Barker, John.....	Pistol (evidence).
374	July 4....	Dun, Charles.....	Pistol (evidence).
375	July 17..	Everding, H.....	Pistol (evidence).
376	July 23..	Miller, Fred.....	Pistol (evidence).
377	July 27..	Tobin, M. B. and C. J. Johnson.....	Pistol (evidence).
378	July 27..	Jung Kee.....	Pistol (evidence).
379	Aug. 2...	Hamilton, Robert.....	Pistol (evidence).
380	Aug. 3...	Foley, M. P.....	Pistol (evidence).
381	Aug. 10..	Jones, Martin.....	Pistol (evidence).
382	Aug. 18..	Backsbrom, Alfred.....	Pistol (evidence).
383	Aug. 23..	McCready, Wm.....	Pistol (evidence).
384	Aug. 26..	Kelly, James F.....	Pistol (evidence).
385	Aug. 27..	Kanili, Johnson.....	Pistol (evidence).
386	Sept. 13..	Angelar, David.....	Pistol (evidence).
387	Sept. 15..	McCallum, John.....	Pistol (evidence).
388	Sept. 23..	Ah Sang.....	Pistol (evidence).
389	Sept. 23..	Lowenthal, M. F.....	Pistol (evidence).

EXHIBIT "F"—CONTINUED.

NO.	DATE.	NAME.	PROPERTY.
390	1899—Sept. 28.	Bennett, Wm. G.....	Pistol (evidence).
391	Oct. 2....	Bianchine, Belinte.....	Pistol (evidence).
392	Oct. 15...	Mendenhall, Wm.....	Pistol (evidence).
393	Nov. 5...	De Los Santos, Emilo.....	Pistol (evidence).
394	Nov. 18..	Cudahy, James.....	Pistol (evidence).
395	Nov. 23..	Varney, William.....	Pistol (evidence).
396	Dec. 2...	Mason, Andrew, alias Monk, Andrew.....	Pistol (evidence).
397	Dec. 3....	Murphy, Robert.....	Pistol (evidence).
398	Dec. 9....	Anderson, Samuel.....	Pistol (evidence).
399	Dec. 29...	Ah Wong.....	Pistol (evidence).
400	Dec. 31..	Baker, Clarence.....	Pistol (evidence).
401	1900—Jan. 7....	Foster, Thomas.....	Pistol (evidence).
402	Jan. 8....	Shaw, H. S.....	Pistol (evidence).
403	Jan. 13..	Lawrence, Harry.....	Pistol (evidence).
404	Feb. 8....	De Vere, H. P.....	Pistol (evidence).
405	Feb. 9....	Hedler, Henry.....	Pistol (evidence).
406	Feb. 11...	Bazillo, Bibb.....	Pistol (evidence).
407	Feb. 15...	Hassen, Charles.....	Pistol (evidence).
408	March 1..	Leong Kan.....	Pistol (evidence).
409	March 2..	Kenney, R. T.....	Pistol (evidence).
410	March 3..	Murphy, Joseph.....	Pistol (evidence).
411	March 4..	Alexanderson, C.....	Pistol (evidence).
412	March 12	Ah Pow.....	Pistol (evidence).
413	April 21.	Peterson, Harry.....	Pistol (evidence).
414	April 28..	Foster, Thomas.....	Pistol (evidence).
415	May 4....	Claffey, W. E.....	Pistol (evidence).
416	May 13...	Linksey, George.....	Pistol (evidence).
417	May 20...	Sutters, James.....	Pistol (evidence).

EXHIBIT "F"—CONTINUED.

No.	DATE.	NAME,	PROPERTY.
418	1900—May 22..	Gee Ah Wing.....	Pistol (evidence).
419	May 29...	Curtis, G. J.....	Pistol (evidence).
420	May 29...	Sullivan, William.....	Pistol (evidence).
421	June 8...	Williams, Frank.....	Pistol (evidence).
422	June 23..	Gefkin, Henry.....	Pistol (evidence).
423	June 26..	Keanley, Thomas.....	Pistol (evidence).
424	1896—July 3....	.....	Pistol found at the Presidio by Officer P. Dougherty and left for identification.
425	July 22..	.....	Pistol taken from No. 12 Clinton alley by Sergeant Jesse Cook for identification.
426	July 22..	.....	Pistol taken from No. 12 Clinton alley by Sergeant Jesse Cook for identification.
427	1897—Jan. 21...	.....	Pistol found on Shipley street by Officer M. Cooney and left for identification.
428	March 10 .....	.....	Pistol taken from No. 715 Howard street by Officer D. Koegel for identification.
429	March 10 .....	.....	Pistol taken from No. 715 Howard street by Officer D. Koegel for identification.
430	March 11 .....	.....	Pistol taken from No. 715 Howard street by Officer D. Koegel for identification.
431	June 27..	.....	Pistol taken from No. 30 Waverly place by Sergeant A. A. Perrin for identification.
432	June 27..	.....	Pistol taken from No. 30 Waverly place by Sergeant A. A. Perrin for identification.
433	June 27..	.....	Pistol taken from No. 30 Waverly place by Sergeant A. A. Perrin for identification.
434	June 27..	.....	Pistol taken from No. 30 Waverly place by Sergeant A. A. Perrin for identification.

REPORT OF CHIEF OF POLICE.

EXHIBIT "F"—CONTINUED.

.....'0N	DATE.	NAME.	PROPERTY.
435	1897—Oct. 4...	.....	Pistol taken from a demented soldier on train near Marysville, Cal., by Citizen J. W. Jones and left with Property Clerk for identification.
436	Nov. —	.....	Pistol taken from N. W. corner Clay street and Brenham place by Sergeant A. G. Wollweber for identification.
437	1898—July 19..	.....	Pistol found at No. 19 Fourth street by Officer James Tuite and left for identification.
438	Sept. 13..	.....	Pistol found on Linden avenue by Officer T. F. Connolly and left for identification.
439	Nov. 4...	.....	Pistol found in Sullivan alley by Officer R. P. DeGuire and left for identification.
440	1899—Jan. 10..	.....	Pistol taken from Chinese quarters by Sergeant T. Duke for identification.
441	Jan. 10..	.....	Pistol taken from Chinese quarters by Sergeant T. Duke for identification.
442	Feb. 7...	.....	Pistol found at No. 585 Fourth street by Officers R. H. Beamer and James Regan and left for identification.
443	Feb. 8...	.....	Pistol found at No. 532 Pacific street by Officer A. M. Williams and left for identification.
444	Feb. 15..	.....	Pistol found on Sixth street by Officer T. P. Riordan and left for identification.
445	May 24..	.....	Pistol found at No. 2355 Howard street by Citizen John Brooks and left for identification.

EXHIBIT "F"—CONTINUED.

No. .....06	DATE.	NAME.	PROPERTY.
446	1899—June 20.....		Pistol found at No. 776 Folsom street by Officer F. Greenan and left for identification.
447	July 1.....		Pistol taken from John Smith by Officer H. S. Hutchings for identification.
448	July 2.....		Pistol found on Larkin street by Officer C. Phillips and left for identification.
449	July 3.....		Pistol taken from George Nannery by Officer H. S. Hutchings for identification.
450	July 3.....		Pistol taken from George Collins by Officer Ed Leonard for identification.
451	July 4.....		Pistol taken from Horace Mist by Sergeant E. Harper for identification.
452	July 4.....		Pistol taken from Chester Stole by Officer John Cronin for identification.
453	July 4.....		Pistol taken from John Johnson by Officers H. S. Hutchings for identification.
454	July 4.....		Pistol taken from H. Ross by Officer G. A. Wollweber for identification.
455	July 4.....		Pistol taken from A. G. Deardorff by Officer Geo. DeBoise for identification.
456	July 4.....		Pistol taken from O. Gutz by Officer H. S. Hutchings for identification.
457	July 4.....		Pistol taken from Ole Barnes by Officer Wm. Isaacs for identification.
458	July 4.....		Pistol taken from John Smith by Officer G. A. Wollweber for identification.
459	July 4.....		Pistol taken from A. Sistler by Officer J. Kramer for identification.

EXHIBIT "F"—CONTINUED.

NO.	DATE.	NAME.	PROPERTY.
460	1899—July 5..		Pistol taken from Peter Ratto by Officer E. Bode for identification.
461	Sept. 25..		Pistol taken from John Doe Rice by Officer F. W. Esola for identification.
462	Oct. 1....		Pistol found at No. 403 Capp street by Officer H. Porter and left for identification.
463	Dec. 1....		Pistol taken from Chinese quarters by Sergeant C. Christiansen for identification.
464	Dec. 17..		Pistol found at No. 1025 Dupont street by Officer F. Callahan and left for identification.
465	Dec. 17..		Pistol taken from No. 1025 Dupont street by Officer F. Callahan for identification.
466	Dec. 26..		Pistol taken from No. 817½ Clay street by Sergeant T. Duke for identification.
467	Dec. 31..		Pistol found on Market street by T. C. Murphy and left for identification.
468			Pistol taken from No. 1014 Stockton street by Officer R. Connor for identification.
469	1900—Jan. 10..		Pistol taken from No. 822 Clay street by Captain Wittman for identification.
470	Jan. 15..		Pistol found by Citizen Joseph Reedy and turned over to Officers J. Fitzgerald and R. F. Graham for identification.
471	Feb. 8....		Pistol taken from No. 1104 Folsom street by Officer John Cronin for identification.
472	Feb. 17..		Pistol taken from Thomas Nelson by Officer E. C. Percival for identification.
473	March 4..		Pistol taken from Carrie Cloud by Officer Wm. Armstrong for identification.
474	April 26..		Pistol found on Grant avenue by Sergeant P. J. Tobin and left for identification.
475	May 1....		Pistol found on Greenwich street by Detective H. C. Reynolds and left for identification.
476	May 3....		Pistol found on Kate street by Citizen J. W. Alexander and turned over to Officer John Cronin for identification.
477	May 11..		Pistol found on Twenty-ninth street by Officer A. A. Archer and left for identification.

EXHIBIT "F"—CONTINUED.

NO.	DATE.	NAME.	PROPERTY.
478	1899—May 19..		Pistol taken from No. 776 Howard street by Officer J. J. Tillman for identification.
479	Jan. 9....		Pistol taken from No. 9 Spofford alley by Officer D. Lyons on search warrant.
480	Jan. 9....		Pistol taken from No. 1027 Dupont street by Officer P. M. Kissane on search warrant.
481	Jan. 9....		Pistol taken from No. 8 Spofford alley by Officer George Collins on search warrant.
483	1899—Aug. 26..	Tanner, Geo. L.....	Pistol (evidence).
484	1900—Feb. 2....	Allen, John.....	Pistol (evidence).
485	Feb. 2....	Burns, Frank.....	(Evidence).
486	1896—Jan. 18..		Six white metal gold-plated teaspoons taken from George Paul, alias Miller (a thief), for identification.
487	1897—Jan. 23..		Wallet containing surgical instruments, found on Market street by Officer P. H. Fraher and left for identification.
488	July 2....		Cigar-case, purse, memorandum book, Red Men's badges, etc., found on Shotwell street by Lieutenant Wm. F. Burke and left for identification.
489	1898—May.....		H. C. gilt Seth Thomas watch, case No. 198-534, movement No. 48,496, and comb, taken from No. 40 Berry street by Officer H. S. Hutchings for identification.
490	1899—Oct. 18..		Sixteen dollars, gilt ring, pipe, 3 G. A. R. badges, necktie, collar-buttons and leather tobacco pouch taken from room of John Sullivan, New Washington Hotel, by Officer James Regan for identification.
491	1900—Jan. 12..		Package of letters found on Hayes street by Officer P. Perry and left for identification.
492	Jan. 26....		Three broken silver spoons and napkin ring taken from No. 1706 Polk street by Detectives G. D. Harper and P. Sullivan for identification.

REPORT OF CHIEF OF POLICE.

EXHIBIT "F"—CONTINUED.

No.	DATE.	NAME.	PROPERTY.
493	1900—Feb. 2...		Knife, fork, spoons, nutcrackers, butter-knife and pair of sugar-tongs found in corridor of City Hall by Citizen W. Dixon and left with Property Clerk for identification.
494	Feb. 8...		Lady's O. F. gold "A. W. W. Co." watch, case No. x6304, movement No. 4,008,391, initials R. F. on case, found at Oakland Ferry Depot by Officer C. Callahan and left for identification.
495	Feb. 16...		Purse containing papers, etc., found on Haight street by Lieutenant John B. Martin and left for identification.
496	Feb. 23...		Bead neck chain found on Golden Gate avenue by Officer J. N. McGee and left for identification.
497	Feb. 24...		Purse containing forty cents and key found on Valencia street by Officer J. E. Young and left for identification.
498	Feb. 26...		Purse containing thirty cents, keys, pencil and letters, found on Howard street by Officer James Cook and left for identification.
499	March 31		Purse containing three 45-100 dollars and key taken from No. 1249 Market street by Sergeant John T. Fitzhenry for identification.
500	April 6...		Lady's black satin handbag containing thirty-five cents, 2 handkerchiefs and 2 keys, found in Golden Gate Park by Officer John L. Mangan and left for identification.
501	April 7...		Lady's steel ring purse found on Post street by Mrs. Alexander, residing at the Hotel Pendleton, and turned over to Sergeant John Duncan for identification.
502	April 12...		Lady's purse containing pair of gilt-rimmed spectacles taken from No. 1958 Market street by Officers J. Fitzgerald and R. F. Graham for identification.

EXHIBIT "F"—CONTINUED.

.....ON	DATE.	NAME.	PROPERTY.
503	1900—April 22..	.....	Purse containing sixty-one cents and key, found in Golden Gate Park by Officer F. J. Haley and left for identification.
504	April 25..	.....	Seventy-five cents found on Franklin street by Officer J. N. McGee and left for identification.
505	May 11..	.....	Purse found on Geary street by Officer George Graham and left for identification.
506	May 12..	.....	Purse containing twenty cents and key found on Market street by Officer John Roche and left for identification.
507	May 13..	.....	Box of drawing tools taken from W. H. Reynolds (a thief) by Detective H. C. Reynolds for identification.
508	May 19..	.....	Pair of pearl opera glasses taken from No. 74 Third street by Detectives T. L. Ryan and E. O'Dea for identification.
509	May 21..	.....	Purse containing two 70-100 dollars, key and papers found on Van Ness avenue by Citizen Frank Brown and turned over to Officer T. B. Judson for identification.
510	May 11..	.....	Gent's O. F. white metal American Waltham watch, case No. 6,480, movement No. 7,405,-382, found on Market street by Officer J. J. Riley and left for identification.
511	June 20..	.....	Lady's purse containing forty cents, found in Golden Gate Park by Officer G. W. Clark and left for identification.
512	June 26..	.....	Pair of dentist's forceps taken from No. 324 Ellis street by Officer G. F. Mulcahy for identification.
513	June 30..	.....	Gent's H. C. gilt Corona watch, case No. 690,980, gilt vest chain and gilt locket, taken from Folsom street by Detectives T. L. Ryan and Ed O'Dea.

EXHIBIT "F"—CONTINUED.

No.	DATE.	NAME.	PROPERTY.
514	.....	.....	Pair of black opera glasses left for identification.
515	1894—Jan. 3....	.....	Satchel containing assorted stationery found on Market street by Officer John Cronin and left for identification.
516	July 29....	.....	Trunk containing clothing taken from No. 405 Stevenson street by Officer J. M. Morrissey for identification.
517	1896—Jan. 20....	.....	Sack containing knives, forks, napkin rings, odd pieces of jewelry, etc., found on Sutro Heights by Officer Harry Moran and left for identification.
518	Sept. 28..	.....	Wicker basket containing clothing, books, etc., taken from Continental Hotel by Officer J. R. O'Connor for identification.
519	Dec. 24....	.....	Valise and contents found on Sacramento street by Special Officer F. Farrell and left for identification.
520	1897—March 20	.....	Box containing marble slab found on Clay street by Officer W. H. Young and left for identification.
521	Nov. 4....	.....	Violin and case found on Kearny street by Officer T. R. Flinn and left for identification.
522	Nov. 17....	.....	Surgical instrument found on Market street by Officer James Cook and left for identification.
523	May.....	.....	Valise and contents taken from No. 547 Mission street by Officer J. J. Moriarty for identification.
524	1898—April 16..	.....	Lady's silk collar found on Kearny street by Officer O. E. Heffernan and left for identification.
525	May 3....	.....	Rug found on California street by Officer Louis Young and left for identification.
526	May 12....	.....	Box containing red plume found on Sixth street by Officer P. Tracy and left for identification.

EXHIBIT "F"—CONTINUED.

No.	DATE.	NAME.	PROPERTY.
527	1898—May 29...		Sack containing junk found on Pacific street by Officer J. N. McGee and left for identification.
528	May 29...		Sack of junk found on Pacific street by Officer J. N. McGee and left for identification.
529	June 6...		Sack of lead pipe found on Second street by Officer Samuel Orr and left for identification.
530	June 22...		29 white electric knobs found on Twenty-second street by Officer E. C. Robinson and left for identification.
531	July 16...		Package containing soldier's coat, pants and hat found in City Hall by Citizen J. W. Disbrow and turned over to Property Clerk for identification.
532	Aug. 5...		Brass lamp found on Market street by Officer J. McSorley and left for identification.
533	Sept. 10...		Plane and saw taken from Mr. Livingston by Detectives T. L. Ryan and Ed O'Dea for identification.
534	Sept. 27...		Coat and receipt book found on Bryant street by Citizen J. Holman and turned over to Officer J. J. Riley for identification.
535	Oct. 13...		Basket containing keys found on Natoma street by Officer T. R. Flinn and left for identification.
536	Nov. 10...		Piano cover found on Mission street by Officer James Feeny and left for identification.
537	Nov. 17...		Elks' canvas banner taken from Market street by Captain John Spillane for identification.
538	Nov. 20...		Package of photographs found on Seventh street by Officer M. Hurley and left for identification.
539	Dec. 20...		Package of lace curtains found on Hayes street by Citizen Wm. Henson and turned over to Officer J. E. Reed for identification.

EXHIBIT "F"—CONTINUED.

No.	DATE.	NAME.	PROPERTY.
540	1898—Dec. 24..	.....	Coil of rubber hose found on McAllister street by Officer A. E. Holmes and left for identification.
541	Dec. 31...	.....	Two spades found on Howard street by Officer J. Connolly and left for identification.
542	1899—Jan. 19...	.....	Package of small bird glasses taken from No. 242 Stevenson street by Officer W. J. Smith for identification.
543	Jan. 23...	.....	Black sack coat containing papers found on Clementina street by Officer P. Tracy and left for identification.
544	Feb. 1....	.....	Soldier's pants and shoes taken from No. 735 Pine street by Mr. Upton and turned over to the Property Clerk for identification.
545	March 18.....	.....	Box containing bolts and monkey wrench taken from No. 558 Mission street by Detectives T. L. Ryan and Ed O'Dea for identification.
546	March 30.....	.....	Two white sheets and one pillow case taken from No. 309 Sutter street by Detectives T. L. Ryan and Edward O'Dea for identification.
547	April 26.....	.....	Package of tools taken from No. 850 Howard street by Detectives T. L. Ryan and E. O'Dea for identification.
548	May 1....	.....	Lady's hat, purse, cards, papers, letters, tin-type, photo, handkerchief, veil, etc., found at Ocean Beach by Citizen E. Willis and turned over to Detectives Silvey and Egan for identification.
549	June 30...	.....	Plumber's furnace taken from No. 1113 Market street by Detectives T. L. Ryan and Ed O'Dea for identification.
550	June 30...	.....	Sack containing boxes of dice found at Laurel Hill Cemetery by Citizen James Campbell and turned over to Officer G. P. Harrington for identification.

EXHIBIT "F"—CONTINUED.

.....ON	DATE.	NAME.	PROPERTY.
551	1890—July 16..	.....	Six iron frames found on Market street by Officer T. C. Murphy and left for identification.
552	.....	.....	Valise and contents found on Pacific street by Dr. H. Fisk and turned over to the Property Clerk for identification.
553	Aug. 8...	.....	Hatchet taken from Sixth street by Officer W. Ross for identification.
554	Aug. 12..	.....	Hatchet taken from Third street wharf by Officer R. J. McGrayn for identification.
555	Aug. 24..	.....	Painter's suit and brush found on Market street by Officer A. J. Noiting and left for identification.
556	Sept. 1...	.....	Box containing glass globes taken from No. 303 Eddy street by Officer H. S. Prouse for identification.
557	Sept. 6...	.....	Lot of sacks found on Dupont street by Officer James O'Connor and left for identification.
558	Sept. 6...	.....	Sack containing junk found on Dupont street by Officer James O'Connor and left for identification.
559	Sept. 10..	.....	Telescope basket containing personal effects found on Washington street wharf by Citizen Wm. Madden and turned over to Sergeant W. J. Brophy for identification.
560	Sept. 14..	.....	Package of canned goods found on Larkin street by Officer T. C. Naylor and left for identification.
561	Sept. 26..	.....	Box containing soap, pins, etc., taken from No. 623 Broderick street and left with Property Clerk for identification.
562	Sept. 29..	.....	Lunch basket containing paints found on Montgomery street by Citizen Wm. Jones and turned over to Officer Louis Young for identification.

REPORT OF CHIEF OF POLICE.

EXHIBIT "F"—CONTINUED.

No.	DATE.	NAME.	PROPERTY.
563	1899—Oct. 4..		Valise and contents taken from Eddy street store by Detective H. C. Reynolds for identification.
564	Nov. 11..		Hatchet found at No. 832 Washington street by Sergeant T. Duke and left for identification.
565	Nov. 21..		Box of mason's tools found on Gold street by Officer O. H. Knight and left for identification.
566	Dec. 1....		Tin box containing painter's outfit found on Harriet street by Officer J. F. O'Shea and left for identification.
567	Dec. 9....		Bridle and reins found on Pine street by Officer P. DeGuire and left for identification.
568	Dec. 26..		Sack containing rubber tubing, brass cocks and gas fixtures found on Third street by Citizen Louis Kuhn and turned over to Officer John Cronin for identification.
569			Wrench and pair of overalls taken from No. 136 Lily avenue by Officer John Cronin for identification.
570	1900—Jan. 3....		Box containing lead pipe found on Mission street by Officer J. J. McEntee and left for identification.
571	Jan. 15..		Valise containing gas fixtures, etc., taken from No. 4 Langton street by Detectives T. L. Ryan and Ed O'Dea for identification.
572	Jan. 22..		Chinese wicker basket and contents taken from Bryant street by Officer L. C. Clark for identification.
573	Jan. 24..		Sack containing towels, napkins, etc., found on Brannan street by Citizen J. O'Keefe and turned over to Officer John Cronin for identification.

EXHIBIT "F"—CONTINUED.

NO.	DATE.	NAME.	PROPERTY.
574	1900—Jan. 25.	.....	Package of satin ribbon found on Market street by Officer Daniel Coleman and left for identification.
575	Feb. 4....	.....	Willow basket and contents found on Mission street by Elsie Lewis and turned over to the Property Clerk for identification.
576	Feb. 13...	.....	Coat, book and papers found on California street by Officer J. Ward and left for identification.
577	Feb. 15..	.....	Canvas cover found on Pacific street by Officer R. G. Skain and left for identification.
578	Feb. 25..	.....	Horse blanket found on Polk street by Officer G. F. Barry and left for identification.
579	March 9.	.....	Private mail box found on Hayes street by Officer T. F. Connolly and left for identification.
580	March 29	.....	Valise containing clothing and hat taken from New Montgomery street by Detectives T. L. Ryan and Ed O'Dea for identification.
581	April 21..	.....	Coat, U. S. A. discharge paper and check on S. F. National Bank for \$49 05, payable to Richard Worthington, found on Golden Gate avenue by Citizen Frank Brown and turned over to Officer P. H. McGee for identification.
582	April 21..	.....	Pair of ladies' shoes found on Hayes street by Officer T. F. Connolly and left for identification.
583	April 30..	.....	Package containing coat, pants, cap, shirt and collars found on Kentucky street by Citizen F. W. Mattfeld and turned over to Sergeant John M. Lewis for identification.
584	April 30..	.....	Coil of wire found on Larkin street by Officer E. Gardner and left for identification.
585	May 2....	.....	Whip found on Stockton street by Officer James Aitken and left for identification.

EXHIBIT "F"—CONTINUED.

..... ON	DATE.	NAME.	PROPERTY.
586	1900—May 7.....		Lady's jacket found in Golden Gate Park by Officer H. H. Dobbins and left for identification.
587	May 8.....		Sack of cooper's tools taken from No. 1066 Howard street by Detectives T. L. Ryan and Ed O'Dea for identification.
588	May 11.....		Lady's hat, gloves and purse containing 5 cents found in Golden Gate Park by Citizen C. Folger and turned over to Corporal Lackmann for identification.
589	May 16.....		Dark coat, pants and vest taken from Winchester Hotel by Officer Jerome F. Tyrrell for identification.
590	Feb. 6.....		Wine press found on Howard street by Officer C. Goodwin and left for identification.
591	Jan. 25.....		Bicycle found on Valencia street by Officer J. A. Hayes and left for identification.
592	Jan. 27.....		Bicycle found on Market street by Officer M. Hurley and left for identification.
593	May 26.....		Bicycle found on Turk street by Officer P. N. McGee and left for identification.
594	.....		Cleveland bicycle left by an unknown party for identification.
595	1899—July 17.....		Bicycle found on Bluxome street by Special Officer P. Tackney and left for identification.
596	.....		Victor bicycle found in City Hall corridor and left for identification.
597	.....		Four milk cans unclaimed and left for identification.
598	.....		Case containing a lot of assorted books taken on various dates and used as evidence or for identification.
599	.....		Seven Chinese counting boards.
600	.....		Sack of assorted tools unclaimed and left for identification.

EXHIBIT "F"—CONTINUED.

No.	DATE.	NAME.	PROPERTY.
601	1900—Feb. 14.....		Sewing machine, oil stove, telescope basket and valise containing personal effects taken from No. 630 Folsom street by Officer John Cronin on search warrant.
602	1899—Dec. 6.....		Hammock, 4 toothbrushes, pair of scissors, knife, shaving-brush, rule, pencil, 2 combs, handbrush, whiskbrush, leather watchguard and shawlstrap taken from No. 1143 Mission street by Detectives T. L. Ryan and Ed O'Dea on search warrant.
603	May 10.....		Framed picture taken from No. 520 Bush street by Officer W. H. Heins on search warrant.
604	March 16.....		Minute book taken from No. 106 Eddy street by Officer B. F. Rathfon on search warrant.
605	Jan. 26.....		Four bottles of mineral water taken from S. E. corner of Geary and Larkin streets by Officer W. Coleman on search warrant.
606	1897—March 13.....		Lamp and globe taken from No. 45 Liberty street by Officer A. B. Riehl on search warrant.
607	Dec. 8.....		Two framed pictures taken from No. 345 Dore street by Officer John J. Conlin on search warrant.
608	June 7.....		Jackplane taken from No. 516 Mission street by Detectives T. L. Ryan and Ed O'Dea on search warrant.
609	1896—Oct. 17.....		Lot of paper patterns and eight chatelaines taken from No. 22½ Geary street by Officer John Cronin on search warrant.
610	1893—May 16.....		Package containing laces, sheet, etc., taken from No. 529 Taylor street by Officer John Cronin on search warrant.
611	.....		202 dozens of unclaimed assorted pocket-knives.

REPORT OF CHIEF OF POLICE.

EXHIBIT "F"—CONTINUED.

No.....	DATE	NAME.	PROPERTY.
612			Package of 12 assorted knives.
613			Package of 12 assorted knives.
614			Package of 6 assorted knives.
615			Package of 6 assorted knives.
616			Package of 6 assorted knives.
617			Package of 6 assorted knives.
618			Package of 6 assorted knives.
619			Package of 6 assorted knives.
620			Package of 6 assorted knives.
621			Package of 6 assorted knives.
622			Package of 6 assorted knives.
623			Package of 6 assorted knives.
624			Package of 6 assorted knives.
625			Package of 6 assorted knives.
626			Package of 6 assorted knives.
627			Package of 6 assorted knives.
628			Package of 6 assorted knives.
629			Package of 6 assorted knives.
630			Package of 6 assorted knives.
631			Package of 6 assorted knives.
632			Package of 6 assorted knives.
633			Package of 6 assorted knives.
634			Package of 6 assorted knives.
635			Package of 6 assorted knives.
636			Package of fifteen spoons.
637			Package of fourteen spoons.
638			Package of 8 forks.
639			Package of knives and forks.

EXHIBIT "F"—CONTINUED.

.....ON	DATE.	NAME.	PROPERTY.
640	Package containing 6 pairs of scissors.
641	Package containing 6 pairs of scissors.
642	Package containing 6 pairs of scissors.
643	Package containing 6 pairs of scissors.
644	Package containing 6 pairs of scissors.
645	Package containing 6 pairs of scissors.
646	Package containing 6 pairs of scissors.
647	Package containing 6 pairs of scissors.
648	Package containing 6 pairs of scissors.
649	Package containing 6 razors.
650	Package containing 6 razors.
651	Package containing 6 razors.
652	Package containing 6 razors.
653	Package containing 6 razors.
654	Package containing 6 razors.
655	Package containing 6 razors.
656	Package containing 6 razors.
657	Package containing 6 razors.
658	Package containing 6 razors.
659	Package containing 6 razors.
660	Package containing 6 purses.
661	Package containing 6 purses.
662	Package containing 6 purses.
663	Package containing 6 purses.
664	Package containing 6 purses.
665	Package containing 6 purses.
666	Package containing 6 rules.
667	Package containing 6 rules.

EXHIBIT "F"—CONTINUED.

No.	DATE.	NAME.	PROPERTY.
668	Package containing 6 rules.
669	Package containing 6 rules.
670	Package containing 6 rules.
671	Package containing 6 mirrors.
672	Package containing 6 mirrors.
673	Package containing 6 mirrors.
674	Package containing 6 mirrors.
675	Package containing 6 mirrors.
676	Package containing 6 mirrors.
677	Package containing 6 mirrors.
678	Package containing 6 mirrors.
679	Package containing 6 mirrors.
680	Package containing 6 mirrors.
681	Package containing 6 combs.
682	Package containing 6 combs.
683	Package containing 6 brushes.
684	Package containing 6 oil tubes.
685	Package containing 12 buttonhooks.
686	Package containing 12 printers' rules.
687	Package containing 18 finger files and pincers.
688	Package containing 12 files.
689	Package containing 6 files.
690	Package containing glass-cutters, corkscrews, hair-crimpers, etc.
691	Package of miscellaneous tools, etc.
692	Package containing 15 small pistols.
693	Package containing 15 small pistols.
694	Package containing 15 small pistols.
695	Package containing 15 small pistols.

EXHIBIT "F"—CONTINUED.

No.	DATE.	NAME.	PROPERTY.
696	Package containing 13 small pistols.
697	Package containing cleaver, hammer and hatchet.
698	Package of miscellaneous articles.
699	Package containing 4 freight hooks.
700	1895—June 17..	Davis, J. C.....	Mantel clock (evidence).

EXHIBIT "G."

TOTAL AMOUNT IN CASH PAID INTO CITY TREASURY FOR FINES AND FORFEITURES IN THE POLICE COURTS, FOR ARRESTS MADE BY THE POLICE DEPARTMENT DURING THE FISCAL YEAR ENDING JUNE 30, 1901.

DATE.	DEPT. No. 1.	DEPT. No. 2.	DEPT. No. 3.	DEPT. No. 4.
1900—July	\$490 00	\$521 00	\$347 50	\$110 00
August.....	421 00	1,159 00	252 50	690 00
September ...	44 00	540 00	765 00	1,030 00
October.....	520 00	1,150 00	670 00	555 00
November.....	230 00	401 00	625 00	507 00
December	279 50	345 00	414 50	400 00
1901—January	665 00	420 00	557 50	1,175 00
February.....	565 00	81 00	197 50	650 00
March	725 00	620 00	960 00	755 00
April.....	1,145 00	1,384 00	850 00	1,425 0
May	510 00	231 00	505 00	190 00
June.....	724 00	160 00	1,360 50	770 00
Totals	\$6,318 50	\$7,012 00	\$7,505 00	\$8,257 00

Grand total.....\$29,092 50

EXHIBIT "H."
POLICE STATIONS AND THEIR LOCATIONS.

NAME OF STATION.	LOCATION.
Central Station.....	Hall of Justice, corner Kearny and Washington
City Hall Station.....	City Hall, corner Larkin and McAllister streets
North End Station.....	1712 Washington street.
O'Farrell Street Station.....	2117 O'Farrell street.
Golden Gate Park Station.....	506 Stanyan street.
Southern Station *.....	City Hall, corner Larkin and McAllister streets.
Potrero Station.....	609 Twentieth street.
South San Francisco Station.....	Southeast corner Railroad and 14th avenues.
Mission Station.....	Corner Seventeenth and Channel streets.
Ocean View Station.....	Plymouth street, bet. Sagamore and Ottawa.
Harbor Station.....	32 Sacramento street.

* New station to be erected at Fourth and Clara streets.

EXHIBIT "I."

SUMMARY OF ACTION TAKEN BY THE BOARD OF POLICE COMMISSIONERS ON APPLICATIONS FOR PERMITS, AS PROVIDED BY CHARTER PROVISIONS DURING THE FISCAL YEAR ENDING JUNE 30, 1901.

RETAIL LIQUOR DEALERS.

Total number of licensed places July 1, 1900.....	3,173
Applications for permits received.	13,509
Withdrawn.....	252
Refused.....	559
Granted.....	12,617
Pending.....	81
Total number of licensed places on July 1, 1901.....	3,052
Net loss by closing during the year.....	121

RESTAURANT RETAIL LIQUOR DEALERS, SECOND CLASS.

Serving beer and wine only with meals.

FROM JULY 18, 1900, TO JUNE 30, 1901—FIRST YEAR.

Applications for permits received during year.....	892
Withdrawn.....	23
Refused.....	26
Granted.....	827
Pending.....	16
Total number of licensed places June 30, 1901.....	229

RECAPITULATION.

Number of places classed as saloons paying license of \$21 00 per quarter.....	3,052
Number of places classed as restaurants paying license of \$3 00 per quarter.....	229

ARRESTS MADE DURING YEAR FOR VIOLATIONS OF LIQUOR LICENSE LAWS AND DISPOSITION OF SAME BY COURTS.

Number of arrests.....	24
Dismissed after trial.....	15
Convicted and fined.....	4
Pending.....	5
Amount of fines paid after conviction.....	\$250 00

Arrests—Keeping saloons open on November 6, 1900 (election day) and dismissed by Police Courts after reprimand.....	7
---	---

AUCTIONEERS.

Total number on July 1, 1900	44
New permits granted.....	12
	— 56
Retired from business during year.....	14
	—
Total number licensed auctioneers July 1, 1901.....	42

INTELLIGENCE OFFICE KEEPERS.

Number of licensed places July 1, 1900.....	27
New places opened.....	23
	— 50
Places closed during year.....	14
	—
Total number places open July 1, 1901.....	36

PAWNBROKERS.

Total number licensed July 1, 1900.....	61
New permits granted.....	6
	— 67
Retired from business during year.....	7
	—
Total number licensed July 1, 1901.....	60

JUNK DEALERS.

Total number licensed July 1, 1900.....	24
New places opened.....	33
	— 57
Places closed during year	14
	—
Total number licensed July 1, 1901.....	43

SECOND-HAND DEALERS.

Total number licensed July 1, 1900.....	139
New places opened.....	88
	— 227
Persons relieved from payment of license by operation of Order 168 of Board of Supervisors, being furniture dealers only.....	67
Places closed.....	46
	— 113
Total number of licensed places July 1, 1901.....	114

PEDDLERS.

Total number of applications filed during year.....	2,923
Granted.....	2,872
Refused.....	25
Withdrawn.....	26
	—
Arrested—Peddling without license.....	45
Dismissed by Courts on payment of license.....	43
Ball forfeited in Police Courts.....	2
Amount caused to be paid by prosecutions.....	\$268 00

EXHIBIT "J."

STRENGTH OF POLICE DEPARTMENT AND SUMMARY OF ACTION TAKEN BY THE BOARD OF POLICE COMMISSIONERS IN THE TRIAL OF COMPLAINTS AGAINST MEMBERS THEREOF DURING THE FISCAL YEAR ENDING JUNE 30, 1901.

BOARD OF POLICE COMMISSIONERS, JUNE 30, 1901.

GEORGE A. NEWHALL.....	President.
WILLIAM T. WALLACE.....	Commissioner.
DAVID I. MAHONEY.....	Commissioner.
JOSIAH R. HOWELL.....	Commissioner.
B. L. CADWALADER.....	Secretary.

APPOINTMENTS BY THE BOARD.

Secretary Board of Police Commissioners.....	1
Police Surgeon.....	1
Police Photographer.....	1
Matrons City Prison.....	2
Cook City Prison.....	1

NUMERICAL STRENGTH OF POLICE FORCE JUNE 30, 1901.

Chief of Police.....	1
Captain of Detectives.....	1
Captains of Police.....	4
Clerk Chief of Police.....	1
Property Clerk.....	1
Detective Sergeants.....	15
Lieutenants of Police.....	5
Sergeants of Police.....	42
Corporals of Police.....	13
Patrolmen, foot.....	486
Patrolmen, mounted.....	17
Patrolmen, bicycle.....	2
Total.....	<u>588</u>

REMOVALS DURING YEAR.

Resigned.....	7
Dismissed.....	13
Died.....	3
Retired.....	1
	<u>24</u>
Appointments made to force during the year.....	<u>37</u>
Number of complaints filed....	90
Number of complaints sustained.....	45
Number of complaints dismissed.....	45
Number of witnesses examined.....	278
Aggregate amount of penalties imposed.....	\$1,491 00

EXHIBIT "K."

SYNOPSIS OF CORRESPONDENCE AND BUSINESS TRANSACTED IN OFFICE OF
CHIEF OF POLICE DURING THE FISCAL YEAR ENDING JUNE 30, 1901.

Letters received and acted on	2,240
Letters sent out.....	2,366
Telegrams received and acted on	475
Telegrams sent out.....	512
Total.....	<u>5,593</u>

REPORT OF CHIEF OF POLICE.

EXHIBIT "L."

SUMMARY OF POLICE PATROL WAGON SERVICE DURING THE FISCAL YEAR ENDING JUNE 30, 1901.

STATIONS.		Whole number of runs by patrol wagons	Prisoners brought to Central and Sub-Stations.	Fires attended.	Whole number of miles run by wagons	False calls from Police Patrol boxes.....	Sick and injured taken to Receiving and other Hospitals and otherwise cared for.....	Insane persons cared for.	Prisoners taken to City Prison from various sub-stations.....	Prisoners taken from City Prison and delivered to the Sheriff at the County Jail.....	People taken home.
Central Station.....	5,270	5,898	70	5,271	127	635	57	5	513	18	
City Hall Station.....	3,611	4,858	57	5,086	109	274	40	2,759	2	9	
North End Station.....	1,097	526	46	3,045	38	87	13	2,648	20	.....
O'Farrell Street Station.....	585	133	5	2,164	23	49	8	1,726	.....	1
Golden Gate Park Station.....	411	110	1	2,278	27	41	5	397	1	.....
Southern Station.....	5,069	109	.....	10,579	122	629	57	2,998	22	108
Mission Station.	2,076	1,490	.....	6,088	44	250	49	.....	.....	16
Harbor Station.....	1,528	928	.....	1,811	26	169	13	2,157	.....	.....
Totals	19,647	14,052	179	36,302	516	2,074	242	12,690	558	152	

EXHIBIT "M."

FUGITIVES FROM JUSTICE ARRESTED IN THE CITY AND COUNTY OF SAN FRANCISCO, AND DELIVERED TO THE AUTHORITIES OF OTHER COUNTIES AND STATES DURING THE FISCAL YEAR ENDING JUNE 30, 1901.

DATE.	NAME OF FUGITIVE.	OFFENSE CHARGED.	ARRESTING OFFICERS.	DELIVERED TO AUTHORITIES OF—
1900—July 3.....	Albert Butler.....	Burglary.....	Detectives T. L. Ryan and E. O'Dea..	Alameda Co.
July 25.....	L. King.....	Petit larceny.....	Officer R. F. Graham.....	Santa Clara Co.
July 25.....	Samuel E. Barnum.....	Grand larceny.....	Detectives T. L. Ryan and E. O'Dea..	Marin Co.
July 28.....	Joseph Hart.....	Robbery.....	Det. C. Crockett, Sgt. O'Gorman.....	Solano Co.
July 28.....	John Matheson.....	Robbery.....	Det. C. Crockett, Sgt. O'Gorman.....	Solano Co.
July 29.....	Dy Chou (female).....	Grand larceny.....	Sheriff R. J. Langford.....	Santa Clara Co.
July 31.....	C. H. McClure, alias Howard	Burglary.....	{ Dets. C. J. Cody, G. W. McMahon, R. J. Whitaker... }	Placer Co.
Aug. 17.....	E. Williams, alias Slim.....	Felony embezzlement.....	Officer W. M. Ross, Spl. J. K. Cleary.	Marin Co.
Aug. 27.....	Samuel Weller.....	Felony embezzlement.....	{ Capt. J. F. Seymour, Det. R. J. Whitaker... }	State of Iowa.
Aug. 28.....	Laurence Lackorman.....	Felony embezzlement.....	Det. R. J. Whitaker.....	Butte Co.
Aug. 31.....	Samuel Reisman.....	Obtaining money by false pretenses....	Dets. C. Crockett, T. Dillon.....	Santa Barbara.
Sept. 4.....	Samuel Reisman.....	Obtaining money by false pretenses....	Det. C. J. Cody.....	Santa Barbara.
Sept. 5.....	E. F. Adams.....	Obtaining money by false pretenses....	Dets. J. F. Dinan, E. J. Wren.....	Seattle, Wash.
Sept. 11.....	Samuel Wilcock.....	Obtaining money by false pretenses....	Constable M. A. Wright.....	Stanislaus Co.
Sept. 12.....	B. H. Dorland.....	Obtaining money by false pretenses....	{ Dets. G. W. McMahon, R. J. Whitaker... }	Shasta Co.
Sept. 21.....	Fugita Kama (Jap. fr male).....	Deportation.....	U. S. Dep. Mrs. J. Monckton.....	Santa Clara Co.

REPORT OF CHIEF OF POLICE.

EXHIBIT "M"—CONTINUED.

DATE.	NAME OF FUGITIVE.	OFFENSE CHARGED.	ARRESTING OFFICERS.	DELIVERED TO AUTHORITIES OF—
1900—Sept. 24.....	T. J. Davis.....	Misdemeanor embezzlement.....	Det. C. Crockett.....	Santa Clara Co.
Sept. 24.....	J. C. Wells.....	Libel.....	Const. F. W. Johnson.....	Contra Costa Co
Oct 2.....	C. A. Siefert.....	Obtaining money by false pretenses..	Det. Geo. W. McMahon.....	Santa Clara Co.
Oct. 8.....	F. H. Young.....	Defrauding an inn-keeper.....	Off. F. McGrayne.....	Alameda Co.
Oct. 15.....	Robert Evans.....	Grand larceny.....	Dets. T. L. Ryan, C. Crockett.....	Marin Co.
Oct. 19.....	Emil Santos.....	Burglary.....	Dets. Geo. W. McMahon.....	Santa Clara Co.
Oct. 23.....	Goon Chung and Ah Ock.....	Perjury.....	Det. E. L. Gibson.....	Siskiyou Co.
Oct. 26.....	G. W. Joyce.....	Forgery.....	Det. R. J. Whitaker.....	Los Angeles Co.
Nov 3.....	Jew Pack Nin.....	Robbery.....	Det. E. L. Gibson.....	Santa Clara Co.
Nov. 8.....	Maud McCormack.....	Petit larceny.....	Dets. G. W. McMahon, G. D. Bell.....	Santa Clara Co.
Nov. 8.....	George Smith.....	Defaulting witness.....	Dets. G. W. McMahon, G. D. Bell.....	Santa Clara Co.
Nov. 10.....	Edward Ducklisonl.....	Burglary.....	Dets. E. J. Wren, J. F. Dinan.....	Santa Clara Co.
Nov. 14.....	L. H. King.....	Petit larceny.....	Offs. J. Fitzgerald, R. F. Graham.....	Santa Clara Co.
Nov. 15.....	Wm. Seigelmann.....	Receiving stolen goods.....	Det. C. J. Cody.....	Butte Co.
Nov. 15.....	Fred Matterson.....	Defrauding an innkeeper.....	Off. R. A. Beamer.....	Contra Costa Co
Nov. 17.....	Fritz Myusen.....	Grand larceny.....	Sgt. T. Mahoney, Spcl. Ingraun.....	Sonoma Co.
Nov. 22.....	Charles Osmund.....	Defrauding an innkeeper.....	Off. M. J. O'Callaghan.....	Contra Costa Co.
Nov. 28.....	{ Bonaguidi Reimonto, alias { Brady.....	Robbery.....	Det. H. Reynolds, Offs. J. B. Cavanaugh, A. H. Fowle.....	Chicago, Ill.

EXHIBIT "M"—CONTINUED.

DATE.	NAME OF FUGITIVE.	OFFENSE CHARGED.	ARRESTING OFFICERS.	DELIVERED TO AUTHORITIES OF—
1900—Nov. 30.....	Thomas McGuire.....	Embezzlement	Det. G. W. McMahon, Offs. T. J. Han- ley, R. Silver.....	Monterey Co.
Dec. 2.....	Gus Schwartzrock.....	Grand larceny.....	Sergt. T. P. Ellis, Corp. E. M. Egan..	Oregon, Wash.
Dec. 7.....	Edward Miller.....	Defaulting witness.....	Det. E. L. Gibson, Off. R. Morton....	Fresno Co.
Dec. 17.....	C. R. Mullett.....	Defrauding an innkeeper	Const. Corey.....	Santa Clara Co.
Dec. 19.....	M. Cohen.....	Obtaining money by false pretenses..	Det. T. J. Bailey.....	Tehama Co.
Dec. 27.....	I. B. Snell.....	Petit larceny.....	Det. E. L. Gibson.....	Mariposa Co.
1901 Jan. 3.....	Lim Ah Gim.....	Misdemeanor embezzlement.....	Offs. Jas. Cullinane, P. L. Smith....	San Joaquin Co.
Jan. 11.....	Chas. Moore, alias Trousse ..	Petit larceny.....	Det. T. J. Bailey.....	Fresno Co.
Jan. 12.....	Fred Luckenback	Defrauding an innkeeper	Const. F. A. Parker.....	Yolo Co.
Jan. 20.....	Albert Abernathy.....	Grand larceny.....	Dets. J. F. Dinan, E. J. Wren.....	Sacramento Co.
Feb. 1.....	Houston Shannon.....	Obtaining money by false pretenses..	Offs. F. W. Handley, R. N. Silver....	Solano Co.
Feb. 4.....	Albert Fouron	Grand larceny.....	Det. A. R. Hamill.....	Los Angeles Co.
Feb. 9.....	George B. Crawford.....	Grand larceny.....	Det. T. B. Gibson.....	Chicago, Ill.
Feb. 9.....	Ray R. Runciman.....	Felony embezzlement.....	Dets. C. Crockett, T. Di Ion.....	Sacramento Co.
Feb. 19.....	Andrew Hanson.....	Illegal fishing.....	Off. E. Ring.....	Mendocino Co.
Feb. 28.....	William Collins.....	Embezzlement.....	Off. T. F. Bean.....	Colorado.
Mar. 1.....	A. C. Fan.....	Misdemeanor embezzlement	Det. G. W. McMahon.....	Santa Cruz Co.
Mar. 2.....	Walter Tasker.....	Burglary.....	Det. C. Crockett.....	Contra Costa Co.

EXHIBIT "M"—CONTINUED.

DATE.	NAME OF FUGITIVE.	OFFENSE CHARGED.	ARRESTING OFFICERS.	DELIVERED TO AUTHORITIES OF—
1901—Mar. 6.	Leen Vaugh.	Burglary.....	Dets. A. Anthony, T. P. Riordan.....	Tulare Co.
Mar. 6.	Thomas Normil.	Battery.....	Off. J. J. Nyhan.....	Santa Clara Co.
Mar. 7.	James Howard.	Burglary.....	Off. R. F. Graham.....	Alameda Co.
Mar. 7.	Joseph Oral, alias Conlan.	Robbing U. S. Mail.....	Det. Thos. L. Ryan.....	New York City.
Mar. 9.	Eugene Casperillo.	Grand larceny.....	Corp. H. Cills, Off. R. G. Skain.....	Alameda Co.
Mar. 25.	E. L. Taylor.	Defrauding an innkeeper.....	Off. P. E. Fraher.....	Colusa Co.
Mar. 27.	F. W. Buckley.	Defrauding an innkeeper.....	Off. T. J. Coleman.....	Shasta Co.
Mar. 30.	George Neustadt.	Petit larceny.....	Dets. J. F. Dinan, E. J. Wren.....	Alameda Co.
Apr. 3.	Fred Smith.	Burglary.....	Dets. T. L. Ryan, E. O'Dea.....	Yol. Co.
Apr. 4.	Samuel Watkins.	Auctioneering without license.....	Off. T. J. Coleman.....	Fresno Co.
Apr. 11.	Augustus Kenny.	Obtaining money by false pretenses.....	Dets. R. J. Whitaker, T. J. Coleman.	Fresno Co.
Apr. 19.	Laggi Lonorda.	Defrauding an innkeeper.....	Const. Traina.....	Marin Co.
Apr. 20.	Samuel Willey.	Rape.....	Det. C. Crockett, Off. J. Moriarity.....	Washington, D. C.
Apr. 27.	Milton Eber.	Petit larceny.....	Offs. J. Fitzgerald, R. F. Graham.....	Sonoma Co.
May 17.	Charles Turville.	Misdemeanor embezzlement.....	Dets. T. J. Coleman, T. P. Riordan.....	Santa Clara Co.
May 17.	Clement Turville.	Misdemeanor embezzlement.....	Dets. T. J. Coleman, T. P. Riordan.....	Santa Clara Co.
May 18.	Louis Klein.	Grand larceny.....	Srpt. F. Mahoney, Det. T. J. Coleman	Santa Clara Co.
May 19.	L. V. Perhanis.	Petit larceny.....	Det. T. Dillon.....	Napa Co.

EXHIBIT "M"—CONCLUDED.

DATE.	NAME OF FUGITIVE.	OFFENSE CHARGED.	ARRESTING OFFICERS.	DELIVERED TO AUTHORITIES OF—
1901—May 23.....	George Green.....	Grand larceny.....	Const. C. H. Downing.....	Solano Co.
May 23.....	Charles A. O'Neil.....	Grand larceny.....	Det. T. P. Riordan.....	Santa Clara Co.
June 2.....	J. C. Clemens.....	Felony embezzlement.....	Det. A. Anthony.....	Los Angeles Co.
June 3.....	George H. Clark.....	Felony embezzlement.....	Off. P. Sullivan.....	Solano Co.
June 6.....	Joseph F. Dolan.....	Defrauding an innkeeper.....	Det. T. P. Riordan.....	Santa Barbara Co.
June 8.....	Nellie Davids.....	Grand larceny.....	Dets. G. D. Harper, W. Armstrong.....	Marin Co.
June 8.....	Swan Johnson.....	Petit larceny.....	Dets. T. L. Ryan, E. O'Dea.....	San Joaquin Co.
June 8.....	Henry J. Bennett.....	Felony embezzlement.....	Det. T. J. Bailey.....	Butte Co.
June 15.....	Joseph Newgard.....	Grand larceny.....	Offs. H. N. Porter, C. F. Feunell.....	Alameda Co.
June 17.....	Frank Finigold.....	Misdemeanor embezzlement.....	Det. C. Crockett, Off. T. P. Maloney..	Sacramento Co
June 19.....	William A. Reyburn.....	Obtaining money by false pretenses...	Dets. R. J. Whitaker, G. W. McMahon	Oklahoma Ter.
June 19.....	Phoebe Strodi.....	Obtaining money by false pretenses...	Dets. R. J. Whitaker, G. W. McMahon	Oklahoma Ter.
June 23.....	Thomas H. Briggs.....	Felony embezzlement.....	Dets. E. J. Wren, Off. S. Bunner.....	San Joaquin Co.

EXHIBIT "N."

NUMBER OF LOTTERY TICKETS (EXCLUSIVE OF CHINESE) SEIZED BY THE
POLICE DEPARTMENT DURING THE FISCAL YEAR ENDING ON THE 30TH DAY
OF JUNE, 1901.

German Lottery Company.....	2,078
Honduras National Lottery Company.....	355
Loteria de la Beneficencia Publica Lottery Company.....	222
Louisiana Lottery Company	54
Monterey (Mexico) Lottery Company.....	146
Original Little Beneficencia Publica Lottery Company.....	830
Original Little Brunswick Lottery Company.....	64
Original Little Honduras National Lottery Company.....	238
Original Little Kentucky Lottery Company.....	29
Original Little Louisiana Lottery Company.....	2,215
The Beneficencia Lottery Company.....	577
The Kentucky Lottery Company.....	78
The Louisiana Lottery Company.....	1,401
The Mexican State Lottery Company.....	1
Total.....	8,288

EXHIBIT "O."

POLICE CONTINGENT FUND ACCOUNT.

1900—To cash on hand July 1	\$242 15	
To cash received August 8	666 66	
To cash received August 28	666 66	
To cash received October 15	666 66	
To cash received November 15	666 66	
To cash received December 21	666 66	
1901—To cash received January 11	666 66	
To cash received February 13	666 66	
To cash received March 6	666 66	
To cash received April 2	333 33	
To cash received April 10	333 33	
To cash received April 25	666 66	
To cash received May 25	666 66	
To cash received June 15	666 66	
		<u>\$8,242 07</u>
1900—By bills paid during the month of July	\$240 90	
By bills paid during the month of August	338 13	
By bills paid during the month of September	333 25	
By bills paid during the month of October	742 69	
By bills paid during the month of November	496 52	
By bills paid during the month of December	592 50	
1901—By bills paid during the month of January	584 55	
By bills paid during the month of February	539 65	
By bills paid during the month of March	1,656 90	
By bills paid during the month of April	997 17	
By bills paid during the month of May	505 99	
By bills paid during the month of June	500 65	
By cash on hand, June 30	713 17	
		<u>\$8,242 07</u>
To cash on hand June 30, 1900	\$242 15	
To cash received from City and County Treasurer during fiscal year ending June 30, 1901	7,999 92	
		<u>\$8,242 07</u>
By amount expended for Police Department incidental expenses, as per receipted vouchers on file, during fiscal year ending June 30, 1901	\$7,528 90	
By cash on hand June 30, 1901	713 17	
		<u>\$8,242 07</u>

EXHIBIT "P."

STATEMENT OF THE AMOUNT OF MONEY RECEIVED AND PAID INTO THE CITY AND COUNTY TREASURY, AS PER TREASURER'S RECEIPTS ON FILE, FOR SERVICE OF POLICE OFFICERS DETAILED AT PLACES OF AMUSEMENT, ETC., PER SEC. 12, CHAPTER 10, NEW CHARTER, DURING THE FISCAL YEAR ENDING JUNE 30, 1901.

1900—July	\$162 59	
August.....	175 00	
September.....	220 00	
October.....	245 00	
November.....	485 00	
December.....	287 50	
1901—January.....	237 50	
February.....	227 50	
March.....	197 50	
April.....	232 50	
May.....	255 00	
June.....	205 00	
Total.....		\$2,9

BOARD OF POLICE RELIEF AND PENSION FUND COMMISSIONERS.

SAN FRANCISCO, July 1, 1901.

*To the Honorable Jas. D. Phelan, Mayor
Of the City and County of San Francisco—*

DEAR SIR: The following Board of Police Pension Fund Commissioners was in office during the fiscal year 1900-01, under the provisions of Chapter X of Article VIII of the Charter of the City and County of San Francisco, approved by the Legislature January 19, 1899:

GEORGE A. NEWHALL.....	President
WILLIAM T. WALLACE.....	Commissioner
DAVID I. MAHONEY.....	Commissioner
W. F. McNUTT*.....	Commissioner
JOSIAH R. HOWELL§.....	Commissioner
KATHERINE F. CONWAY.....	Secretary

*Term expired January 7, 1901.

§Appointed January 8, 1901, vice William F. McNutt, term expired,

The following members of the Police Department of the City and County of San Francisco were retired from active duty and pensioned by the Board of Police Relief and Pension Fund Commissioners during the fiscal year 1900-01 under the authority of Chapter X of Article VIII of the Charter :

NAME.	Section of Chapter X, Article VIII, of the Charter, un- der which retired.	AMOUNT.	RANK.	DATE OF RETIREM'NT.
Robert Whittle.....	1 and 2	\$50 00	Police officer.....	1900—July 2
John P. Woest.....	1 and 2	50 00	Police officer.....	July 2
Hugh Dowd.....	1 and 3	50 00	Police officer.....	Oct. 16

The following pensioners died during the fiscal year 1900-01:

NAME.	RANK.	AMOUNT.	DATE OF RETIREM'NT.	UNDER SECTION.	DATE OF DEATH..
William Y. Douglass	Captain.....	\$74 00	1895—July 31	3, Act of 1889.....	Nov. 11, '00
George A. Anderson.	Police officer .	50 00	1898—Jan. 3	3, Act of 1889.....	Dec. 11, '00
John Heaney.....	Corporal.....	57 50	1899—Apr. 3	3, Act of 1889.....	Oct. 17, '00
Charles H. Hall.....	Police officer .	50 00	1899—Oct. 5	4 and 5, Act of 1889.	Jan. 1, '01
Benj. F. Rathfon....	Police officer .	50 00	1899—Dec. 31	4 and 5, Act of 1889.	Sept. 25, '00
Hugh Dowd	Police officer .	50 00	1900—Oct. 16	{ 1 and 3 of Chap. X of Art. VIII of Charter..... }	Feb. 6, '01

The following person, not a member of the Department, was granted a pension during the fiscal year 1900-01:

Nellie Heaphey—Widow of Police Officer Michael J. Heaphey. Under Section 6 of Act of 1899. Amount per month, \$33 33½. Date to date from April 27, 1897. Pursuant to temporary writ of mandate issuing out of the Superior Court August 23, 1900, Hon. George H. Bahrs, Judge.

The following person, not a member of the Department, was granted relief from the Pension Fund during the fiscal year 1900-01:

Louise McGlynn—Widow of Police Officer Thomas McGlynn. Under Section 6 of Chapter X of Article VIII of the Charter. Amount—\$552 00.

RECAPITULATION.

Number of retired officers drawing pensions on July 1, 1900.....79

Other persons drawing pensions on July 1, 1900..... 2

Total drawing pensions on July 2, 1900..... 81

Number of officers retired during the fiscal year ending June 30, 1901.....3

Other persons granted pensions during fiscal year ending June 30, 1901..... 1

Total pensioned during fiscal year ending June 30, 1901..... 4

Deceased during fiscal year ending June 30, 1901 6

Restored to active duty during fiscal year ending June 30, 1901..... 0

Total removed from pension roll during fiscal year, ending June 30, 1900..... 6

Total drawing pensions on July 1, 1901

THE POLICE RELIEF AND PENSION FUND.

PENSION ROLL ON JUNE 30, 1901.

NAME.	SECTION ACT OF 1889.	PENSION PER MONTH.	RANK.	DATE WHEN RETIRED.
1. Crowley, Patrick.....	3	\$165 66 $\frac{2}{3}$	Chief of Police.....	Apr. 7, 1897
2. Lees, Isaiah.....	3	165 66 $\frac{2}{3}$	Chief of Police.....	Jan. 2, 1900
3. Bohem, Benjamin F.....	1 and 2	124 00	Captain of Detectives.....	Apr. 16, 1900
4. Silvey, Raymond.....	"	74 00	Detective Sergeant... ..	Apr. 16, 1900
5. Stone, Appleton W.	3	74 00	Captain.....	July 31, 1895
6. Moran, James F.....	4 and 5	74 00	Property Clerk.....	Dec. 31, 1899
7. Bennett, George W.....	4 and 5	69 00	Lieutenant	Apr. 4, 1898
8. Hensley, William D.....	4 and 5	61 50	Sergeant.....	Apr. 3, 1890
9. Sharp, Abraham.....	3	61 50	Sergeant.....	Aug. 31, 1893
10. Bethel, Thomas.....	4 and 5	61 50	Sergeant.....	Dec. 31, 1899
11. Coles, William L.....	3	61 50	Sergeant.....	Apr. 23, 1894
12. Flanders, Thomas.....	4 and 5	61 50	Sergeant.....	Dec. 31, 1899
13. Harman, George W.....	3	61 50	Sergeant.....	Jan. 3, 1895
14. Houghtaling, A. J.....	3	61 50	Sergeant.....	Jan. 3, 1898
15. Cohru, Edward.....	3	61 50	Sergeant.....	July 31, 1895
16. Monaghan, Hugh.....	4 and 5	61 50	Sergeant.....	Dec. 31, 1899
17. Martin, Cornelius.....	3	61 50	Sergeant.....	Jan. 3, 1898
18. Avan, John.....	3	61 50	Sergeant.....	Nov. 2, 1898
19. Barnstead, Thomas D....	3	61 50	Sergeant.....	Dec. 7, 1899
20. Shields, John W.....	1 and 2	61 50	Sergeant.....	Apr. 16, 1900
21. Lindheimer, Mier.....	†	61 50	Sergeant.....	Apr. 16, 1900
22. Dolan, John D.....	3	57 50	Corporal.....	Sept. 1, 1899
23. Lerman, Jacob.....	3	57 50	Corporal.....	Dec. 31, 1895
24. Henry Gardinier.....	4 and 5	50 00	Police officer.....	Sept. 30, 1899
25. Beatty, John.....	4 and 5	50 00	Police officer.....	Sept. 30, 1899
26. McDonough, Patrick.....	4 and 5	50 00	Police officer.....	Sept. 30, 1899
27. James H. Cochran.....	4 and 5	50 00	Police officer.....	Sept. 30, 1899
28. Tyner, William.....	4 and 5	50 00	Police officer.....	Sept. 30, 1899
29. Birch, William.....	4 and 5	50 00	Police officer.....	Sept. 30, 1899
30. Pomeroy, Sheldon.....	3	50 00	Police officer.....	Sept. 30, 1899
31. Flannery, Michael.....	4 and 5	50 00	Police officer.....	Apr. 8, 1890

*Sections 1 and 3, Chapter X, Article VIII, of the Charter.

†Sections 1 and 2, Chapter X, Article VIII, of the Charter.

THE POLICE RELIEF AND PENSION FUND.

PENSION FUND—CONTINUED.

NAME.	SECTION ACT OF 1889.	PENSION PER MONTH.	RANK.	RETIRED.
32. Duff, Thomas	4 and 5	\$50 00	Police officer.....	Apr 13, 1890
33. Curtis, George W.....	3	50 00	Police officer.....	Apr. 6, 1891
34. McMahon, Francis C.....	4 and 5	50 00	Police officer.....	July 6, 1893
35. Bradrick, Isaac.....	3	50 00	Police officer.....	Feb. 26, 1894
36. Dickinson, Charles H.....	3	50 00	Police officer.....	Sept. 1, 1894
37. Gillespie, Thomas.....	3	50 00	Police officer.....	Sept. 30, 1894
38. Brigaerts, Joseph H.....	4 and 5	50 00	Police officer.....	Feb. 18, 1895
39. Harold, James.....	3	50 00	Police officer.....	July 31, 1895
40. Gallagher, James L.....	3	50 00	Police officer.....	July 31, 1895
41. Asher, Alexander B.....	3	50 00	Police officer.....	July 31, 1895
42. Horrigan, Eugene.....	4 and 5	50 00	Police officer.....	Jan. 4, 1897
43. McGrath, John A.....	4 and 5	50 00	Police officer.....	July 1, 1897
44. Murphy, Michael.....	3	50 00	Police officer.....	Jan. 3, 1898
45. Loftus, Michael A.....	3	50 00	Police officer.....	Jan. 3, 1898
46. McNulty, Thomas.....	4 and 5	50 00	Police officer.....	Jan 3, 1898
47. Wells, Charles C.....	4 and 5	50 00	Police officer.....	Apr. 4, 189
48. Little, William.....	3	50 00	Police officer.....	Apr. 30, 1898
49. Murphy, Hamlin H.....	3	50 00	Police officer.....	July 5, 1898
50. Morehouse, William P.....	3	50 00	Police officer.....	Jan. 1, 1899
51. O'Malley, Charles.....	3	50 00	Police officer.....	Jan. 20, 1899
52. Gaynor, William.....	3	50 00	Police officer.....	Apr. 3, 1899
53. Birmingham John.....	3	50 00	Police officer.....	Apr. 3, 1899
54. Courneen, Dennis.....	3	50 00	Police officer.....	Aug. 1, 1899
55. Wilson, Matthew.....	3	50 00	Police officer.....	Oct. 2, 1899
56. Libby, Daniel.....	3	50 00	Police officer.....	Oct. 5, 1899
57. Fleming, Patrick.....	4 and 5	50 00	Police officer.....	Oct. 5, 1899
58. Hayden, Dennis.....	4 and 5	50 00	Police officer.....	Oct. 5, 1899
59. Manning, John.....	3	50 00	Police officer.....	Nov. 2, 1899
60. Duggan, Thomas J.....	3	50 00	Police officer.....	Dec. 6, 1899
61. Williams, Amos M.....	4 and 5	50 00	Police officer.....	Dec. 6, 1899
62. Menihan, Patrick.....	4 and 5	50 00	Police officer.....	Dec. 6, 1899

THE POLICE RELIEF AND PENSION FUND.

PENSION FUND—CONCLUDED.

NAME.	SECTION ACT OF 1889.	PENSION PER MONTH.	RANK.	DATE WHEN RETIRED
63. Michaels, Amelia	6	33 33	Widow of Michael Michaels.....	
64. Burke, Delia	6	46 00	Widow of William Burke.....	
65. Heaphey, Nellie.....	6	33 33	Widow of Michael Heaphey.....	
66. Doran, Joseph	4 and 5	50 00	Police officer.....	Dec. 31, 1899
67. Benjamin, Levi M.	4 and 5	50 00	Police officer.....	Dec. 31, 1899
68. Byrne, Thomas.....	4 and 5	50 00	Police officer.....	Dec. 31, 1899
69. Behan, Maurice.....	4 and 5	50 00	Police officer.....	Dec. 31, 1899
70. Connolly, John	4 and 5	50 00	Police officer.....	Dec. 31, 1899
71. Dillon, Thomas H.....	3	50 00	Police officer.....	Dec. 31, 1899
72. Coleman, Peter.....	3	50 00	Police officer.....	Dec. 31, 1899
73. Conly, John J.....	4 and 5	50 00	Police officer.....	Jan. 5, 1900
74. Tryon, Thomas C.....	4 and 5	50 00	Police officer.....	Jan. 6, 1900
75. McNeill, Daniel.....	*	50 00	Police officer.....	Apr. 16, 1900
76. Coleman, Daniel.....	1 and 2	50 00	Police officer.....	Apr. 16, 1900
77. Whittle, Robert.....	1 and 2	50 00	Police officer.....	July 2, 1900
78. Woest, John P.....	1 and 2	50 00	Police officer.....	July 2, 1900
79. Morton, John M.....	1 and 3	50 00	Police officer.....	Apr. 16, 1900

*Sections 1 and 3, Chapter X, Article VIII, of the Charter.

THE POLICE RELIEF AND PENSION FUND.

FINANCIAL STATEMENT FOR THE FISCAL YEAR ENDING JUNE 30, 1901.

By amount paid in pensions during fiscal year 1900-01.....	\$57,315 18
By amounts paid for other purposes—	
K. F. Conway, Secretary.....	\$600 00
Dr. G. M. Terrill (examining applicants for pensions).....	80 00
Dr. T. L. Mahoney (examining applicants for pensions).....	80 00
	<hr/>
	760 00
By total amount paid from Pension Fund.....	<hr/> \$58,075 18

BOARD OF POLICE RELIEF AND PENSION FUND COMMISSIONERS.

K. F. CONWAY, Secretary.

REPORT
OF THE
BOARD OF EDUCATION.

SAN FRANCISCO, July 31, 1901.

*To the Honorable Jas. D. Phelan, Mayor
Of the City and County of San Francisco—*

DEAR SIR: I herewith submit the report called for in Article XVI, Section 9 of the Charter.

Respectfully yours,

MARY W. KINCAID,
President of the Board of Education.

EXPENDITURES FOR FISCAL

	1900.					
	July.....	August.....	September....	October.....	November.....	December.....
Board of Education.....	\$1,000 00	\$1,000 00	\$1,000 00	\$1,000 00	\$1,000 00	\$1,000 00
Superintendent and Deputies	783 33	783 33	783 33	783 33	783 33	933 33
Secretary and attaches.....	713 00	778 00	863 00	848 00	833 00	773 00
Store-room.....	542 50	542 50	542 50	480 00	417 50	417 50
Teachers.....	79,147 40	77,457 85	77,769 95	77,856 05	78,050 30	78,328 55
Janitors.....	4,433 50	4,364 00	4,396 85	4,405 50	4,397 50	4,411 00
Rents	601 50	576 00	585 00	565 00	580 00	616 00
Supplies.....	2,465 31	3,056 64	3,454 62	5,694 10	3,840 13	1,806 32
Repairs	1,048 77	2,609 95	1,999 29	900 69	1,425 18	562 41
Furniture	306 00	237 50	.....	337 50	.....	.....
Printing	1,309 90	218 04	536 85	240 25	148 45	52 00
Advertising	5 60	7 84	17 70	.....	.....	.....
Fuel .....	.....	93 00	285 51	695 19	1,033 32	1,070 60
Telegraph and telephone.....	84 29	72 12	132 70	65 65	47 75	41 05
Water.....	1,119 38	1,142 78	1,137 33	.....	2,272 56	1,134 03
Light	126 77	689 93	.....	717 99	1,457 31	794 03
Labor.....	2,159 50	2,791 37	1,732 75	1,320 09	962 00	1,353 50
Census.....	.....	.....	.....	.....	.....	.....
Indigent books .....	.....	.....	.....	.....	.....	.....
Apparatus.....	.....	.....	.....	.....	.....	.....
Legal expense.....	.....	.....	.....	.....	.....	.....
Miscellaneous.....	.....	.....	.....	*293 00	*105 45	*128 15
Totals.....	\$95,846 73	\$96,420 85	\$95,237 38	\$96,202 34	\$97,353 78	\$93,421 47

* Teachers' Annuity and Retirement Fund.

REPORT OF BOARD OF EDUCATION.

YEAR ENDING JUNE 30, 1901.

1901.

Total for Six Months.....	January.....	February.....	March.....	April.....	May.....	June.....	Total for Six Months.....	Grand Total—Fiscal Year.....
\$6,000 00	\$1,000 00	\$1,000 00	\$1,000 00	\$1,000 00	\$1,000 00	\$1,000 00	\$6,000 00	\$12,000 00
4,849 98	933 33	933 33	933 33	933 33	933 33	933 33	5,599 98	10,449 96
4,808 00	713 00	713 00	713 00	713 00	713 00	713 00	4,278 00	9,086 00
2,942 50	417 50	417 50	417 50	417 50	417 50	417 50	2,505 00	5,447 50
468,610 10	79,127 90	79,511 95	79,655 55	79,593 05	79,695 55	78,610 65	476,194 65	944,804 75
26,408 35	4,369 00	4,373 75	4,379 00	4,370 50	4,370 25	4,370 00	26,232 50	52,640 85
3,523 50	621 00	649 50	618 50	638 50	628 50	618 50	3,774 50	7,298 00
20,317 12	2,773 25	3,240 44	2,628 25	2,396 85	1,531 83	3,307 45	15,878 07	36,195 19
8,546 29	1,810 26	451 91	414 99	783 91	540 23	652 84	4,654 14	13,200 43
881 00		52 00	40 00				92 00	973 00
2,505 49	342 20	131 45	136 25	172 30	234 75	616 90	1,633 85	4,139 34
31 14				56 55	96 09	29 00	181 64	212 78
3,177 62	1,508 63	1,452 07	318 38	488 19	379 92	75 68	4,222 87	7,400 49
443 56	48 25	61 22	54 15	46 85	36 35	41 15	287 97	731 53
6,806 06	1,147 18	1,134 13	1,130 15	1,141 85	1,125 95	1,154 75	6,834 01	13,640 07
3,786 03	18 35	758 23	1,577 48	766 40	739 63	412 10	4,272 19	8,058 23
10,319 21	2,076 15	1,159 65	576 75	1,817 50	1,857 50	2,181 30	9,968 85	19,988 06
					88 00	4,892 00	4,980 00	4,980 00
*526 60					111 00		111 00	1537 60
\$574,482 55	\$96,906 00	\$96,040 13	\$94,593 28	\$95,336 28	\$94,399 38	\$100,026 15	\$577,301 22	\$1,151,783 77

† Insurance.

RECAPITULATION.

Appropriation	\$1,160 000 00
Disbursements.....	1,151,783 77
Surplus.....	\$8,216 23

SUPERINTENDENT'S REPORT.

SAN FRANCISCO, July 1, 1901.

*To the Honorable the Board of Education
Of the City and County of San Francisco—*

President Mrs. Mary W. Kincaid and Gentlemen: In accordance with law, the Superintendent has the honor to submit herewith the Forty-eight Annual Report on the Public Schools of the City and County of San Francisco for the fiscal year terminating June 30, 1901.

CENSUS, POPULATION AND SCHOOL ATTENDANCE.

The school census completed the 30th day of April, under the supervision of Chief Marshal John N. Elbert, contains these facts: Number of school children between the ages of five and seventeen years is returned as 82,173, insuring the City of an apportionment from the State School Funds of fully \$718,000, and indicating an increase during the year of 3,619 children of school age, which will benefit the school fund to the extent of approximately \$32,000.

Of the 82,173 children between the ages of five and seventeen years, 48,517 are reported by School Principals as having attended school at some time during the year, showing a gain in the enrollment of the public schools over the previous year of +59. The average daily attendance is reported as 34,771, a loss of 233 over the report of the preceding year.

The number of children between the ages of five and seventeen who have attended private schools, only, during the last year was 10,586, as against 9,311 in 1900, showing a gain to the private schools of 1,275. The number of children of school age who have not attended school at any time during the year is returned as 20,634, which is 1,978 more than were reported for the year 1900.

The entire number of children under eighteen years of age in this City and County is 105,512, an increase of 3,490 during the year. From these figures the population of the City and County of San Francisco can be estimated at 353,500.

The relation between the number enrolled in our public schools and the total number of school population has, at times, given rise to erroneous conclusions regarding the ratio of illiteracy. There were 48,517 pupils enrolled in public and 10,586 in private schools, while the number of children of school age (five to seventeen) is returned as 82,173. The incorrect inference might be made that 23,070 children of school age go without any school education.

It is clear that while the school age in our State extends over eleven years from the sixth to the seventeenth year of life very few pupils attend school for that period of time. The average child has a little more than six years' schooling, and therefore statistics must show that about fifty per cent of school population are in school at any one time. A study of the school reports of other cities of our Republic reveals the fact that San Francisco ranks well in the school attendance of her school children.

COMPULSORY EDUCATION, TRUANCY OR PARENTAL SCHOOLS.

The science of education is eminently experimental, its recognized principles and maxims having been deduced from the accumulated experience and observations of all ages. For its advancement, therefore, it is highly important to study the history of its progress.

As the subject of compulsory education is one which is of much interest in its relations to the public welfare and to private rights, and since it is still but partially developed and perfected as an element of public instruction, it seems highly desirable that information respecting its progress should be studied as a basis for future efforts.

The two essential elements of a system of universal, popular education are:

1. Public provision for the support of schools for the education of all youth.
2. The instruction of all children in such schools or by other means.

In the modern revival of education, first efforts were directed mainly to the improvement of the means of instruction in supplying better school-houses, better teachers and better text-books. However, as progress was made in this direction, it began to appear that many could not or would not avail themselves of the benefits that had been provided for them at the public expense. Truancy was very prevalent. Fifty years ago absences from school were at least one-fifth of those enrolled. The necessity for laws to prevent truancy resulted in the gradual enactment of compulsory educational laws in many States.

Difficulty has been and is encountered in the enforcement of such laws. It was contended that such laws interfered with the inalienable rights of a citizen of this Republic. Courts of law maintained that universal education, both moral and intellectual, being the only solid basis on which our institutions can rest, the State has a right to compel parents to take advantage of the means provided by the State of educating their children.

In our large municipalities poverty is a large factor in the non-attendance of children at school. Inability of parents to furnish clothing and books to children accounts for such absence.

On March 28th, 1874, the Legislature of the State of California enacted a compulsory educational law entitled "An Act to Enforce Educational Rights of Children," a synopsis of which is herewith given:

Section 1. Any parent, guardian, or other person, in the State of California, having control and charge of any child or children between the ages of eight and fourteen years, shall be required to send such child or children to public school for a period of at least two-thirds of the time during which a public school shall be taught in each city or city and county, or school district.

Section 2 makes it the duty of the President of each Board of Education or Clerk of each Board of District Trustees, in the State of California, to cause to be posted three notices of this law in public places, or published in one newspaper, for three weeks in the month of June.

Section 3 imposes a fine of not less than \$20 nor more than \$50 upon any parent, guardian, or other person failing to comply with the provisions of the law.

Section 4 makes it the duty of the Clerk of the Board of Education or Board of District Trustees to prosecute all offenses occurring under the provisions of this Act, and imposes a fine of not more than \$50 for failure so to prosecute.

Section 5 makes it the duty of the Census Marshal to furnish to Boards of Education or to District Trustees a list of such children as have not attended school during the year; these lists to be handed to principals of schools, who shall call these lists each morning, and if the children named in such lists fail to report at the close of twelve weeks notice to that effect must be furnished the Board of Education.

Section 6 requires all deaf and dumb or blind children to attend, for a period of at least five years, institutions provided for their gratuitous instruction.

Section 7 provides that any Justice of the Peace shall have jurisdiction of all offenses committed under provisions of this Act.

This law should be amended and strengthened so as to regulate the employment of minors, and to fine those unlawfully employing them; to provide for the appointment of attendance or truant officers, and to arrest and punishment of truants, and for the establishment and maintenance of Truant or Parental Schools.

The experience of the Deputy Superintendents of this City and of myself, emphatically demonstrate the necessity for truant or parental schools. Deputy Superintendents report that in visiting schools they find scores of children playing and loitering on the streets, frequently in the vicinity of a public school. The influence of these idlers on children attending school is necessarily vicious.

In Philadelphia the law of compulsory attendance has been in operation nearly three years with these results, that thousands of children have been taken from the streets and placed in schools; special schools have been established first for the diffident and deficient and second for the insubordinate and truant.

The operations of these schools have been so effective that public sentiment, which was very hostile to the operation of the law at its inception, has been won in its favor. The City was divided into thirty attendance districts with one officer being assigned to each district and nearly 35,000 visits were made to homes and employers.

The law, on the one hand, provides schools to which all children may go; it should, on the other, provide another institution to which certain children may be made to go—schools for those who will willingly and for those who will not, willingly, be instructed.

To this school should be committed all children between the ages of eight and seventeen years who are habitual truants from instructions upon which they are lawfully required to attend, who are insubordinate or disorderly during their attendance upon such instruction, or irregular in such attendance. But no persons convicted of crimes or misdemeanors, other than truancy, should be committed thereto.

School authorities should provide for the confinement, maintenance and instruction of such children in such school for such periods of time as rules or regulations may prescribe, option first being given to parent or guardian to maintain the child in a private school for that period, such confinement to be conducted with a view to the improvement and to the restoration, as soon as practicable, of the child to his regular district school.

The County Board of Education should appoint certain persons, to be designated as attendance officers, whose duties should consist in proceeding to dwellings and abodes of parents of such children who by the school census next preceding were reported as having attended no school during the year. Also of such who are reported by principals as being truants; to inquire into the causes of such non-attendance; to endeavor to induce parents to place their children at school, and if no good reason be given to operate the law against such parents or guardians.

Before, however, any such law can be effectively operated, City and Educational authorities should be most careful to see to it that ample accommodations and facilities exist within their respective districts for accommodation and schooling of children, which means not only school buildings and teachers, but an abundant supply of books and school materials for the children of parents who are in indigent circumstances. And in this connection permit me to declare that it is the result of my experience both as a teacher and Superintendent that there should be a system devised by which text-books and school material should be furnished to all children who attend the public schools, be they rich or poor.

In the City and County of San Francisco the enforcement of any compulsory educational law at this time is impossible. Over 19,000 children were reported by the Census Marshals as having attended no school during the year terminating May 1st, 1900. Were ten per cent of this number forced to attend the public

schools there would be no accommodations for them unless the Board of Education should rent buildings and rooms, and engage forty additional teachers. This would tax the appropriation allowed by the Board of Supervisors for the support of schools during the fiscal year. To enforce then a compulsory educational law in the City and County of San Francisco would necessitate the construction of buildings capable of containing at least 6,000 additional children, besides the establishment of truant and parental schools.

Greater exertions should be made and greater means secured to prevent every child among us from failing to secure that discipline, education and knowledge which our schools afford, for schools are cheaper than jails.

FINANCIAL.

The following table shows the enrollment, average daily attendance, total amount of money spent by the municipality on public education, the average cost per pupil enrolled and in average daily attendance, the money spent for instruction alone, and the cost of instruction per pupil enrolled and in daily attendance for the years terminating June 30th, 1898, 1899, 1900 and 1901:

YEAR.	Enrollment.....	Average Daily Attendance.....	SCHOOL EXPENSES.*	AVERAGE PER PUPIL ON—		COST OF INSTRUCTION	AVERAGE PER PUPIL ON—		Teachers Employed.....
				Enrollment..	Average Daily Attendance.		Enrollment..	Average Daily Attendance.	
1898.....	50,101	35,116	\$1,319,829 00*	26.34	37.58	\$987,412 00	19.71	28.13	1,070
1899.....	48,870	36,940	1,298,213 45†	26.57	35.58	940,820 70	19.22	25.79	1,074
1900.....	48,058	35,004	1,206,031 50†	25.09	34.46	895,316 55	20.31	27.86	1,040
1901.....	48,517	34,771	1,152,631 16	23.76	33.15	943,960 50	19.46	27.14	1,017

*Including \$81,135.04 for Mission High School Building. †Including \$61,970.35 for Mission High School Building. ‡Including \$23,067.10 "overdraft."

The Board of Supervisors made a very small appropriation (\$1,160,000) for the maintenance of the public schools during the fiscal year ending June 30th, 1901, notwithstanding the fact that the new Charter imposed upon the school fund the additional burden of the cost of administration amounting to about \$25,000 per annum. The State appropriation, however, exceeded the estimate by \$40,000, and the Board of Education having conducted the department within the authorized appropriation, carried over a handsome surplus which they are expending for needed repairs and improvements.

SCHOOLS AND SCHOOL ACCOMMODATIONS.

The public school system of San Francisco comprises 4 High Schools, 19 Grammar Schools (including 1 Cosmopolitan, the Adams), 51 Primary (including 1 Cosmopolitan, the Humboldt, and 1 school for Chinese children) and 8 Evening Schools—a total of 82 schools.

The Girls' High School occupies a handsome, well-equipped brick building; the Lowell High, a frame building, old and rather poorly equipped, illy situated to the needs and dignity of a school of such standing, and no credit to the educational center of this community.

The Mission High occupies a new structure on the corner of Dolores and Eighteenth streets. This building is a handsome addition to the public architecture of this City.

The Polytechnic High School, no less than the Lowell, is in need of a new building.

Additional rooms should be built to the Hamilton, Hawthorne, Hearst, Richmond, Golden Gate, Crocker and Dudley Stone schoolhouses.

Some buildings have reached that age and state of decay that render repairing a useless expenditure of money. They should be raised and upon their sites substantial and modernly equipped structures built.

The Sunnyside, Noe Valley, Jackson and Bergerot occupy rented buildings and premises which are inadequate and not suited for the accommodation of pupils. Eighteen rooms are rented for the accommodation of children attending other schools, many of them illy suited for school use.

The Burnett School is housed in a miserable wooden building. The sanitary condition is deplorable, Boards of Health having frequently condemned it. The building admits draughts, and rain water permeates its roof and sides. Children have contracted disease by attendance at this school.

The citizens of South San Francisco have repeatedly petitioned and worked for a suitable building.

The Washington Grammar School occupies a building almost as bad. It is an architectural disgrace.

The Spring Valley and Marshall School buildings should be rebuilt.

Vaults and yards connected with schools are in a most unsanitary and unsatisfactory condition.

I am pleased to state that the Board of Education are undertaking many necessary but long-delayed repairs, the Board of Supervisors having increased the appropriation for Common Schools about \$140,000 above last year's allowance.

SCHOOL VISITATIONS BY DEPUTY SUPERINTENDENTS.

The four Deputy Superintendents attached to this office by provision of the Charter, paid two or more visits each during the year to the several schools of their respective districts, thoroughly investigating material conditions, janitor and scavenger service, discipline, lighting, heating, ventilating, physical culture, voice culture, care of health, teaching of reading, literature, writing, patriotism, and incidentally other subjects. Thorough testing and exemplifying in limited lines uniformly throughout the department, is the aim, instead of the discursive and superficial inspection which can only be ineffectual.

Reports in detail have been filed by the deputies, from which monthly statements in writing have been compiled and subsequently read by me in open meetings of the Board of Education in accordance with provisions of the Charter.

The salient features of these reports are the following:

NON-ATTENDANCE OF CHILDREN. In observing the conduct of children in the neighborhood of the schools, deputies report many of school age as idle, non-attending and in some instances disturbing the school while in session and annoying those attending while on their way to and from their homes. These instances emphasize the advisability of parental schools and compulsory attendance, as referred to in this report under the caption "Compulsory Education."

SCHOOL BUILDINGS AND SITES. Reference may well be directed to an article on School Hygiene by Professor F. B. Dresslar, Department of Education

of the University, in the State Superintendent's last biennial report, pages 31-47. The article advises, as good judgment indeed would indicate, that schoolhouses should be so located and constructed that the sun's rays may be readily admitted to the class-rooms; and, we may add, to the yards. Many school lots of this department are on the north side of streets; and the buildings being contiguous to the sidewalks, shade the yards to the north of them. The plan of placement was ill-advised because if the buildings had been constructed on the north side of the lots, not only would they be removed from the noise of the streets, but the school-yard would be exposed continually to the rays of the sun. As it is, the yards are in part shady, and in winter damp and a menace to the health of children and teachers. The buildings and class-rooms located on the southern side of some of these buildings are, in instances, exposed to the rattling of carts, the clanging of the streetcar bells, and other noises so loud and discordant as to seriously impair teaching and discipline, and to threaten the nervous systems of children and teachers. Many of the yards are so small that children cannot enjoy plays and exercises so necessary to their physical welfare. The condition of school buildings, appurtenances, and yards of this department demonstrates that favoritism has prevailed in Boards of Education, for while some schools indicate that they have received considerable attention, others show that they have been neglected for years.

LIGHTING AND VENTILATING. Many class-rooms of this department are so built as to exclude the sun's rays, and even during the past year some have been so constructed. At the beginning of the last school year attention was frequently directed by this office to the fact that in class-rooms which are exposed to the glare of the sunlight no precaution has been exercised to protect the eyes of children or teachers. The Board of Education heeded the reports so made, and, while the means at their command was so limited as to render it impossible for them to effectively and universally correct this defect, yet they did so partially by placing before many windows roller curtains. These curtains are ineffective, because when lowered to exclude the glare of the sun's rays, they render the rooms too dark.

Few schools are equipped with modern appliances for ventilating. This has to be effected, therefore, through the medium of doors and windows. Definite regulations should be issued by which, in addition to the ventilation secured by the upper sashes being lowered a few inches continually, a complete change of air be quickly effected every thirty minutes, during which time the children should engage in physical culture exercises.

HEATING. All methods of heating the rooms of this department except by stoves have failed, though modern heating installments outside of the department are successful. There are many furnace and pipe plants in the buildings of the department, but now in disuse. The stoves used are small and cheap, are great coal consumers, poor heat producers, and should be replaced as soon as means will allow.

SCHOOL EQUIPMENTS. The desks and seats provided the public school children show lack of systematic attention. Some are not placed properly with reference to light, thus endangering the eyes of the children. In some schools nearly every class-room has some seats so high that it is impossible for the children occupying them to rest their feet upon the floor. In many cases observed, little children have been forced to dangle their feet in this way throughout the year. On the other hand, some class-rooms, not so many, however, have seats and desks too low for those occupying them. There is in use a large number of old seats and desks which should be replaced as quickly as possible by proper furniture.

There is a great scarcity of up-to-date maps in the schools, patriotic and other pictures, and flags, are needed for the walls, suited both to lines of instruction and educational influences indicated in the course. Suitable art copies, and flags are offered by school supply dealers at inexpensive figures. These have not

been supplied by the department, nor have the mechanics been sent to hang on or fasten to the walls those purchased by the teachers from their own purses. Neither the teachers nor the janitors should be asked to do this work. Some schools have in every room art copies, patriotic and otherwise educational, on all the walls systematically placed; a uniform flag, properly displayed, window plants in best of condition; and around the yards narrow beds of flowers and shrubs; all at the expense of teachers, with rare exceptions, but without care, regulation or encouragement of the department.

HEALTH OF PUBLIC SCHOOLS CHILDREN.

Considering the unsanitary condition of many school buildings, rooms and outhouses, the health of the children attending public schools has been fair. Measles was quite prevalent at one time. Certain conditions favor disease among them; first, school-rooms, old, deprived of sunlight, small, illy ventilated, heated or lighted, and generally unsuitable for school purposes; second, too many children seated in the room. I have observed little children literally huddled together two or three on a seat; third, old, worn-out, rotten vaults and sinks; fourth, lack of proper appliances for cleanliness.

Regarding contagious diseases, the chief cause of their presence at any time is probably due to failure to recognize and isolate mild cases and an insufficient period of isolation. The Health Department exercises much vigilance; but the intelligent, careful and honest co-operation of parents, teachers and physicians is needed, for it is not always brought to bear on the subject.

CLASSIFICATION.

Upon a proper classification of public school children depends in a very large degree success in educating. It is axiomatic that the larger the class the less effective will be the work of a teacher. It is to be regretted that at the beginning of the school year the Board of Education, by consolidating schools and classes, and overcrowding seriously impaired school instruction and discipline as well as sanitary conditions.

In monthly reports I repeatedly directed the attention of the Board of Education to the congested attendance and recommended the establishment of additional classes. Nearly one-half had an enrollment of over fifty pupils.

This condition resulted not only in impaired school work but in the increased attendance at private schools and a decreased attendance in the public schools.

I have steadily advocated an enrollment not exceeding forty in the first and eighth grades and not exceeding fifty in other grades. These figures are too large, but were given because of the lack of funds to engage a sufficient number of teachers to admit of smaller classes. I am pleased to state that the Board have during the past six months established several new classes, which has relieved the situation to some extent. But there are scores of classes that are too large.

The best writers on education maintain that classes should never contain an excess of forty pupils.

Every pupil should be reached in each recitation, but the large classes that are being operated in the public schools of this City renders this impossible. They are not only an imposition upon teachers but an injury to children both physically and mentally.

PROMOTIONS.

The system of promoting pupils that prevails in this department should be strengthened. Under its operation it is possible for a pupil to obtain few or no

credits in one or even two important subjects of study and mediocrity in the others and still secure promotion.

The result is the placement of pupils in grades for the work of which they are unprepared. In inspecting schools my attention has been directed to pupils in the seventh and eighth grades who were weak even in the fundamental operations of arithmetic. This condition of the pupil is an imposition on the teacher, rendering it impossible in cases for her to accomplish the work of her grade and is a wrong upon the pupil. The difficulty can be overcome by insisting upon a minimum per cent of efficiency to be attained in each subject on examination.

COURSE OF STUDY.

Statistics demonstrate that of the pupils who enter the public schools annually, about five per cent are graduated from high schools, about thirty per cent are graduated from grammar schools, and the remainder leave school while yet in some primary or grammar grade. It is, therefore, the duty of school authorities to promote the efficiency of the primary and grammar schools, because the means of education which they supply is the education upon which the larger number of boys and girls must commence their work in the affairs of life.

Without entering into a discussion of the causes that have led to it, the courses of study in these schools in recent years have become overburdened. Progress is attained by much failure and little success. Influences which had their beginning in most worthy intentions have developed to that point where they effected deplorable results. For instance, the kindergarten, in its place, has made the rudimentary process of mental development pleasant and interesting. Through means of instructive recreation and play it has quickened the sensibilities of child-life, broadening and strengthening the faculties of observation and comprehension, but when the doctrine of study without hard mental labor, which is correct in the kindergarten, is continued into the grammar school, it strikes at the very root and substance of education itself.

The first task in education is getting down to hard work and doing the work thoroughly, and this should be the keynote of grammar school education.

Nature, study, manual training, and other recent innovations in our educational system are valuable when properly presented and undertaken, but they should never interfere with thorough work in the training in the "three R's" and in the use of the English language.

The old and conservative policy was that a sound knowledge of English grammar, arithmetic, spelling, reading, and some history and geography was fundamental; this, in the opinion of that eminent American scholar and statesman, Edward Everett, constitutes a liberal education. Those of us who are in middle life found our time fully engaged in solving the difficult problems presented in those subjects, and every man recognizes in the hard work of the old-fashioned school the foundation of whatever success he has since achieved. Hard labor, which brings with it the ability to accomplish things and do them thoroughly and well, is means to educational advancement and the foundation of real educational progress.

The tendency towards what is known as the "enrichment" of the course suggests, on the one hand, tempting fields of information, valuable to the child, and on the other, a dangerous crowding of the course. The views of laymen, unhappily, are based upon considerations which have the latter tendency in view. The array of subjects which make up the modern course of study for elementary schools conveys to the ordinary reader the impression that fundamental studies, as "the three R's," do not receive adequate attention. The danger is not only apparent; it is real. Not a little superficial teaching has been the result of the "enrichment" of school courses, and lax methods of promotion.

The New York correspondent of the Philadelphia Ledger writes:

"The old boast of the local schools was their thorough teaching of spelling, grammar and arithmetic. Teachers in the schools will now tell you that they are in despair over the system that has destroyed the paramount importance of these branches in the primary grades, cut up the time of the school day so as to give an inordinate amount of attention to superfluities, and leaves nobody responsible for the bad results that are most in evidence when the pupils come to the higher classes, just previous to leaving the schools. These complaints have been so fortified by the reports of employers, who find these graduated pupils unfit for tasks supposed to be commensurate with their expected school training, that the Board of Borough Superintendents has taken up the matter and will rearrange and revise the course of studies. In the new plan the time of the fads, it is expected, will be curtailed."

The work of the primary and grammar grade should be such that the pupil completing it may be able to read well and get the thought of what he reads; to write legibly and with facility; to spell correctly words of ordinary use; to use figures accurately and with reasonable rapidity in arithmetical computations. He should be well drilled in percentage, interest, square root, and their applications, elements of mensuration, denominate tables of weight, measure and capacity. He should know how to make out bills, write receipts and notes, and be able to open and close, in correct form, an individual account. He should be able to compose a letter grammatically and in good form, and in technical grammar; he should easily analyze any sentence not especially involved. He should be well informed on the physical features of the earth, in political geography, and in United States History.

It is complained in this department that special subjects of study often require in some grades nearly one-third the time of the pupils; that the course of study is otherwise crowded; that it is over-cast and indefinite. The law relating to subjects of study required to be taught in the public schools of this State having been amended at the last session of the Legislature may well be quoted here:

Section 1664. All schools must be taught in the English language.

Section 1665. Instruction must be given in following branches in the several grades in which they may be required, viz: Reading, writing, orthography, arithmetic, geography, nature study; language and grammar, with special reference to composition; history of the United States and civil government; elements of physiology and hygiene, with special reference to the effect of alcohol and narcotics on the human system; music, drawing, and elementary bookkeeping, humane education; provided, that instruction in elementary bookkeeping, humane education, elements of physiology and hygiene, music, drawing, and nature study may be oral, no text-books on these subjects being required to be purchased by the pupils; provided further, that County Boards of Education may, in districts having less than one hundred census children, confine the pupils to the studies of reading, writing, orthography, arithmetic, language and grammar, geography, history of the United States and civil government, elements of physiology and hygiene, and elementary bookkeeping until they have a practical knowledge of these subjects; and it is further provided, that no more than twenty recitations per week shall be required of pupils in the secondary schools, and no pupil under the age of fifteen years in any grammar or primary school shall be required to do any home work.

Section 1666. Other studies may be authorized by the Board of Education of any county, city, or city and county, but such studies if so authorized shall be in lieu of a corresponding number of such enumerated studies specified in the preceding section, and not in addition thereto.

Section 1667. Instruction must be given in all grades of school and in all classes during the entire school course, in manners and morals, and upon the nature of alcoholic drinks and narcotics and their effects upon the human system.

Section 1668. Attention must be given to such physical exercises for the pupils as may be conducive to health and vigor of body, as well as mind, and to the ventilation and temperature of school-rooms.

HISTORY.

History in this department is taught by topics. This system requires the pupil to relate a train of events along a certain line without having been given all the causes and circumstances leading up to the said events, and is unsatisfactory to pupil and teacher. To review by topics when the same have been intelligently exploited is on the contrary pleasure and profit to the pupils.

CIVIL GOVERNMENT.

Although the State series contains a book on this subject, the eighth grade teachers of this department are required to draw from other authors as follows: Dole, 239, references; Fiske, 58, McMaster, 108, topics; total, 305 references. Those who are familiar with the difficulty of imparting permanent knowledge to pupils who have no text-books on the subject in question will have some conception of the efficiency of the teaching of this branch.

WRITING.

Business men generally complain that the elementary schools do not fit pupils for ready commercial writing. Teachers admit it. The remedy is in beginning right in lower grades and continuing progressively with system. By proper direction and support of the Board of Education, this defect will be corrected by deputies. The fault does not lie with any system of writing.

SINGING.

Any system of instruction that affords the indisposed teacher or pupil to evade difficulties, fails; therefore, the enactment of needful regulations, in support of the special teachers of singing, is necessary. If only a few pupils sing independently, while many, especially boys, do not sing at all, and where the principal does not supply class teachers to support thorough work, success is incomplete.

DRAWING.

Very little and very simple drawing is sufficient to develop the native talents of those children who have them and of giving sufficient training to all. With further simplifying and limiting by the Board of Education, and with good judgment in the management, complaints that this branch trespasses upon the time and abilities of the pupil will be obliterated.

PHYSICAL CULTURE.

Equally in value with mental is physical culture. The small yards and absence of playgrounds is a menace to the best physical development of our children. This lack, however, urges on to the most careful practice of physical culture in the school room. The services of the special teacher will be supplemented by the deputies. A few modifications of the exercises prescribed will render the course satisfactory.

GEOGRAPHY.

It is pointed out that in the above subject the teachers of one grade are given fourteen recommendations to follow, aside from having the pupils learn a part

of the text which he has before him. As has been remarked by class teachers these recommendations could be well followed were there no other subjects to teach during the year. Greatest proficiency in this subject for the time allotment is thus precluded.

DISCIPLINE.

The deputies report generally fair disciplinary powers on the part of the Principals and teachers of the department. The weaker sections will receive special attention and support of this office.

MISCELLANEOUS.

The foregoing criticisms on part of the branches are applicable in greater or less degree to the remainder. Hence a wise revision of the Course of Study is highly essential.

MANUAL TRAINING AND DOMESTIC SCIENCE.

The time has passed when it was supposed that the only aim of a manual training school was to make carpenters and blacksmiths out of its pupils. The practice necessary to become skillful in any trade is not very considerable for him who has completed a course at a secondary manual training school. A trades school should supplement the work of a manual training, and might in points be operated in conjunction with it. "Special Course B" in the Mechanics' Art High School of Springfield, Massachusetts, approaches quite near to a joint course in manual training, academic work and trades. An analysis of the work classed as manual training leads to the inclusion of not only the mechanic arts, or shop-work and drawing, both free-hand and mechanical, but all scientific manipulation in the laboratory, whether of chemistry, physics or engineering. The blacksmith greets the professor of chemistry, physics or engineering, and each pledges to work for a truer perspective of the content of manual training.

Carefully arranged courses in manual arts, and liberal and commercial studies in our public schools, will prove a potent factor in destroying tendency to classes in society, thus aiding to insure the future welfare of the Republic.

The girl who has learned the theory and practice of cooking and who can make her garments will be a better woman because of such knowledge and skill.

In July, 1900, the Board of Education incorporated manual training (wood-work for boys, cookery and sewing for girls) in the course of study of the seventh and eighth grades. The wisdom of this educational innovation was questioned, because, first, it involved the expenditure for equipment and salaries of \$25,000 for the year, which could not be spared from a meager school appropriation when ampler accommodations and repairs were imperatively demanded; second, the course of study for the primary and grammar schools had just been contracted from nine to eight years, involving additional work in the grades and rendering its readjustment and a reclassification of the schools necessary.

The State Law provides (Section 1666, P. C., appearing elsewhere in this report) that Boards of Education in cities may introduce special subjects of study, but not to the exclusion nor NEGLECT of subjects prescribed by general law for primary and grammar schools. The introduction of manual training certainly did result in the neglect of other studies, and consumed money that should have been devoted to necessary repairs and to the relief of congested school attendance in the engagement of additional rooms and teachers.

The head of the department, with five efficient assistants, has organized, and operated successfully, at a few grammar schools as central stations, classes in wood-work.

Miss K. E. Whitaker, with four assistants, teaches cookery to the girls.

Sewing is taught by class teachers on lines suggested by the Board of Education.

The placement of manual training in the manner adopted by the Board of Education is questioned by many.

It is proposed that separate schools for manual training and domestic economy be established with courses of study arranged for their special features. In fact the State law as amended at the last session of the Legislature and quoted elsewhere in this report, requires such a plan to be adopted by the Board of Education, for it declares that if special subjects be authorized to be taught they shall be in lieu of a corresponding number of studies that are required by law to be taught.

COMMERCIAL SCHOOLS.

Hon. Thomas B. Reed writes:

"We have reached the era of the business man. In olden times fighters were supreme. When the rights of property rather than the rights of might began to be recognized, the lawyer and the politician held sway, and nowhere more than in the United States. But the lawyer and the politician are giving way to another class. The business men are possessing the earth."

A great factor of progress comes from the successful dealings with new situations. It is not to be regretted that the commercial idea of the present is stamping itself on education, no more than it is to be regretted that for half a century science and industry have so stamped themselves until they rank with the classics in literature as phases of educational thought and activity. Scientific and industrial education have won their battles; they need no discussion. But a new claimant now demands recognition—that offers a new vocation, that seeks to apply science and culture to another set of social activities. Public education for business life is awaiting the statement of its case.

It is being conceded that the most liberal education must be disappointing unless it be supplemented by that practical education which will make the liberal education adaptable to the practical affairs of life and thus become a contributor in supplying those things which are necessary to the happiness and contentment of its possessor.

Schools of commerce should cultivate those intellectual powers that will be used. Their training will have the double service of making the subjects of instruction more practical and the practical affairs more intellectual.

The old division of studies into educational but not useful and useful but not educational is becoming weaker. The useful is found to be intellectual and much that has hitherto been regarded as educational only, has increasing usefulness.

Commercial life must and will occupy a strong place in higher and secondary education.

In March, 1884, the Board of Education established a commercial school admitting grammar school graduates. Within a year it was the most popular secondary school in the City. In 1892 by the incorporation of manual training it became a polytechnic high school. In 1900 the commercial department was segregated from the Polytechnic High School and incorporated in the Lincoln Grammar School. It should be a distinct school not in any way identified with a grammar school, for in no respect is it a grammar school.

The Public Commercial School should instruct in the technique of business, i. e.; to equip a young man or woman to write well; to take dictations by stenography and to operate the typewriter; to familiarize him with current business paper and office practice; to understand the principles of accounts and to inform him of the legal regulations for business transactions. If this be well done in connection with Political Economy, Commercial Geography, English, including much composition work, some modern language other than English,* mathematics (arith-

metic, algebra* and the elements of geometry*), some history (comparatively modern), elementary physics* and chemistry* as applied to arts and trades, young men and women will be happier and more successful in business pursuits.

(*)—For longer course in preparation for College of Commerce.

APPOINTMENT OF TEACHERS.

Probably the greatest factor in the existence and progress of popular education in any community is the quality of the teachers who are employed.

The following section of an address by Andrew S. Draper, LL. D., before a meeting of citizens of this City, December 30th, 1897, is most pertinent:

"We must take one course or the other in regard to the teaching service of the public schools. We may stand indifferent and let church, politician, club politicians, school politicians, or politicians who are not described by a qualifying adjective, neighbors, friends or relatives, push people with no fibre and little preparation into teachers' positions. We may pay little heed to culture and social standing; leave the force with little intellectual nourishment and no inspiration; promise a life-tenure to all who get in, regardless of qualification or spirit; exert little control and leave the members of the body to combine for selfish ends and defy the best sentiment of the people whose most precious interests they are ostensibly chosen to promote. We all know what the result will be. With the passing years there will be no growth in scholarship, or general culture, or force of character, or disciplinary power, or teaching ability. Without such growth there can be, of course, no public school progress. Iron-clad rules will be imposed to keep up a show of authority and prevent marked excesses, but the schools will have little vitality and less respect, the teaching will be wooden, and matters may be expected to grow worse and worse with a certainty of not being disappointed.

"Or, we may guard admissions, train beginners, lead and inspire the common thought, pay according to the expertness of service, promote upon the basis of merit, expel the undeserving, and develop the whole vast enterprise in a professional atmosphere, and energize with pedagogical life. Then we may relax rules, encourage originality without danger, and expect that the spirit of the force will improve; that the teachers will stand higher in the sentiment of the City; that there will be kindness in the management and life in the instruction; that the children will be fascinated, and that their minds and souls will thrill with new life, which will be felt in the homes and give substantial and enduring support to the better life of the City."

The present Board of Education have declared that they desire to inaugurate a method of electing teachers to the department without considering the influences they may possess.

If this is accomplished it will result, under proper regulations, in exalting the efficiency of teaching and in placing the department beyond the reach of politics.

TEACHERS' LIBRARY.

Section 1565 of the California Political Code provides that every applicant for a teacher's certificate, or for the renewal of a certificate, shall pay a fee of two dollars to the Superintendent, to be deposited with the County Treasurer to the credit of the Teachers' Institute and Library Fund, and that at least fifty per cent of the fund shall be expended by the Superintendent for the purchase of books for a teachers' library, and that the Superintendent shall prepare a catalogue of this library.

Upon assuming the duties of this office I found an uncatalogued library composed of a few miscellaneous books, some old school reports, and about fifty books pertaining to education.

During the past four years I have, at the cost of much time and labor, selected, purchased, and catalogued about 3,000 books of educational reference by the most eminent writers of the ages. These books are catalogued in twenty-four classifications.

New catalogues will be printed soon, and will be distributed among the teachers of the department.

RECOMMENDATIONS.

I respectfully recommend:

1st. That the Board of Education endeavor to secure from the Board of Supervisors in the next Annual Municipal Budget an appropriation of \$65,000 for a new building for the Burnett School, \$85,000 for a new building for the Washington School, \$20,000 for a new building for the Bergerot School, \$35,000 for a new building and lot for the Noe Valley School, and \$20,000 for a new building for the Monroe School.

(I am informed that the Board of Education intends to provide buildings for the Sunnyside and Sheridan.)

2nd. That ampler accommodations be given the Crocker, Dudley Stone, Jackson and Laguna Honda Schools.

3rd. That, as far as means will permit, the vaults, sinks and outhouses be repaired or replaced where necessary.

4th. That modern economical stoves be substituted for those now in use.

5th. That there be a rearrangement of desks, where necessary, to secure a better light and seating, and that more modern desks be provided; that the window curtains and screens, now wholly unfit, be replaced by more suitable ones.

6th. That each class-room be supplied with a good flag and patriotic and other pictures (frames not required), for the proper decoration of the walls as elsewhere mentioned in this report.

7th. That a plentiful supply of modern maps be purchased.

(Necessary pictures, maps and flags can be secured at a cost of about \$4,000.)

8th. That the Course of Study be revised in accordance with amendments to State law and the experience of the past year.

9th. That such a classification of pupils be made that first and eighth grade classes shall not have an enrollment in excess of 40 pupils, and other classes shall contain not more than fifty pupils enrolled.

Respectfully submitted,

R. H. WEBSTER.

Superintendent of Common Schools.

STATISTICAL REPORT.

GENERAL STATISTICS.

FISCAL YEAR TERMINATING JUNE 30TH,	1900.	1901.
Population of the city—1901.....	342,782	{ 353 500 }
Number of youth in the city under 17 years of age.....	102,022	{ (Estimated) }
Number of youth in the city between 5 and 17 years of age who are entitled by law to draw public money.....	78,554	105 512
Assessment roll of the taxable property of the city.....	\$405,111,615 00	\$413,417,241 00
Receipts of the School Department.....	1,301,513 18	1,202,063 41
City school tax on each hundred dollars.....	12.13 cts.	10.87 cts.
Estimated value of school sites	\$3,293,200 00	\$3,293,200 00
Estimated value of school buildings.....	1,700,000 00	1,700,000 00
Estimated value of school furniture	165,000 00	165,000 00
Estimated value of school libraries	15,275 00	20,900 00
Estimated value of school apparatus.....	20,000 00	28,500 00
Total value of school property.....	\$5,193,475 00	\$5,207,600 00

EXPENDITURES.

FOR WHAT.	AMOUNT.	TOTAL.
School Directors.....	\$12,000 00	
Superintendent of Schools and Deputies,.....	10,449 96	
Office.....	9,021 00	
Shop.....	5,512 50	
Teachers..	943,960 50	
Janitors.....	52,640 85	
Rents.....	7,298 00	
Supplies.....	35,514 98	
Repairs.....	30,078 49	
Furniture.....	4,351 35	
Telegraph and telephone service.....	731 53	
Light.....	8,058 22	
Printing.....	4,157 59	
Water.....	13,640 07	
Fuel.....	7,400 49	
Teachers' Annuity and Retirement Fund.....	1,370 85	
Advertising.....	212 78	
Census.....	4,980 00	
Insurance.....	11 00	
Permanent improvements.....	1,241 00	
Total.....		\$1,152,631 16
Receipts.....		1,202,063 41
Balance July 1, 1901.....		\$49,432 25

(Foregoing statement given by the Auditor.)

SCHOOLS.

	1900.	1901.
Number of High Schools.....	4	4
Number of Grammar Schools.....	22	24
Number of Primary Schools.....	50	46
Number of Evening Schools.....	11	8
Total number of schools.....	86	82
Number of brick school buildings owned by the department	7	7
Number of wooden school buildings owned by the departm't	65	64
Number of buildings or rooms rented by the department..	22	27
Total number of buildings used by the department.	94	98

NUMBER OF TEACHERS IN DEPARTMENT—JUNE, 1901.

	MEN.	WOMEN.	TOTAL.
Number of teachers in High Schools.....	28	25	53
Number of teachers in Grammar Grades.....	9	273	282
Number of teachers in Primary Grades.....	2	452	454
Number of teachers in Evening Schools.....	29	69	98
Number of Grammar, Primary and Evening School Principals without classes.....	16	41	57
Number of substitutes, day schools.....	1	32	33
Number of substitutes, evening schools.....		24	24
Number of teachers of manual training.....	6		6
Number of teachers cooking.....		5	5
Number of teachers music.....		2	2
Number of teachers drawing.....		2	2
Directors of physical culture.....	1		1
	92	925	1,017
Whole number of principals (included in total).....	21	61	82
Number of principals not required to teach a class (included in total).....	19	41	60
Number of vice-principals (included in total).....	2	19	21

NUMBER OF TEACHERS IN DEPARTMENT BY GRADES—JUNE, 1901.

SCHOOLS.	High Sch Grades.....	Grammar Grades.....	Primary Grades ..	Principals without Classes.....	Vice-Principals ...	Total	Men	Women.....
Adams Cosmopolitan Grammar.....		16	4	1	1	21	2	19
Agassiz Primary.....		2	13	1		16		16
Bergerot.....		2	2			4		4
Bernal Primary.....		7	4	1		12		12
Buena Vista Primary.....			7			7		7
Burnett Primary.....		5	7	1		13	1	12
Chinese Primary.....		1	4			5		
Clement Grammar		8	8	1		17		17
Cleveland Primary.....		1	7	1		9		9
Cotter Primary.....			12	1		13		13
Columbia Grammar.....		7	10	1	1	18		18
Crocker Grammar		13		1	1	14	1	13
Denman Grammar.....		8	7	1	1	16	1	15
Douglass Primary.....		1	10	1		12		12
Dudley Stone Primary.....			9	1		10		10
Edison Primary.....		1	8	1		10		1
Emerson Primary.....			12	1		13		13
Everett Grammar.....		8	8	1	1	17	1	16
Fairmount Primary.....		5	9	1		15		1
Franklin Grammar.....		9	11	1	1	20	1	19
Fremont Primary.....		2	7	1		10		10
Garfield Primary.....		1	11	1		13		13
Girls' High.....	14			1		15	3	12
Golden Gate Primary.....		1	7	1		9		9
Grant Primary.....		2	6			8		8
Haight Primary.....		2	8	1		11		11
Hamilton Grammar.....		15		1	1	16	1	15
Hancock Grammar.....		11		1		11	1	10
Harrison Primary.....		1	7	1		9		9
Hawthorne Primary.....		1	8	1		10		10

NUMBER OF TEACHERS IN DEPARTMENT BY GRADES, JUNE, 1901—CONTINUED,

SCHOOLS.	High School Grades.....	Grammar Grades..	Primary Grades...	Principals without Classes.....	Vice-Principals...	Total	Men	Women.....
Hearst Grammar		8	10	1	1	19		19
Henry Durant Primary.....		1	11	1		12		12
Horace Mann Grammar.....		18		1	1	19	1	18
Humboldt Primary		2	10	1		13		13
Hunter's Point			1			1	1	
Irving Primary.....		1	7	1		9		9
Irving Scott Primary.....		5	10	1	1	16		16
Jackson.....			5			5		5
James Lick Grammar.....		7	6	1	1	14	2	12
Jean Parker Grammar.....		6	9	1	1	16		16
Jefferson Primary.....		1	7	1		9		9
John Swett Grammar.....		11	7	1	1	19	1	18
John W. Taylor			1			1		1
Lafayette Primary.....			8	1		9		9
Laguna Honda Primary.....		1	2			3		3
Lincoln Grammar		8	13	1	1	22	2	20
Lincoln Commercial.....		12		1		13	3	10
Longfellow Primary.....		7	5	1	1	13		13
Lowell High.....	14			1		15	12	3
Madison Primary.....		1	4			5		5
Marshall Primary.....			12	1		13		13
Mission Grammar		14		1	1	15		1
Mission High.....	10			1		11	4	7
Monroe Primary.....		2	5			7		7
Moulder Primary.....		1	11	1		13		13
Noe Valley Primary.....			6			6		6
Ocean House Primary.....			1			1	1	
Pacific Heights Grammar.....		11	5	1	1	17		17
Park Primary.....		1	1			2		2
Peabody Primary.....		2	9	1		12		12

NUMBER OF TEACHERS IN DEPARTMENT BY GRADES, JUNE, 1901—CONTINUED.

SCHOOLS.	High School Grades	Grammar Grades.	Primary Grades...	Principals without Classes.....	Vice-Principals...	Total	Men.....	Women.....
Polytechnic High.....	11			1		12	9	3
Redding Primary.....		2	9	1		10		10
Richmond Primary.....		3	6	1		10		10
Sheridan Primary.....		3	5			8		8
Sherman Primary.....		1	8	1		10		10
South End Primary*.....		2	3			5		5
Spring Valley Grammar.....		7	7		1	15	1	14
Starr King Primary.....		1	10	1		12		12
Sunnyside.....		2	2			4		4
Sutro Primary.....		3	4			7		7
Washington Grammar.....		4	7		1	12	3	9
West End.....		1	2			3		3
Whittier Primary.....		2	16	1	1	19		19
Winfield Scott Primary.....		2	3			5		5
EVENING SCHOOLS.								
Franklin.....		5				5	2	3
Hamilton.....		11		1		12	3	9
Horace Mann.....		13		1		14	2	12
Humboldt, High and Grammar.....		18		1		19	12	7
Irving Scott.....		1				1	1	
Lincoln.....		24		1		25	8	17
Lincoln Commercial.....		12		1		13	6	7
Richmond.....		2				2		2
Washington.....		12		1		13	1	12
Total.....	49	380	454	61	21*	944†	87	857

* Included as grammar teachers.

† Excluding specials and substitutes.

STATEMENT OF GAINS AND LOSSES IN TEACHING DEPARTMENT.

Number of teachers in department June 30, 1900.....	1,015
Losses—	
By resignation.....	12
By dismissal.....	4
By abolishment of position.....	1
By retirement.....	8
By death.....	3
	28
	987
Gains—	
Teachers elected June 30, 1900, to June 30, 1901.....	39
In Department June 30, 1901 (including 5 unassigned and 1 Director of Physical Culture).	1,017

 MISCELLANEOUS.

Number of teachers who are graduates of the California State Normal School	51
Number of teachers who are graduates of any other State Normal School.....	9
Number of teachers who are graduates of San Francisco Normal School.....	414
Number of teachers who are graduates of University of California.....	38
Number of teachers who hold life diplomas.....	580
Number of teachers who hold High School certificates.....	93
Number of teachers who hold county or grammar grade certificates.....	844
Number of teachers who hold county or primary grade certificates.....	40

SCHOOL ATTENDANCE.

	1900.	1901.
Enrollment in the High Schools.....	1,934	1,564
Enrollment in the Grammar and Primary Schools.....	40,370	40,416
Enrollment in the Evening Schools.....	5,754	6,537
Total enrollment.....	48,058	48,517
Total average number belonging... ..	37,413	37,140
Average daily attendance in the High Schools.....	1,429	1,281
Average daily attendance in the Grammar and Primary Schools.....	31,138	31,452
Average daily attendance in Evening Schools.....	2,566	2,036
Total average daily attendance.....	35,004	34,771

COMPARATIVE STATEMENT OF THE WHOLE NUMBER ENROLLED AND THE
AVERAGE DAILY ATTENDANCE IN THE PUBLIC SCHOOLS SINCE 1892.

	Number Enrolled.	Average Daily Attendance.
During the year ending June 30, 1892.....	46,172	32,434
During the year ending June 30, 1893.....	45,775	32,799
During the year ending June 30, 1894.....	44,349	32,939
During the year ending June 30, 1895.....	44,822	33,020
During the year ending June 30, 1896.....	45,435	33,508
During the year ending June 30, 1897.....	46,564	33,531
During the year ending June 30, 1898.....	50,101	35,116
During the year ending June 30, 1899.....	48,870	36,940
During the year ending June 30, 1900.....	48,058	35,004
During the year ending June 30, 1901.....	48,517	34,771

SCHOOL CENSUS REPORT SUBMITTED BY CHIEF CENSUS CLERK, MR. J. N. ELBERT, FOR THE YEAR ENDING JUNE 30, 1901, AS COMPARED WITH THE CORRESPONDING REPORT FOR THE YEAR ENDING JUNE 30, 1900:

Number of white children between 5 and 17 years of age—		
Boys	40,279	
Girls.....	39,615	
Total.....	79,894	
School Census 1900.....	76,232	
Increase.....		3,662
Number of Negro children between 5 and 17 years of age—		
Boys.....	144	
Girls.....	104	
Total.....	248	
School Census 1900.....	275	
Decrease.....		27
Native born Mongolians between 5 and 17 years of age—		
Boys.....	1,193	
Girls.....	838	
Total.....	2,031	
School Census 1900.....	2,047	
Decrease.....		16
Total number of census children between 5 and 17 years of age.....	82,173	
School Census 1900.....	78,554	
Increase.....		3,619
Number of children under 5 years of age—		
White.....	22,736	
Negro.....	68	
Mongolian.....	535	
Total.....	23,339	
School Census 1900.....	23,468	
Decrease.....		129

Number of children between 5 and 17 years of age who have attended public schools at any time during the school year	50,953	
School Census 1900.....	50,587	
Increase.....		366
Number of children between 5 and 17 years of age who have attended private schools, but no public schools at any time during the year.....	10,586	
School Census 1900.....	9,311	
Increase.....		1,275
Number of children between 5 and 17 years of age who have not attended school at any time during the school year...	20,634	
School Census 1900.....	18,656	
Increase.....		1,978
Nativity of children—		
Native born.....	103,264	
Foreign born.....	2,248	
Total.....	105,512	
School Census 1900.....	102,022	
Increase.....		3,490
Total increase of children under 17 years of age.....		3,490

COMPARATIVE STATEMENT OF THE NUMBER OF CHILDREN IN THE CITY FROM
1892 TO 1901, INCLUSIVE.

As reported by the Census Marshals.

UNDER SEVENTEEN YEARS OF AGE.	NUMBER.
May, 1892.....	87,774
" 1893.....	88,567
" 1894.....	92,026
" 1895.....	93,558
" 1896.....	94,925
" 1897.....	98,506
" 1898.....	98,091
" 1899.....	98,368
" 1900.....	102,022
" 1901.....	105,51

SALARY SCHEDULE, 1900-01.

EFFECT JULY 1, 1900.

TO WHOM PAID.	PER MONTH.
Board of Education (4 members), each.....	\$250 00
Secretary of Board of Education.....	150 00
Superintendent of Common Schools.....	333 33
Deputies (4), each.....	150 00
HIGH SCHOOLS.	
Principals.....	250 00
Heads of Departments.....	155 00
Assistant Teachers, 3 years' probation.....	100 00
Assistants after 1 year's experience.....	110 00
Assistants after 2 years' experience.....	120 00
Assistants after 3 years' experience.....	130 00
Assistants after 4 years' experience.....	140 00
Teacher drawing, Girls' High School.....	155 00
Teacher drawing, French and German (J. J. Schmitt), Lowell High School....	150 00
Teacher drawing, Mission High School.....	135 00
Head teacher drawing, wood carving and clay modeling (Miss Van Vleck), Polytechnic High School.....	135 00
Assistant to Miss Van Vleck (Miss Michener).....	75 00
Teacher German, Girls', Mission and Polytechnic High Schools (Mr. Zimmer- man).....	140 00
Teacher French and English, Rhetoric, Girls' High School (Mrs. Howard) one-half day.....	50 00
Teacher French (Mrs. Giffard), Mission High School and Adams Cosmopolitan	90 00
Teacher French and Latin (Dr. DuPuy), Polytechnic High School, one-half day	75 00
Teacher Spanish, Polytechnic High School.....	100 00
Teacher iron-work, Manual Training Department, Polytechnic High School....	100 00
Bookkeeping Class in Commercial Department of the Lincoln Grammar School—	
Miss Fay.....	100 00
Miss Rademaker.....	75 00

SCHEDULE OF SALARIES FOR 1900-01—CONTINUED.

TO WHOM PAID.	PER MONTH.
Miss Durkee.....	\$75 00
Teachers stenography classes	75 00
Teacher penmanship (P. A. Espina).....	75 00
Substitutes High School, per day.....	5 00
<p>In fixing the salary of High School teachers, experience in a regularly organized High School in the United States, under a High School certificate shall count.</p>	
<p>PRIMARY AND GRAMMAR SCHOOLS.</p>	
Principals Primary Schools, 16 or more classes.....	150 00
Principals Primary Schools, 12, 13, 14 or 15 classes.....	135 00
Principals Primary Schools, 6, 7, 8, 9, 10 or 11 classes.....	125 00
Principals Primary Schools, 3, 4 or 5 classes.....	115 00
Principals Primary Schools, 1 or 2 classes.....	105 00
Principals Burnett and Fairmount Schools, they being intermediate schools..	135 00
<p>The salary of Principals of Grammar Schools having 18 or more classes shall be \$200 00 per month. The salary of Principals of Grammar Schools having less than 18 classes shall be \$175 00 per month.</p>	
All Grammar Schools, one Vice-Principal, at.....	125 00
<p>That all Primary Schools of less than 14 classes shall not be entitled to any Vice-Principal, and that all Primary Schools of 14 or more classes shall be entitled to but one Vice-Principal, at a salary of \$100 00 per month.</p>	
<p>REGULAR TEACHERS OF GRAMMAR AND PRIMARY GRADE CLASSES.</p>	
<p>Grades will be designated as 1st, 2d, 3d, 4th, 5th, 6th, 7th and 8th.</p>	
First year.....	50 00
<p>Thereafter a yearly increase of \$2 50 per month for 2d, 3d and 4th grades, and \$3 00 a month for 1st, 5th, 6th, 7th and 8th grades, until the following maximum of salaries is reached:</p>	
<p>First Grade, or Receiving Classes—</p>	
First year.....	50 00
Second year.....	53 00

SCHEDULE OF SALARIES FOR 1900-01--CONTINUED.

TO WHOM PAID.	PER MONTH.
Third year.....	\$56 00
Fourth year.....	59 00
Fifth year.....	62 00
Sixth year.....	65 00
Seventh year.....	68 00
Eighth year.....	71 00
Ninth year.....	74 00
Tenth year.....	77 00
Eleventh year.....	80 00
Twelfth year.....	83 00
Second, Third and Fourth Grades—	
First year.....	50 00
Second year.....	52 50
Third year.....	55 00
Fourth year.....	57 50
Fifth year.....	60 00
Sixth year.....	62 50
Seventh year.....	65 00
Eighth year.....	67 50
Ninth year.....	70 00
Tenth year.....	73 00
Eleventh year.....	76 00
Fifth and Sixth Grades.....	80 00
Seventh and Eighth Grades.....	83 00

Provided, that the maximum salary paid to the holders of Primary Grade certificates shall not exceed \$68 00 per month.

Assistants in Primary and Grammar Schools teaching German and English, or English and French, or Music and English, having special certificates to teach such special subjects, \$5 00 per month, in addition to their salaries according to the schedule. Any one special subject, \$5 00 extra.

n fixing the salary of a teacher, after election as a regular teacher, credit shall be given such teacher for experience from the date of her or his appointment on the Substitute List.

SCHEDULE OF SALARIES FOR 1900-01—CONTINUED.

TO WHOM PAID.	PER MONTH.
SUBSTITUTE LIST—DAY AND EVENING.	
<p>The Board of Education shall organize the Day and Evening Substitute Classes of Teachers.</p> <p>The Day Substitute Class shall not exceed fifteen in number, selected from the Unassigned List in the chronological order of their appointment; the Evening Substitute Class shall not exceed five in number, selected in same manner; and from these classes teachers shall be selected for temporary vacancies.</p> <p>Teachers of the Day Substitute Class shall be paid \$1 00 per day for reporting and extra compensation of \$1 50 per day when they teach.</p> <p>Substitutes teaching in High Schools shall receive \$5 00 per day while actually engaged in work.</p> <p>Teachers of the Evening Substitute Class shall receive \$2 00 for each evening that they teach.</p>	
EVENING SCHOOLS.	
<p>The salaries of Principals of Evening Schools shall be as follows :</p>	
Schools having 22 or more classes.....	\$100 00
Schools having 14 to 21 classes, both inclusive.....	90 00
Schools having 10 to 13 classes, both inclusive.....	85 00
Schools having 3 to 9 classes, both inclusive.....	60 00
Schools having 1 or 2 classes.....	50 00
Assistants in Evening Schools.....	50 00
Head Bookkeeping Department, Lincoln Evening School.....	60 00
Teacher Typewriting, Lincoln Evening School.....	80 00
Teacher High School Class, Humboldt, Hamilton, Washington, Horace Mann Evening Schools.....	60 00
Head Teachers of Mechanical Drawing, Lincoln Evening School.....	60 00
Teacher Physics, Lincoln Evening School.....	50 00
All Drawing Teachers in Evening Schools.....	60 00
All High School branches.....	60 00
DEPARTMENT AT LARGE.	
Vocal Music, Miss Carpenter.....	100 00
Vocal Music, Miss Black.....	75 00
Teacher of Drawing, Miss Ball.....	125 00

SCHEDULE OF SALARIES FOR 1900-01—CONCLUDED.

TO WHOM PAID.	PER MONTH.
Teacher of Drawing, Miss Beebe	\$100 00
Teacher Iron-work, Polytechnic High School	100 00
Director of Physical Culture, Dr. M. Magnus.	250 00
Head Teacher of Cooking, Miss K. E. Whitaker.....	90 00
Assistant Teachers of Cooking (4).....	65 00
Supervisor of Manual Training, Mr. C. T. Work... ..	200 00
1 Assistant of Manual Training, \$1,100 per annum.....	91 65
4 Assistants of Manual Training, \$1,000 per annum.....	83 35
OFFICE AND SHOP EMPLOYEES.	
Assistant Secretaries (2).....	125 00
Board of Examiners (Deputy Superintendents)	75 00
Stenographers Board of Education and Superintendent's Office.....	75 00
Messenger Board of Education.....	85 00
Messenger Superintendent's Office.....	78 00
Storekeeper.....	125 00
Assistant Storekeeper.....	75 00
Inspector of Buildings and Head Carpenter.....	125 00
Scavenger.....	125 00
Teamster, Supply Department.....	92 50
FINES AND DEDUCTIONS.	
Fine 50 cents for tardiness day school (passed May 31, 1899).	
Fine 50 cents for tardiness evening school (passed May 10, 1899).	
Fine \$2 50 for failure to acknowledge receipt of circulars or letters from Office (passed March 29, 1899). ^m	
Deduction of one-thirtieth for each day's absence.	
No excuse to be absent from school, <i>with pay</i> , shall be granted to any principal or teacher of this Department except under suspension of rules, and by special action of the Board of Education (passed June 14, 1899, and adopted by the present Board), except for three days, on account of the death of a relative within the first degree of consanguinity, or of husband or wife (passed September 1, 1899).	
Fine \$5 00 for principals failing to make correct report of absentees on last school day of month.	
JANITORS' SALARIES.	
\$5 00 per class-room up to and including 10 class-rooms.	
\$4 50 per room, in excess of 10 rooms—rooms unoccupied not counted.	
For exceptions see Minutes of March 29, 1899, No. 20, page 345.	

NUMBER OF TEACHERS RECEIVING VARIOUS SALARIES—JUNE, 1901.

(See Schedule of Salaries for position, page 534.)

	PER MONTH.
3 (2) special teachers of German and French and (1) evening teacher....	\$40 00
86 (80) evening teachers, (2) high school, (1) grammar and (3) primary...	50 00
1 teacher.....	55 00
1 teacher.....	57 00
24 teachers.....	57 50
9 teachers.....	59 00
1 teacher.....	59 50
37 teachers.....	60 00
9 teachers.....	62 00
21 teachers.....	62 50
23 teachers.....	65 00
1 teacher.....	67 00
13 teachers.....	67 50
44 teachers.....	68 00
5 teachers.....	70 00
5 teachers.....	71 00
7 teachers.....	73 00
4 teachers.....	74 00
11 teachers.....	75 00
153 teachers.....	76 00
13 teachers.....	77 00
4 teachers.....	79 00
105 teachers.....	80 00
9 teachers.....	81 00
188 teachers.....	83 00
3 teachers.....	85 00
6 teachers.....	88 00
2 teachers.....	90 00
1 teacher.....	98 00

NUMBER OF TEACHERS RECEIVING VARIOUS SALARIES—CONTINUED.

	PER MONTH.
1 teacher.....	\$95 00
10 teachers.....	100 00
1 teacher.....	105 00
teachers.....	110 00
teachers.....	115 00
2 teachers.....	120 00
45 teachers.....	125 00
6 teachers.....	130 00
12 teachers.....	135 00
15 teachers.....	140 00
2 teachers.....	150 00
18 teachers.....	155 00
teachers.....	175 00
1 teacher.....	180 00
eachers.....	200 00
4 teachers.....	250 00
839 regular teachers with classes.	
31 day substitutes—\$3 00 per day when teaching.	
24 evening substitutes—\$2 00 per day when teaching.	
7 High School substitutes—\$5 00 per day when teaching.	
1 Supervisor Manual Training.....	200 00
1 Assistant Supervisor Manual Training.....	91 65
4 Assistants Manual Training.....	83 35
1 Supervisor of Cooking.....	90 00
4 Assistant Supervisors of Cooking.....	65 00
1 Supervisor of Music.....	100 00
1 Assistant Supervisor of Music.....	75 00
1 Supervisor of Drawing.....	125 00
1 Assistant Supervisor of Drawing.....	100 00
1 Director of Physical Culture.....	250 00
<u>1,017 Total number of teachers.</u>	

AVERAGE MONTHLY WAGES.

	MALE.	FEMALE.
Superintendent of Schools (1).....	\$333 33 $\frac{1}{2}$	
Deputy Superintendents of Schools (4).....	150 00	
School Directors (4).....	250 00 (3)	250 00 (1)
Principals of High Schools.....	250 00	
Principals of Primary, Evening and Grammar Schools.....	145 00	132 00
Teachers in High Schools.....	140 00	133 00
Teachers in Grammar Schools.....	125 00	75 00
Teachers in Evening Schools.....	56 00	49 00
Teachers in Primary Schools.....	.....	78 00
All Teachers, Principals and Superintendents.....\$79 00		

BOARD OF EXAMINATION.

The Board of Examination is composed of

SUPERINTENDENT R. H. WEBSTER, CHAIRMAN.
 DEPUTY SUPERINTENDENT W. DE L. KINGSBURY, SECRETARY.
 DEPUTY SUPERINTENDENT L. A. JORDAN.
 DEPUTY SUPERINTENDENT W. B. HOWARD.
 DEPUTY SUPERINTENDENT D. J. SULLIVAN.

The work of the Board during the past year has been very great, owing to changes in the State law relating to the certification of teachers.

Following is the annual report:

A.

RECOMMENDATIONS TO CITY AND COUNTY BOARD OF EDUCATION FOR THE GRANTING OF CERTIFICATES DURING THE FISCAL YEAR 1900-01.

GRADE OF CERTIFICATE.	ON EXAMINATIONS.			ON CREDENTIALS.			TOTAL GRANTED COLUMN.		
	1. Male.....	2. Female.....	3. Total.....	4. Male.....	5. Female.....	6. Total.....	Male 1 and 4.	Female 2 and 5.	Total 3 and 6.
High School.....	1	1	8	6	14	8	7	15	
Grammar Grade.....			4	32	36	4	32	36	
Primary Grade.....	2	2					2	2	
Special—									
Cooking.....	2	} 20							
Drawing, Mechanical.....	2								
Drawing, Freehand.....	1								
Drawing, Freehand, Wood-carving, Clay Mod- eling.....	1						6	14	20
Latin and Greek.....	1								
Music.....	7								
Physical Culture.....	2								
Sloyd.....	3								
Typewriting and Stenography.....	1								
	6	17	23	12	38	50	18	55	73

C.

APPLICATIONS FOR RECOMMENDATIONS FOR CERTIFICATES REJECTED, 1900-01.

GRADE OF CERTIFICATE.	NUMBER OF APPLICATIONS ON EXAMINATIONS			ON EXAMINATION.			ON CREDENTIALS.			TOTAL REJECTED COLUMNS.		
	1. Male.....	2. Female.....	3. Total	4. Male.....	5. Female.....	6. Total.....	7. Male.....	8. Female.....	9. Total.....	Male	Female	Total
High School	1	1	2	1	1	1	2	2	1	2	3	
Grammar Grade.....	1	1	2	1	1	2	1	1	2	1	1	
Primary Grade.....	7	7	14	5	5	10	5	5	10	5	5	
Special—												
Cookery.....	2	2	4									
Drawing, Industrial.....	4	4	8	2	2	4				2	2	
Drawing, Freehand.....	1	1	2									
Drawing (Freehand), Wood-carving and Clay Modeling.....	1	1	2									
French.....	1	1	2	1	1	2				1	1	
German.....	1	1	2	1	1	2				1	1	
Latin and Greek.....	1	1	2									
Music.....	7	7	14									
Physical Culture.....	2	2	4									
Sloyd.....	3	3	6									
Typewriting, Stenography.....	1	1	2									
	9	25	34	3	8	11	2	2	3	10	13	

D.

RECOMMENDATIONS FOR RENEWAL OF CERTIFICATES, 1900-01.

GRADE OF CERTIFICATE.	MALE.	FEMALE.	TOTAL.
High School.....	10	2	12
Grammar Grade	3	212	215
Primary Grade.....	1	26	27
Special—			
Bookkeeping*.....		1	} 10
Cookery*.....		1	
Drawing, Freehand*.....	1	1	
French.....	1*	1†	
German.....	1*	1†	
History*.....		1	
Penmanship.....		1	
	17	247	26

* High School.

† Grammar Grade.

E.

APPLICATIONS FOR RENEWAL OF CERTIFICATES REJECTED—1900-01.

	MALE.	FEMALE.	TOTAL.
Drawing, Freehand.....		1	1
Drawing, Freehand, Wood-carving and Clay-Modeling.....		1	1
		2	2

F.

RECEIPTS FROM CERTIFICATE FEES.

Received on application for examination for—		
High School Certificates	\$4 00	
Grammar Grade Certificates.....	2 00	
Primary Grade Certificates.....	14 00	
Special.....	48 00	
		\$68
Received on application for New Certificates on Credentials—		
High School Certificates.....	\$28 00	
Grammar Grade Certificates.....	62 00	
Primary Grade Certificates.....		
Special Certificates		
		90 00
Received on application for Permanent Certificates—		
High School Certificates.....	\$12 00	
Grammar Grade Certificates.....	16 00	
Primary Grade Certificates.....	76 00	
Special Certificates	40 00	
		\$144 00
Received on application for renewal of—		
High School Certificates	\$22 00	
Grammar Grade Certificates.....	424 00	
Primary Grade Certificates.....	50 00	
Special Certificates.....	16 00	
		512 00
Total receipts.....		\$814 00
The foregoing receipts have been duly given to the City and County Treasurer, as follows:		
1900—July.....	\$34 00	
August.....	122 00	
September.....	64 00	
October.....	14 00	
November.....	48 00	
December.....	42 00	
1901—January.....	12 00	
February.....	58 00	
March.....	78 00	
April.....	88 00	
May.....	182 00	
June.....	72 00	
		\$814 00

G.

RECOMMENDATIONS OF PERMANENT CERTIFICATES—1900-01.

	MALE.	FEMALE.	TOTAL.
High School—			
On experience and San Francisco Certificate.....	2*	4	6
On experience and second renewal of Certificate..	1	.....	1
On experience and Life Diploma.....	14	10*	24
			31
Grammar School—			
On experience and San Francisco Certificate.....	.....	11†	11
On experience and second renewal of Certificate..	.....	51‡	51
On experience and Life Diploma.....	12	452‡	464
			526
Primary—			
On experience and San Francisco Certificate.....	.....	38*	38
			38
Special—			
On experience and San Francisco Certificate.....	3	16*	19
			19
Total	32	582	614

* One of each not teachers in the San Francisco School Department.

† Two not teachers in the San Francisco School Department.

‡ Four not teachers in the San Francisco School Department.

§ Seventeen not teachers in the San Francisco School Department.

H.

APPLICATION FOR RECOMMENDATIONS TO CITY AND COUNTY BOARD OF
EDUCATION FOR RECOMMENDATIONS TO THE STATE
BOARD OF EDUCATION—1900-01.

FOR —	HIGH SCHOOL.			GRAMMAR GRADE.			TOTAL LIFE DIPLOMAS. COLUMNS.			Total Educational Diplomas
	1. Male.....	2. Female.....	3. Total.....	4. Male.....	5. Female.....	6. Total.....	1 and 4. Male.....	2 and 5. Female.....	3 and 6. Total.....	
State Life Diplomas.....		1	1	2	39	41	2	40	42	
State Life Diplomas (re-issue).....					8	8		8	8	
Total Life Diplomas.....		1	1	2	47	49	2	48	50	
State Educational Diplomas.....					24	24				24
State University Documents.....	1	1	2							

I.

APPLICATIONS FOR RECOMMENDATIONS FOR STATE LIFE OR EDUCATIONAL
DIPLOMAS OR STATE UNIVERSITY DOCUMENTS REJECTED—1900-01.

None.

J.

RECEIPTS FROM LIFE DIPLOMA AND STATE UNIVERSITY DOCUMENT FEES—1900-01.

Balance on hand July 1, 1900.....		\$20 00
Received from State Life Diplomas—		
High School.....	\$2 00	
Grammar Grade.....	82 00	
		<u>84 00</u>
Received for re-issue of State Life Diplomas, Grammar Grade.....		16 00
Received for State University Documents.....		2 50
Total receipts.....		<u>\$122 50</u>

The same has been sent to the State Superintendent of Public Instruction, Hon. Thomas J. Kirk, as follows:

1900—October 11.....	\$76 00
1901—April 6.....	14 00
April 10.....	10 00
June 30, balance on hand.....	22 50
	<u>\$122 50</u>

K.

CERTIFICATES HELD BY TEACHERS IN SAN FRANCISCO SCHOOL DEPARTMENT.

TEACHERS IN—	GRADE OF CERTIFICATE.												TOTALS OF COLUMNS.					
	HIGH.			GRAMMAR.			PRIMA-Y.			SPECIAL.*								
	SPECIAL* SPECIAL CERTIFICATES ONLY.			ALSO HOLDERS REGULAR CERTIFICATES.			SPECIAL CERTIFICATES ONLY.											
	1. Male	2. Female	3. Total	4. Male	5. Female	6. Total	7. Male	8. Female	9. Total	10. Male	11. Female	12. Total	13. Male	14. Female	15. Total	16. Male	17. Female	Total
High Schools and Day Commercial.....	26	22	48	6	6	12	6	6	12	9	13	22	4	9	13	31	37	68
Grammar and Primary Schools.....	9	11	20	13	754	767	40	40	80	21	21	42	3	8	11	25	808	833
Evening Schools.....	15	4	19	14	64	78	3	3	6	9	10	19	11	4	15	40	75	115
Total.....	50	37	87	27	824	851	43	43	86	18	44	62	18	16	34	96	920	1016

* See Table L.

L.

SUBJECTS IN WHICH SPECIAL CERTIFICATES ARE HELD.

SUBJECTS.	BY TEACHERS IN—									TOTALS.		
	HIGH SCHOOLS.			GRAMMAR AND PRIMARY SCHOOLS.			EVENING SCHOOLS.			1, 4 and 7. Male.....	2, 5 and 8. Female.....	3, 6 and 9. Total.....
	1 Male.....	2. Female..	3. Total.....	4. Male.....	5. Female.....	6. Total.....	7. Male.....	8. Female.....	9. Total.....			
Bookkeeping	6	6	12	1	1	2	8	3	11	8	10	18
Cookery.....				2	2	4					2	2
Drawing, Architectural.....							3		3	3		3
Drawing, Free-hand.....	2		2	1	1	2				2	1	3
Drawing, Free-hand, Wood Carving and Clay Modeling		3	3								3	3
Drawing, Mechanical.....	1		1				5		5	6		6
French.....	3	2	5	4	4	8	2	2	4	3	8	11
German.....	3	1	4	6	6	12	1	1	2	3	8	11
Iron-work	1		1							1		1
History, General.....				1	1	2					1	1
Latin.....	2		2							2		2
Latin and Greek.....				1	1	2				1		1
Music.....				10	10	20					10	10
Penmanship.....	1		1					1	1	1	1	2
Physical Culture.....				1	1	2					1	1
Physics.....	1		1							1		1
Sewing.....				1	1	2					1	1
Sloyd.....				4	4	8				4		4
Spanish.....		1	1				1	1	2	1	2	3
Stenography and Typewriting	4	4	8	3	3	6	3	5	8	3	12	15
Typewriting.....		2	2					2	2		4	4
Wood-work.....	1		1							1		1
Total.....	15	19	34	5	30	35	20	15	35	40	64	104

M.

NUMBER OF STATE EDUCATIONAL AND LIFE DIPLOMAS REGISTERED.

(According to Section 1,696 of the Political Code.)

DIPLOMAS.	ISSUED BEFORE 1880.			ISSUED SINCE 1880.						Total Life Diplomas. Columns 3, 6 and 9.	Total Educational Diplomas. Columns 6 and 9.
				HIGH SCHOOL.			GRAMMAR SCHOOL.				
	1. Male.....	2. Female.....	3. Total.....	4. Male.....	5. Female.....	6. Total.....	7. Male.....	8. Female.....	9. Total.....		
LIFE DIPLOMAS BY—											
High School Teachers.....	8	6	14	6	5	11	...	...	...	25
Grammar and Primary Grade Tchrs..	13	50	63	2	4	6	5	457	462	531	
Evening School Teachers.....	4	1	5	2	...	2	7	10	17	24	
Total Life Diplomas.....	25	57	82	10	9	19	12	467	479	580	
EDUCATIONAL DIPLOMAS BY—											
High School Teachers.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Grammar and Primary Grade Tchrs..	.....	.....	.....	.....	.....	.....	.....	48	48	48
Evening School Teachers.....	.....	.....	.....	.....	.....	.....	.....	3	3	3
Total Educational Diplomas...	.....	.....	.....	.....	.....	.....	.....	51	51	51

N.

PERMANENT CERTIFICATES REGISTERED.

(A) High School, by female High School teachers.....	2
(B) Grammar Grade, by female Grammar School teacher.....	1
(C) Grammar Grade, by male Evening School teacher.....	1
Total	4

REPORT
OF THE
SCHOOL TEACHERS' RETIREMENT FUND
COMMISSIONERS.

OFFICERS.

MAYOR JAMES D. PHELAN.....Chairman
SUPERINTENDENT OF COMMON SCHOOLS R. H. WEBSTER.....Secretary
TREASURER S. H. BROOKS.....Treasurer

SAN FRANCISCO, July 25, 1901.

*To the Honorable Jas. D. Phelan, Mayor
Of the City and County of San Francisco—*

Dear Sir: I have the honor to submit the annual report of the Public School Teachers' Annuity and Retirement Fund of San Francisco, for the year terminating June 30, 1901.

Respectfully submitted,

R. H. WEBSTER,
Secretary Public School Teachers' Annuity and Retirement Fund Commissioners.

FINANCIAL STATEMENT.

RECEIPTS.	AMOUNT.	TOTAL.
Contributions by teachers bound by provisions of the Annuity Law		\$9,790 00
Amount received in accordance with Section 8 (a) from teachers retired during fiscal year—		
August 18, 1900—Miss E. A. Cleveland	\$230 25	
August 21, 1900—Miss K. F. McColgan	289 75	
August 22, 1900—Mrs. Aurelia Griffith	290 00	
August 8, 1900—Miss L. M. Barrows	256 00	
August 22, 1900—Miss N. G. Sullivan	300 00	
August 27, 1900—Miss A. A. Hill	302 00	
October 22, 1900—Miss M. J. Canham	275 25	
June 15, 1901—Mrs. J. B. Cooper	291 00	
		2,284 25
Appropriated by the Board of Supervisors from money deducted from salaries of teachers on account of absence.		2,259 90
Total receipts (to be apportioned 75 per cent to the Annuity Fund and 25 per cent to the Permanent Fund)....		\$14,334 15
INTEREST ACCOUNT.		
December 31, 1900—Permanent Fund, German and Security Banks	\$132 62	
July 1, 1900—Permanent Fund, German, Hibernia and Security Savings Banks	198 91	331 53
December 31, 1900—Annuity Fund, Hibernia Bank	\$77 55	
July 1, 1901—Annuity Fund, German Bank	11 37	88 92
Grand total receipts		\$14,754 60
APPORTIONMENTS.		
To the credit of the Annuity Fund, 75 per cent of as aforesated	\$10,738 11	
Interest on Annuity Fund	88 92	
To the credit of the Permanent Fund, 25 per cent of as aforesated	3,596 04	
Interest on Permanent Fund	331 53	\$14,754 60

FINANCIAL STATEMENT—CONTINUED.

ANNUITY FUND.

	AMOUNT.	TOTAL.
1900—July 1—Balance in fund	\$3,212 94	
December 31—Interest	77 55	
1901—July 1—75 per cent of yearly receipts.....	10,738 11	
July 1—Interest.....	11 37	
		\$14,039 97
Disbursements for year.....		13,706 55
July 1, 1901—Balance in fund.....		\$333 42

PERMANENT FUND.

	AMOUNT.	TOTAL.
1900—July 1—Amount in fund.....	\$9,467 53	
December 31—Interest	132 62	
1901—July 1—25 per cent of yearly receipts.....	3,596 04	
July 1 Interest.....	198 91	
July 1, 1901—Total in fund.....		\$13,395 10

FINANCIAL STATEMENT OF SAN FRANCISCO PUBLIC SCHOOL TEACHERS'
ANNUITY AND RETIREMENT FUND SINCE THE PASSAGE OF THE
ORIGINAL ACT, MARCH 26, 1895.

	AMOUNT.	TOTAL.
RECEIPTS.		
Under original act by deducting 1 per cent from salaries of contributing teachers and from payments by teachers retired....	\$10,961 39	
Under Act amended March 27, 1897.....	51,293 38	
Total.....		\$62,254 77
DISBURSEMENTS.		
Under original Act.....	\$4,714 42	
Under amended Act.....	43,526 25	
Total.....		48,526 25
Balance.....		\$13,728 52
Annuity Fund.....	\$333 42	
Permanent Fund.....	13,395 10	
Total.....		13,728 52

ANNUITY FUND.

	AMOUNT.	TOTAL.
1897—May 5—Balance transferred from fund under original Act to April 30.....	\$6,246 97	
1901—June 30—Receipts under amended Act.....	37,564 86	\$43,811 83
Disbursements.....		49,478 41
Balance.....		\$333 42

PERMANENT FUND.

	AMOUNT.	TOTAL.
1900—June 30—25 per cent of all receipts under amended Act, Receipts for year to July 1, 1901.....	\$9,467 53 3,927 57	
Total July 1, 1901.....		\$13,395 1

ANNUITANTS.

DATE OF RETIREMENT.	NAME.	ANNUITY PER MONTH.	TOTAL PER MONTH.
1896—January 22.....	Mrs. Laura T. Hopkins	\$50 00	
January 22. ...	Miss L. E. Ryder.....	50 00	
January 22.....	Mrs. H. A. St. John.....	45 00	
January 22.....	Mrs. M. H. Currier.....	50 00	
April 24.....	*Miss Cornelia Campbell.....	50 00	
April 24.....	Miss Victorine M. Raclet.....	45 00	
1897—January 19.....	†Mrs. Josephine Gerichten.....	45 00	
January 19.....	Miss Elizabeth M. Molloy.....	50 00	
September 11...	Miss A. M. Dore	50 00	
September 11...	Miss Mary Solomon	50 00	
December 8....	Miss Fannie L. Soule.....	50 00	
1898—March 1.....	Miss Flora McDonald Shearer	36 66 $\frac{2}{3}$	
September 14...	Miss Kate Kollmeyer.....	26 66 $\frac{2}{3}$	
September 12...	‡George Brown	25 00	
1899—April 15.....	Mrs. S. N. Joseph	50 00	
April 18.....	Miss Mary J. Bragg	50 00	
June 14.....	Miss M. E. Caldwell.	50 00	
August 1.....	Mrs. E. M. Poole.....	36 66 $\frac{2}{3}$	
August 10.....	Miss A. M. Manning.....	50 00	
August 10.....	Mrs. E. M. Baumgardner.....	50 00	
August 10....	Mrs. C. M. Sissons.....	38 66 $\frac{2}{3}$	
1900—January 9.....	Miss C. A. Templeton	50 00	
March 1.....	Mrs. T. M. Sullivan.....	50 00	
March 1.....	§Miss N. S. Baldwin	50 00	
July 18.....	Mrs. Aurelia Griffith	50 00	
July 25.....	Miss K. F. McColgan.....	50 90	
July 25.....	Miss Nora G. Sullivan.....	46 66 $\frac{2}{3}$	
August 1.....	Miss A. A. Hill.....	50 00	
August 1.....	Miss E. A. Cleveland.....	50 00	
August 1.....	Miss Laura M. Barrows	45 00	
October 15.....	Miss M. J. Canham	46 66 $\frac{2}{3}$	
1901—June 4.....	Mrs. J. D. Cooper	50 00	

*Died December 15, 1900. †Died March 9, 1901. ‡Died March 28, 1901. §Died May 12, 1901.

Respectfully submitted,

R. H. WEBSTER,
Secretary of the Public School Teachers' Annuity and Retirement
Fund Commissioners.

ANNUITY FUND—HOW PROVIDED.

It shall consist of the following, with the income and interest thereof:

1. Twelve dollars per school year of the salaries paid to all those subject to the burdens of this Act, deducted from the warrants for salary and paid by the Treasurer to the Retirement Fund Commissioners; six dollars from evening school teachers whose salary does not exceed \$50 per month.
2. All moneys received from gifts, bequests and devises, or from other sources.
3. All money, pay, compensation or salary forfeited, deducted or withheld from the warrant or demand for salary of any teacher or teachers for and on account of absence from duty from any cause, which the Board of Education may set apart for the aforesaid fund; and it is the duty of the Board of Education to appropriate monthly one-half of such moneys for such fund.

TWO PARTS TO THE FUND—PERMANENT AND ANNUITY FUND.

1. A permanent fund consists of (a) 25 per cent of all contributions from those affected by this Act; (b) 25 per cent of all gifts, bequests, or devises, unless otherwise ordered by the donor or testator; (c) 25 per cent of all moneys deducted from the salary of teachers because of absence from duty. [Note.—When the permanent fund shall amount to \$50,000, then all moneys thereafter received shall go into the annuity fund, except such gifts, devises or bequests as may be specially directed by its donor or testator to be placed in the permanent fund.]

2. Annuity fund, consisting of (a) the income derived from the permanent fund; (b) all other moneys belonging to the annuity and retirement fund not specified to be placed in the permanent fund; (c) all money in the fund provided for in the Act to which this is amendatory.

Annuitants shall be paid from the annuity fund only.

HOW ADMINISTERED.

The Public School Retirement Fund Commission consists of the Superintendent of Schools, County Treasurer and Mayor, who shall meet biennially and report annually to the Supervisors. The Retirement Committee consists of five teachers, at least one being a class teacher from some primary school and one a class teacher from some grammar school, one or two being elected annually to serve for three years.

QUALIFICATION FOR RETIREMENT.

1. Any teacher who shall have served in the public schools in the State for a period of thirty years, as a teacher or school officer, and who shall have been subjected to the burdens imposed by this Act for thirty years, shall be entitled to retire and to receive from the fund the sum of fifty dollars per month, payable quarterly.

2. Any teacher who shall become incapacitated for performing the duties of a teacher, and who shall have been a contributor to the annuity fund for at least five years, shall be at liberty to retire and to receive an annuity equal to such proportion of the maximum annuity granted under this Act, as the time that he or she has been subjected to the burdens imposed by this Act bears to the period of thirty years.

Provided, That any annuity shall be suspended if its recipient return to service in the public schools, and any annuity less than two-thirds the maximum annuity shall cease if the Committee on Retirement shall, at any time, decide that its re-

ipient has been restored to the capacity of performing the duties of teacher, and has been reimbursed from the annuity fund at least the full amount of his or her contribution thereto;

Provided, further, That such proportionate reduction shall not apply to those now employed in the public schools who shall have filed the specified notice within ninety days of the passage of the Act, and who shall have paid at the time of their retirement an amount equal to what they would have paid into the fund had they been contributing thirty years.

Provided, That if a person cease to teach in any county, or city and county, where he or she has been subject to the burdens imposed by this Act, then, after such person has taught in the public schools of this State for thirty years, he or she shall be entitled to retire and receive an annuity equal to such proportion of the maximum annuity granted under this Act as the time that he or she has been subjected to the burden imposed by this Act bears to the period of thirty years.

Provided, That if any teacher shall be compelled, by reason of ill-health, to retire from the profession of teaching after the expiration of five years and before the expiration of thirty years of service in the public schools of this State, such retiring teacher, if a contributor to the annuity fund at time of retirement, shall be entitled to as many thirtieths of the full annuity as he or she has had years of service, by paying into the annuity fund the contributions to that fund corresponding to those years of service rendered at a time when, or in a place where, it was impossible to make such contributions by reason of the non-existence of an annuity fund.

Provided, That the annuity of evening school teachers be based on \$25 per month.

Provided, That if at the end of any quarter there shall not be a sufficient amount of money in the annuity fund to pay all warrants or demands of annuitants in full, then the money in that fund shall be divided pro rata among them, and the sum received by such annuitants shall be in full discharge of all claims against that fund to date.

Appendix.

BOARD OF SUPERVISORS

OF THE

CITY AND COUNTY OF SAN FRANCISCO

1901-1902.

Mayor and Ex-Officio President—HON. JAMES D. PHELAN.

MEMBERS.

JAMES P. BOOTH.Monticello Club, 23 Kearny street
CHARLES BOXTON.....231 Post street
HENRY U. BRANDENSTEIN.....530 California street
SAMUEL BRAUNHART.....762A Harrison street
A. COMTE, JR.....534½ California street
JOHN CONNOR.....246½ Oak street
PETER J. CURTIS117 Front street
A. A. D'ANCONA.....1022 Sutter street
L. J. DWYER.....40 New Montgomery street
M. J. FONTANA.....825 Francisco street
RICHARD M. HOTALING.....429 Jackson street
THOS. JENNINGS.....213 Front street
WILLIAM N. McCARTHY.....Parrott Building
CHARLES WESLEY REED.....Rooms 20-21, Mills Building, 7th Floor
GEORGE R. SANDERSON.....238 Montgomery street
HENRY J. STAFFORD.....97-98 Flood Building
JOSEPH S. TOBIN.....Hibernia Bank Building
HORACE WILSON.....421 California street

STANDING COMMITTEES.

Judiciary.....	BRANDENSTEIN, COMTE, TOBIN
Finance.....	JENNINGS, HOTALING, TOBIN
Streets, Sewers and Parks.....	CURTIS, CONNOR, DWYER
Wharves and Water Front.....	WILSON, FONTANA, McCARTHY
Public Buildings.....	BRAUNHART, SANDERSON, BOOTH
Water Rates.....	CONNOR, COMTE, JENNINGS
Police.....	TOBIN, STAFFORD, REED
Fire.....	DWYER, CURTIS, WILSON
License and Orders.....	COMTE, McCARTHY, BOOTH
Hospital and Health.....	D'ANCONA, BRAUNHART, BOXTON
Printing and Salaries.....	BOOTH, JENNINGS, CONNOR
Artificial Lights.....	HOTALING, McCARTHY, DWYER
Outside Lands.....	STAFFORD, BOXTON, SANDERSON
Equalization of Assessments.....	McCARTHY, REED, CURTIS
Civil Service.....	SANDERSON, BRANDENSTEIN, FONTANA
Charities and Correction.....	FONTANA, WILSON, STAFFORD
Education.....	BOXTON, BRANDENSTEIN, D'ANCONA
Public Utilities	
REED, HOTALING, McCARTHY, CONNOR, COMTE, JENNINGS, DWYER	
Charter Amendments.....	BRANDENSTEIN, TOBIN, McCARTHY

OFFICERS.

JNO. A. RUSSELL.....	Clerk
JOHN H. RYAN,	} Assistant Clerks
P. H. McKENNA,	
JOHN E. BEHAN,	
T. B. MCGINNIS,	
JOHN S. BANNERMAN,	
JAMES E. DONAHUE,	
*JAMES J. LYNCH,	
R. W. ANDERSON.....	Sergeant-at-Arms
CYRIL WILLIAMS.....	Expert Finance Committee

*Appointed August 12, 1901, vice John A. Lenahan, resigned.

RULES OF PROCEEDINGS.

1. In the absence of the President, the Clerk, on the appearance of ten members, shall call the Board to order, when a President pro tem. shall be appointed by the Board for that meeting, or until the appearance of the President.

2. Whenever it shall be moved and carried that the Board go into Committee of the Whole, the President shall leave the chair and the members shall appoint a chairman of the Committee of the Whole, who shall report the proceedings of said Committee.

3. The rules of the Board shall be observed in the Committee of the Whole, except the rules regulating a call for ayes and nays and limiting the time of speaking.

4. A motion, in Committee of the Whole, to rise and report the question, shall be decided without debate.

5. The Clerk shall have clips, upon which shall be kept all Bills, Ordinances, Resolutions and Reports to be acted upon by the Board, except those not reported upon by a Committee.

6. A Resolution or a Bill shall not be submitted to the Board for action until it shall have been referred to and acted upon by a Committee of the Board.

7. The Standing Committees of the Board, each of which shall consist of three members, except the Committee on Public Utilities, which shall consist of seven members, shall be as follows:

Judiciary; Finance; Streets, Sawers and Parks; Wharves and Water Front; Public Buildings; Water Rates; Police; Fire; License and Orders; Hospital and Health; Printing and Salaries; Artificial Lights; Outside Lands; Equalization of Assessments; Civil Service; Charities and Correction; Education; Public Utilities; Charter Amendments.

Said Committees shall consider and report upon such subjects as may be referred to them by the Chair or the Board.

8. The Order of Business, which shall not be departed from, except by the consent of ten members, shall be as follows:

1st. Calling the Roll.

2d. Reading the Journal.

3d. Roll Call for Petitions from Members.

4th. Presentation of Petitions filed with the Board.

5th. Communications and Reports from City and County Officers.

6th. Reports of Committees, except Finance Committee.

7th. Presentation of Proposals.

8th. Unfinished Business.

9th. Presentation of Bills and Accounts.

10th. Report of Finance Committee.

11th. Bills, Ordinances, Motions or Resolutions (New Business).

12th. Roll Call for introduction of Resolutions, Bills and Ordinances not considered or reported on by a Committee.

9. No person other than a member or an ex-Mayor shall be allowed to address the Board on any matter that may be before it, without the consent of a majority of the members present, nor to speak to or in any way interfere with a member while in his seat or on the floor of the Chamber.

10. If any question under debate contains several points, any member may have the points segregated and acted upon separately.

11. When any question has been put and decided, any member who voted with the prevailing side, may move its reconsideration, but no motion for the reconsideration of any question shall be made after the Bill, Ordinance or Resolution

voted on shall have gone out of the possession of the Board. A question shall be reconsidered only at the meeting at which the vote thereon was taken, or at the next succeeding meeting; provided, notice of intention to reconsider shall have been given at the meeting at which said vote was taken; provided, further, that when a Bill is put upon its final passage and fails to pass, a motion to reconsider shall be voted on only at the meeting next occurring after the expiration of twenty-four hours after the adjournment of the meeting at which said question was voted on. Only such questions are subject to reconsideration which result in the defeat or passage of a Bill, Ordinance or Resolution or Amendment thereto, and no such question shall be reconsidered more than once; provided, however, that any member who voted with the prevailing side may upon notice of intention to reconsider given by any other member voting with that side move the reconsideration of the question.

12. A motion to refer or lay on the table until decided shall preclude all amendments to the main question. A motion to lay on the table or to postpone indefinitely shall require a majority vote of all the members of the Board.

13. It shall be the duty of the Clerk to issue such certificates as may be required by Ordinances or Resolutions, and transmit copies of said Ordinances or Resolutions to the various departments affected thereby.

14. All accounts and bills presented shall be referred to the appropriate Committee and acted upon by said Committee and the Finance Committee before action is taken by the Board.

15. The President shall preserve order and decorum, and shall decide questions of order, subject to an appeal to the Board.

16. A member, before speaking, shall rise from his seat and address the President. No motion shall be in order if made while the mover is seated or out of his place.

17. When several members rise at the same time, the President shall designate the member entitled to the floor.

18. No member shall speak to the same question oftener than once until all other members desiring to speak shall have spoken, nor oftener than twice without the consent of the Board, nor for more than five minutes without the permission of the President; provided, however, the author of the Bill, Motion, Ordinance or Resolution shall have the right to close the debate thereon.

19. A motion shall not be put or debated until seconded. When seconded it shall be stated by the Chairman before debate and shall be reduced to writing upon the request of the President or any member.

20. After a motion has been stated by the President, it shall be deemed to be in the possession of the Board, but it may be withdrawn by the mover thereof, with the assent of the second, before it is acted upon.

21. Upon a call of the Board the names of the members shall be called over by the Clerk and the absentees noted. Those for whom no excuses or insufficient excuses are made may, by order of those present, be sent for and be brought to the chambers of the Board by the Sergeant-at-Arms, or by special messengers appointed for the purpose. Proceedings under the call may be dispensed with by the vote of a majority of the members present.

22. When a question is under debate, no motion shall be entertained except:

- 1st. To adjourn.
- 2d. Call of the Board.
- 3d. To lay on the table.
- 4th. The previous question.
- 5th. To postpone to a day certain.
- 6th. To commit or amend.
- 7th. To postpone indefinitely.

which several motions shall have precedence in the order in which they are arranged.

RULES OF PROCEEDINGS.

23. A motion to adjourn shall be decided without debate.
24. The previous question until decided, shall preclude all amendments to and debate on the main question, and be put in this form: "Shall the main question be now put?" It shall be carried by a majority vote of all the members.
25. Every member present when a question is put shall vote for or against it, unless the Board shall excuse him from voting, or unless he is interested in the question. But no member shall be permitted to vote upon a division unless present when his name is called in the regular order.
26. A member called to order for unparliamentary conduct or language shall immediately take his seat, and the Board, if appealed to, shall decide on the case, but without debate. If there be no appeal, the decision of the Chair shall be final. The question upon such appeal shall be: "Shall the decision of the Chair stand as the decision of the Board?"
27. After the Board has acted the names of those who voted for and those who voted against the question shall be entered upon the Journal, not only in cases required by law, but when any member may require it; and on all Bills, Ordinances and Resolutions on final passage the ayes and nays shall be called by the Clerk and recorded.
28. All appointments of officers and employees shall be made by a majority of all the members of the Board.
29. No member shall leave the Board during its session without permission from the President.
30. All Committees shall be appointed by the Board, unless otherwise ordered by the Board. Committees shall report on any subject referred to them by the Board a statement of facts and also their recommendation thereon, in writing; and no report shall be received unless it be signed by a majority of the Committee. Whenever a Committee recommends that a contract be awarded to any one other than the lowest bidder thereon, said Committee shall state specifically in its report its reasons for such recommendation. Unless otherwise ordered a Committee shall report upon all subjects referred to it within thirty days thereafter.
31. Every remonstrance or other written application, intended to be presented to the Board, must be delivered to the Clerk, not later than 12 o'clock noon, on the day on which the Supervisors convene; only the endorsements of such remonstrance of application shall be read by the Clerk; provided, however, that upon the request of the President or of any member, its contents shall be read in full.
32. Upon adjournment the members of the Board shall not leave their places until the President leaves the chair.
33. Ten members shall constitute a quorum to transact business, and no Bill, Ordinance, Resolution or amendment thereto shall pass without the concurrence of at least that number of members; but a smaller number may adjourn from day to day.
34. Except when otherwise provided by these Rules, the Charter or Law, a majority vote of the members present shall be necessary for the adoption of any motion.
35. On any questions of points of order not embraced in these Rules, the Board shall be governed by the Rules contained in Cushing's Manual.
36. It shall require a two-thirds vote of all the members of the Board to amend, suspend or repeal any of these Rules.
37. In calling the roll the Clerk shall call only the surnames of the members, prefixing the word Supervisors to the surname of the Supervisor first called.
38. No smoking shall be permitted in the chambers of the Supervisors during the sessions of the Board.
- [The foregoing Rules were approved and adopted October 22, 1900.—Resolution No. 975.]

WATER RATES.

The Board of Supervisors, pursuant to the requirements of the Constitution of the State and of Article II, Chapter II, Section 1, of the Charter of the City and County of San Francisco, and also in pursuance of an Act of Legislature approved March 7, 1881, and after having obtained statements from persons or corporations engaged in the business of supplying water during the year 1900, showing their receipts and expenditures, and after consideration and investigation, fixed the rates to be collected for furnishing water during the year commencing July 1, 1901, and ending June 30, 1902.

INVESTIGATION OF WATER RATES.

In order to master the infinite detail usually attendant upon the annual water rates investigation and to obtain the necessary information which would enable it to be just alike to both the existing companies and to the consumers, the Board of Supervisors determined to take up the matter of investigation of water rates at an earlier date than had been the custom in preceding years. With this purpose in view, the Board, at its meeting held October 1, 1900, adopted the following Resolution No. 898, to wit:

RESOLUTION No. 898.

Resolved, That the Board of Supervisors, sitting as a Committee of the Whole, commence an investigation of the cost and value of the properties of the Spring Valley Water Works, which is used to supply San Francisco with water, and to continue its sessions until the month of February of the coming year, with the purpose in view of presenting in the month of February, 1901, an Ordinance fixing water rates of the following fiscal year.

The Spring Valley Water Works is hereby requested to have representatives in attendance at these meetings, which will commence Thursday evening, October 11, 1900, at 8 o'clock, who can give the requisite information regarding the value of its lands, cost of same, assessed value, mileage of pipe lines, etc., or whatever data the Board of Supervisors may require.

And the Clerk is hereby directed to advertise this Resolution in The Evening Post Newspaper.

In Board of Supervisors, San Francisco, October 1, 1900.

Adopted by the following vote:

Ayes—Supervisors Booth, Boxtton, Brandenstein, Brauhart, Comte, Connor, Curtis, D'Ancona, Dwyer, Hotailing, Jennings, McCarthy, Reed, Sanderson.

Absent—Supervisors Fontana, Tobin.

JNO. A. RUSSELL, Clerk.

The Board sat as a Committee of the Whole on various dates subsequent to the time specified in the foregoing resolution, and took the testimony of representatives of the Spring Valley Water Works and others who could give the requisite information connected with the fixing and establishment of water rates, a copy of which testimony is on file in the Clerk's office of the Board of Supervisors.

WATER RATES.

On February 23, 1901, the Water Rates Committee presented a report and also Bill No. 324, fixing and establishing water rates for the year commencing July 1, 1901, and ending June 30, 1902.

Under the provisions of said Bill the rates of the fiscal year 1900-1901 were left unchanged, with the exception of the rate for hydrant service paid by the City and County. This latter rate was changed from \$5 per month for each hydrant in use, amounting approximately to \$222,000 per annum, to \$80,000 flat per annum for all hydrant service.

This Board passed the aforesaid Bill to print by a unanimous vote and adopted the Report of the Water Rates Committee, said Report being as follows:

REPORT OF THE COMMITTEE ON WATER RATES,

FIXING AND ESTABLISHING WATER RATES FOR THE FISCAL YEAR
ENDING JUNE 30, 1902.

To the Honorable the Board of Supervisors,
Of the City and County of San Francisco—

Gentlemen: The Committee on Water Rates reports as follows: That in reviewing the testimony taken before the Board of Supervisors, they have determined the value of the Spring Valley Water Works used in supplying the City and County and the inhabitants thereof with water, at \$22,939,722.

They arrived at this value by deducting from the value fixed by the City Engineer, viz: \$24,667,800, the sum of \$1,978,078. This latter sum which has been deducted consists of the values put by the City Engineer upon property not actually in use for the water supply, as follows:

City property	\$1,056,718
Searsville property	471,750
Calaveras property	621,360
Off franchise, so-called.....	50,000

On the value so fixed, viz: \$22,939,722, five per cent was allowed, which amounts to \$1,146,986.10.

We have allowed for—

Operating expenses	\$425,000
Taxes	196,000

Making a total of \$1,767,986.10 from which was deducted five per cent estimated increase from new business, \$78,000, making a grand total of \$1,689,986.10, revenue to which the company is entitled it shall receive for the next fiscal year. The amount we estimated they will receive for the current fiscal year is \$1,829,499, deduct \$1,689,986 as above leaves \$139,513. This represents a saving due principally to the fixing of the valuation of the company's property as above.

For this fiscal year the company will receive for hydrants \$222,180, which is at the rate of \$60 per hydrant per annum.

In fixing the hydrant rate we have agreed to give \$80,000 as a lump sum for the hydrants, and in case the Spring Valley Water Works agrees in writing to spend \$250,000 in new mains as required by the Chief Engineer of the Fire Department and to be laid during the next fiscal year will recommend the increase of this amount by \$20,000, making a total sum of \$100,000 for hydrants.

In case we allowed the present hydrant rate we would have the levy on a tax to be raised within the \$1 limit, the sum of \$222,180. By this arrangement we

WATER RATES.

*9

will levy not more than \$100,000, saving thereby \$122,180 for street or other improvements within the \$1 limit which will be welcomed by the citizens of San Francisco.

JOHN CONNOR,
A. COMTE, JR.,
THOMAS JENNINGS.

On March 4, 1901, Supervisor Connor, Chairman of the Water Rates Committee, presented a Report in the matter of fixing and determining water rates for the fiscal year ending June 30, 1902, being a substitute for the one filed February 28, 1901, which Substitute Report was adopted as the action of the Board in the matters therein contained, being as follows:

SUBSTITUTE REPORT OF THE COMMITTEE ON WATER RATES.

FILED MARCH 4, 1901.

To the Honorable the Board of Supervisors
Of the City and County of San Francisco—

Gentlemen: The Committee on Water Rates reports as follows: That in reviewing the testimony taken before the Board of Supervisors, we have determined the value of the Spring Valley Water Works used in supplying the City and County and the inhabitants thereof with water at \$22,939,722. We arrived at this value by deducting from the value fixed by the City Engineer, viz: \$24,667,800, the sum of \$1,978,078. This latter sum consists of the values put by the City Engineer upon property not actually in use for the water supply, as follows:

City property.....	\$1,056,718
Searsville property.....	471,750
Calaveras property.....	621,360
Off franchise, so-called.....	50,000

On the value so fixed, viz: \$22,939,722, 5 per cent. is allowed, which amounts to \$1,146,986 10. We have allowed for operating expenses \$425,000, taxes \$196,000, making a total of \$1,767,986 10, from which was deducted 5 per cent. estimated increase from new business, \$78,000, making a grand total of \$1,689,986.10, revenue to which the company is entitled and shall receive for the next fiscal year.

The amount we estimated it will receive for the current fiscal year ending June 30, 1901, is \$1,829,499. Deduct \$1,689,986, as above, leaves \$139,513.

This represents a saving due principally to the fixing of the valuation of the company's property at a sum approximately \$2,000,000 less than last year, when we had before us no means of scientifically determining values.

The report of City Engineer Grunsky, approved by the Board of Public Works, puts us in possession of reliable data upon which we can base our judgment.

This \$139,513 is the difference between the revenue which the present schedule, provided by the Water Order adopted last year, will yield and the revenue which we recommend that the Company be allowed for the next fiscal year under the changed conditions.

It is our duty to give the ratepayers or the city, or both, the benefit of this saving. If we allow the present general rates to stand, we can give the municipality the whole benefit of it; on the other hand, if we reduce the general rates by \$139,513, the city's bills will remain as formerly. In any event, the taxpayers will get the benefit of the reduction, which amounts to approximately 8 per cent.

WATER RATES.

We recommend that the whole amount, viz: \$139,513, be taken from the city's hydrant bills, which will amount this fiscal year to \$222,180, calculated on a basis of 3,703 hydrants at \$60 each per year. Heretofore the method of allowing the company so much for each hydrant has added to the tax-rate enormously, and it is now proposed to reduce it. This will enable the Board to have more available funds for street and other improvements within the dollar limit. In the last analysis, ratepayers and taxpayers are the same, as burdens are adjusted in rents; so by reducing the city's bills for water and putting the savings in improvements, all citizens are benefited.

We recommend that a flat or lump sum be allowed for hydrants. For so much money we will then have all the hydrants needed without restriction, as formerly, when the number was governed by the appropriation for such purposes at a rate of \$60 per hydrant. As the city has always paid for making and setting hydrants, it involves no additional expense on that account.

How much can we allow for hydrants? For the current fiscal year the company will, as we have seen, receive \$222,180; but we have to effect a reduction under the present schedule by \$139,513. Let us take it from that, and we have \$82,667, which we can allow as a lump sum for hydrants, provided we re-enact the present general rates.

We recommend that the lump sum for hydrants be \$80,000, and in case the company agrees in writing to increase the size of its mains according to the report of the Chief Engineer of the Fire Department, and to expend thereon during the next fiscal year \$250,000, that \$20,000 more be provided and paid on account of hydrants, making the whole sum for hydrants \$100,000.

We recommend the adoption of the schedule which we herewith submit.

JOHN CONNOR,
A. COMTE JR.,
THOMAS JENNINGS,
Committee on Water Rates.

On March 4, 1901, the following communication was received from the Spring Valley Water Works, enclosing copy of a communication transmitted to the Board of Fire Commissioners in relation to the proposed extension of the hydrant and pipe service recommended by the Chief Engineer of the Fire Department:

COMMUNICATION FROM THE SPRING VALLEY WATER WORKS ENCLOSING A COPY OF A COMMUNICATION TRANSMITTED TO THE BOARD OF FIRE COMMISSIONERS.

San Francisco, Cal., March 4th, 1901.

To the Honorable the Board of Supervisors
Of the City and County of San Francisco—

Gentlemen: I take the liberty of sending to your Honorable Body a copy of a communication sent this day to the Board of Fire Commissioners of San Francisco in relation to the proposed extension of the hydrant and pipe system, as recommended by the Chief Engineer of the San Francisco Fire Department in his report of February 18th, 1901.

Respectfully yours,
H. SCHUSSLER,
Chief Engineer, Spring Valley Water Works.

WATER RATES.

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San Francisco, March 4th, 1901.

To the President and Members of the
Board of Fire Commissioners of San Francisco—

Gentlemen: Somewhat over a week ago the Spring Valley Water Works received a copy of a report of February 18th, 1901, sent to your Honorable Board by D. T. Sullivan, Esq., Chief Engineer of the San Francisco Fire Department, in which report he recommends the setting of four hundred and ninety-eight new fire hydrants which, according to his report, would necessitate the laying of one hundred and eighteen thousand two hundred and twenty (118,220) feet of eight-inch and five thousand nine hundred and ten (5,910) feet of either twenty-four-inch pipe, sixty-six thousand four hundred and thirty (66,430) feet of twelve inch pipe, or twenty-two-inch pipe, of a combination of these two sizes.

In the districts for which the above pipe enlargement is recommended, the distributing pipe system now in use has a length of one hundred and twenty-four thousand nine hundred (124,900) feet; these pipes being from eight inches down in diameter (although ample for domestic supply) would have to be either removed or abandoned or paralleled by the proposed new pipe system, causing an outlay for new construction of between four hundred thousand and five hundred thousand dollars.

The ordinance, as passed to print by the Board of Supervisors, offers to the Water Company a contingent increase of twenty thousand dollars over the eighty thousand dollars allowed for hydrants in said proposed ordinance (which is a reduction on the present hydrant rate alone of more than one hundred and forty thousand dollars annually), provided, however, that the Spring Valley Water Works will spend two hundred and fifty thousand dollars during the coming fiscal year in laying additional pipes for fire protection on the general lines indicated in your recommendation.

Therefore, in reference to your communication, we beg to say that the Spring Valley Water Works positively declines this proposition, not only because the general allowances are entirely inadequate, but also as an approval by the Spring Valley Water Works of the above contingent offer might be construed as an acceptance of the ordinance, which the company declines.

Respectfully yours,

SPRING VALLEY WATER WORKS,
By H. SCHUSSLER, Chief Engineer.

COMMUNICATION FROM THE BOARD OF FIRE COMMISSIONERS
SUBMITTING THE REPORT OF THE CHIEF ENGINEER OF THE FIRE
DEPARTMENT ON THE CONDITION OF THE WATER SUPPLY IN THIS
CITY AND COUNTY IN RELATION TO THE FIRE SERVICE.

San Francisco, February 23, 1901.

To the Honorable the Board of Supervisors
Of the City and County of San Francisco—

Gentlemen: We submit for your approval and consideration the accompanying recommendation and report of our Chief Engineer on the condition of the water supply of this city in its relation to the fire service.

These recommendations have the full and complete approval and indorsement of this Board, and we trust you will give same your early and satisfactory consideration.

Yours very respectfully,

THE BOARD OF FIRE COMMISSIONERS.
J. W. McCARTHY, Secretary.

San Francisco, February 18, 1901.

To the Honorable the Board of Fire Commissioners—

Gentlemen: I respectfully desire to report to your Honorable Board on the condition of the water supply of this city for fire protection, and I also desire to make such recommendations in the matter of increased water mains and hydrants as I deem necessary to maintain the standard of efficiency of the service. I also desire to state that in many streets in the business and hotel districts the mains are far too small to meet the draught that may be made upon them in case of fire, and that in certain outlying portions of the city, which have been developed during the past five years, there are no mains at all on which hydrants can be placed. In order that these defects may be remedied, I would respectfully recommend that new mains be laid and additional hydrants be placed as follows:

8-inch main on the north side of Market street, from California to East, in place of 6-inch main, with one hydrant in the middle of block.

8-inch main on East street, from Market to Washington, with hydrants at N. W. corner East and Market and N. W. corner East and Clay streets.

12-inch main on Drumm street, from Market to Clay, in place of 6-inch main, with hydrants at N. E. corner Drumm and Market, S. E. corner Drumm and Sacramento, N. E. corner Drumm and Sacramento, and S. E. corner Drumm and Clay streets.

8-inch main on Drumm street, from Pacific to Broadway, with hydrant at S. W. corner of Drumm and Broadway.

12-inch main on Davis street, from Jackson to Broadway, in place of 6-inch main, with hydrants at N. W. corner Davis and Jackson, N. W. corner Davis and Clark, N. W. corner Davis and Pacific, and S. W. corner Davis and Broadway.

8-inch main on Davis street, from Broadway to Vallejo, in place of 6-inch main, with hydrants at N. W. corner Davis and Broadway and S. W. corner Davis and Vallejo.

12-inch main on Front street, from Market to Sacramento, in place of 6-inch main, with hydrants at S. W. and N. W. corners of Front and California and N. W. corner Front and Halleck.

8-inch main on Front street, from Green to Filbert, in place of 6-inch main, with hydrants at N. W. corner Front and Green, N. W. corner Front and Union, and S. W. corner Front and Filbert.

12-inch main on Sansome street, from Broadway to Vallejo, and on Vallejo street, from Sansome to Front, in place of 4-inch main, with hydrant at S. W. corner Sansome and Vallejo.

8-inch main on Sansome street, from Vallejo to Green, and on Green street, from Sansome to Front, in place of 6-inch main, with hydrant at S. E. corner Green and Sansome.

8-inch main on Vallejo street, from Front to Davis, in place of 4-inch main, with hydrant at S. E. corner Vallejo and Front.

8-inch main on Broadway from Front to Drumm, in place of 6-inch main, with hydrants at S. E. corner Broadway and Front, S. E. corner Broadway and Davis, and S. W. corner Broadway and Drumm.

12-inch main on Pacific street, from Front to Drumm, in place of 6-inch main, with hydrants at N. E. corner Pacific and Drumm and N. E. corner Pacific and Davis.

8-inch main on Jackson street, from Battery to Drumm, in place of 6-inch main, with hydrant at N. E. corner Jackson and Battery.

8-inch main on Washington street, from Kearny to Montgomery, in place of 6-inch main, with hydrants at N. E. corner Washington and Kearny and N. side Washington, 200 feet E. of Kearny.

12-inch main on Washington street, from Montgomery to East, in place of 6-inch, 4-inch and 8-inch mains, with hydrants on N. side Washington, 200 feet E. of Montgomery, N. W. corner Washington and Battery, and N. E. corner Washington and Drumm.

12-inch main on Clay street, from Kearny to Sansome, in place of 4-inch main, with hydrants on S. side Clay, 206 feet E. of Kearny, S. W. corner Clay and Montgomery, S. W. corner Clay and Leidesdorff and S. W. corner Clay and Sansome.

8-inch main on Commercial street, from Kearny to Sansome, in place of 4-inch main, with hydrants at S. E. corner Commercial and Montgomery and S. W. corner Commercial and Leidesdorff.

8-inch main on Commercial street, from Drumm to East, in place of 4-inch main.

12-inch main on Sacramento street, from Sansome to East, in place of 6-inch main, with hydrants at S. W. corner Sacramento and Battery, S. W. corner Sacramento and Front, S. W. corner Sacramento and Davis, and S. side Sacramento, 300 feet E of Drumm.

8-inch main on Pine street, from Kearny to Montgomery, in place of 6-inch main.

12-inch main on Pine street, from Montgomery to Battery, in place of 6-inch main.

8-inch main on Bush street, from Kearny to Montgomery, in place of 6-inch main, with hydrant at S. E. corner Bush and Kearny.

8-inch main on Sutter street, from Kearny to Montgomery, in place of 6-inch main, with hydrant at N. E. corner Sutter and Montgomery.

12-inch main on Geary street, from Powell to Taylor, in place of 6-inch main, with hydrants at S. W. corner Geary and Powell, S. side Geary, 206 feet W. of Powell, S. W. corner Geary and Mason, S. E. corner Geary and Martha Place, S. E. corner Geary and Taylor.

12-inch main on Pine street, from Stockton to Hyde, and on Hyde street, from Pine to Bush, with hydrants on N. side Pine street, 206 feet W. of Jones; N. W. corner Pine and Leavenworth; N. side Pine, 206 feet W. of Leavenworth; S. E. corner Hyde and Pine. On Pine street, from Stockton to Jones, there are enough hydrants, but the main is too small to supply them, being only 6-inch.

8-inch main on Mason street, from California to Sacramento, and on Sacramento, from Mason to Taylor, in place of 4-inch main, with hydrants at S. W. corner Mason and Sacramento, N. E. corner Sacramento and Yerba Buena, and N. E. corner Sacramento and Taylor.

12-inch main on Powell street, from California to Pacific, and on Pacific street, from Powell to Mason, in place of 6-inch and 8-inch mains, with hydrants at N. W. corner Powell and Sacramento, N. W. corner Powell and Clay and N. W. corner Powell and Washington.

8-inch main on Powell street, from Pacific to Union, in place of 4-inch main, with hydrants at N. W. corner Powell and Pacific, N. W. corner Powell and Broadway, N. W. corner Powell and Green, and S. W. corner Powell and Union.

8-inch main on Green street, from Kearny to Montgomery, and on Montgomery, from Green to Vallejo, in place of 4-inch main, with hydrants at S. side Green, opp. Vincent, S. W. corner Green and Montgomery, N. E. corner Montgomery and Vallejo.

8-inch main on Union street, from Kearny to Montgomery, in place of 4-inch main, with hydrants at S. E. corner Union and Kearny and N. W. corner Union and Montgomery.

12-inch main on Stockton street, from Bay to Beach, with hydrants at S. W. corner Stockton and North Point, N. W. corner Stockton and North Point, and S. E. corner Stockton and Beach.

8-inch main on Filbert street, from Mason to Leavenworth, and on Leavenworth, from Filbert to Union, in place of 4-inch and 6-inch mains, with hydrants

at N. W. corner Filbert and Mason; N. side Filbert, 206 feet W. of Mason; N. E. corner Filbert and Taylor; N. side Filbert, 206 feet W. of Taylor; N. W. corner Filbert and Jones, and N. E. corner Filbert and Leavenworth.

12-inch main on Leavenworth street, from Pine to Pacific, in place of 6-inch main, with hydrants at N. E. corner Leavenworth and Pine, N. E. corner Leavenworth and California, N. E. corner Leavenworth and Sacramento, S. E. corner Leavenworth and Clay, S. E. corner Leavenworth and Washington, S. E. corner Leavenworth and Jackson, and S. E. corner Leavenworth and Pacific.

8-inch main on Leavenworth street, from Pacific to Green, in place of 4-inch main, with hydrants at S. E. corner Leavenworth and Bernard, S. E. corner Leavenworth and Glover, and S. E. corner Leavenworth and Vallejo.

12-inch main on California street, from Hyde to Polk, in place of 4-inch main, with hydrants on N. side California, 206 feet W. of Hyde, N. W. corner California and Larkin, N. side California, 206 feet W of Larkin, and N. E. corner California and Polk.

12-inch main on Larkin street, from Market to Ellis, in place of 6-inch main; with hydrants on Larkin street, opp. Birch avenue, opp. Fulton street, opp. Ash avenue, S. E. corner Larkin and McAllister, S. E. corner Larkin and Golden Gate avenue, and N. E. corner Larkin and Golden Gate avenue.

8-inch main on McAllister street, from Larkin to Hyde, and on Hyde street, from McAllister street to Golden Gate avenue, in place of 6-inch main, with hydrants on N. side McAllister, 206 feet W. of Hyde, N. W. corner McAllister and Hyde, and S. E. corner Hyde and Golden Gate avenue.

12-inch main on Larkin, from Pacific avenue to Filbert, in place of 6-inch and 4-inch mains, with hydrants at S. W. corner Larkin and Broadway, S. W. corner Larkin and Vallejo, S. W. corner Larkin and Green, and S. W. corner Larkin and Union.

8-inch main on Hyde street, from Bay to Beach, in place of 3-inch main, with hydrants at N. E. corner Hyde and North Point and S. E. corner Hyde and Beach.

8-inch main on Polk street, from Filbert to Chestnut, with hydrants at S. E. corner Polk and Greenwich and S. E. corner Polk and Chestnut.

8-inch main on Union street, from Octavia to Fillmore, in place of 4-inch main, with hydrants at S. E. corner Union and Octavia, S. E. corner Union and Laguna, S. E. corner Union and Buchanan, S. E. corner Union and Webster, and S. E. corner Union and Fillmore.

8-inch main on Fillmore street, from Lombard to Francisco, in place of 4-inch main, with hydrants at S. E. corner Fillmore and Chestnut, and S. E. corner Fillmore and Francisco.

8-inch main on Francisco street, from Steiner to Webster, and on Webster street, from Francisco to Bay, with hydrants at S. E. corner Francisco and Steiner, S. W. corner Francisco and Fillmore, S. W. corner Francisco and Webster, E. side Webster, opp. Francisco, and S. E. corner Webster and Bay.

8-inch main on Bay street, from Buchanan to Webster, in place of 4-inch main, with hydrant on Bay street, opp. Buchanan.

8-inch main on Baker street, from Union to Filbert, with hydrant at S. W. corner Baker and Filbert.

12-inch main on Baker street, from Lombard to Tonquin, and on Tonquin, from Baker to Broderick, in place of 4-inch, 6-inch and 8-inch mains, with hydrants at N. E. corner Baker and Beach, N. E. corner Baker and Jefferson, S. E. corner Baker and Tonquin, S. E. corner Tonquin and Baker, and S. W. and N. W. corners of Tonquin and Broderick. (This main and these hydrants are urgently needed for the protection of the Fulton Iron Works and many other buildings at Harbor View.)

8-inch main on Jefferson street, from Baker to Broderick, and on Broderick street, from Jefferson to Beach, with hydrants at N. W. corner Jefferson and

Broderick, S. E. corner Broderick and Jefferson, and N. E. corner Broderick and Beach.

12-inch main on Franklin street, from Pine to Geary, in place of 6-inch main, with hydrants at S. E. corner Franklin and Pine, N. E. and S. E. corner Franklin and Sutter, N. E. and S. E. corners Franklin and Post, and N. E. corner Franklin and Geary.

8-inch main on Gough street, from Bush to Post, in place of 6-inch main, with hydrants at N. E. corner Gough and Sutter and N. E. corner Gough and Post.

8-inch main on Laguna, from Golden Gate avenue to Hayes, in place of 6-inch main, with hydrants at S. E. corner Laguna and Golden Gate avenue, N. E. corner Laguna and McAllister, N. E. and S. E. corners of Laguna and Fulton, S. E. corner Laguna and Birch avenue, S. E. corner Laguna and Grove.

8-inch main on Webster street, from Golden Gate avenue to Fulton, in place of 6-inch main, with hydrants at S. E. corner Webster and Golden Gate avenue, N. E. corner Webster and McAllister, and N. E. corner Webster and Fulton.

8-inch main on Webster street, from Fell to Oak, with hydrants at S. E. corner Webster and Fell.

12-inch main on Bush street, from Fillmore to Pierce, thence on Pierce to Pine, and on Pine street, from Devisadero, in place of 6-inch mains, with hydrants at S. W. corner Bush and Fillmore, S. W. corner Bush and Steiner, S. E. corner Bush and Pierce, N. E. corner Pierce and Bush, S. E. corner Pierce and Pine, N. W. corner Pine and Pierce, N. side Pine, 206 feet W. of Pierce; N. E. and N. W. corners Pine and Scott, and N. E. corner Pine and Devisadero.

12-inch main on Sacramento street, from Devisadero to Central avenue, in place of 6-inch main, with hydrants at N. E. and N. W. corners of Sacramento and Broderick, N. E. and N. W. corners Sacramento and Baker, and N. E. and N. W. corners Sacramento and Lyon.

12-inch main on Devisadero street, from Golden Gate avenue to Clay, in place of 6-inch main, with hydrants at N. E. corner Devisadero and Turk, N. E. corner Devisadero and Eddy, N. E. corner Devisadero and Ellis, N. E. corner Devisadero and O'Farrell, N. E. corner Devisadero and Geary, S. E. corner Devisadero and Post, S. E. corner Devisadero and Sutter, S. E. corner Devisadero and Bush, S. E. corner Devisadero and California, S. E. corner Devisadero and Sacramento, and S. E. corner Devisadero and Clay.

8-inch main on Parker avenue, from Point Lobos avenue to St. Roses, and on St. Roses, from Parker avenue to Johnston avenue, in place of 4-inch main, with hydrants at S. W. corner Parker and Point Lobos avenues, N. W. corner St. Roses and Parker avenue, and N. W. corner Johnston avenue and St. Roses.

8-inch main on North Stanyan street, from Fulton to McAllister, thence on McAllister street to Parker avenue, thence on Parker avenue to Fulton, with hydrants at S. E. corner McAllister and N. Stanyan, S. W. corner McAllister and Parker avenue, and N. W. corner Fulton and Parker avenue.

8-inch main on Parnassus avenue, from Third avenue to Seventh avenue, thence to K, thence to Tenth avenue, in place of 4-inch main, as a feeder for the upper portion of the Sunset District.

8-inch main on Ninth avenue, from K to N, with hydrants at S. E. corner Ninth avenue and K, S. E. corner Ninth avenue and L, S. E. corner Ninth avenue and M, S. E. corner Ninth avenue and N.

8-inch main on Tenth avenue, from K to N, in place of 4-inch main, with hydrants at N. E. corner Tenth avenue and L, N. E. corner Tenth avenue and M, N. E. corner Tenth avenue and N.

8-inch main on H street, from Fourteenth avenue to Nineteenth, and on Nineteenth avenue, from H to K, in place of 4-inch main, with hydrants at S. E. corner Nineteenth avenue and H, and N. E. corner Nineteenth avenue and K.

8-inch main on I street, from Eighteenth avenue to Nineteenth avenue, with hydrant at N. W. corner I street and Eighteenth avenue.

8-inch main on Cliff avenue, from Cliff House to Ocean Boulevard, thence to B street, thence to Forty-ninth avenue, thence to Fulton street, thence to Ocean Boulevard, thence to J street, with hydrants at S. E. corner Ocean Boulevard and A, E. side Ocean Boulevard, between A and B, N. E. corner B and Ocean Boulevard, N. W. corner B and Forty-ninth avenue, E. side Forty-ninth avenue, between B and C, N. W. corner Fulton and Forty-ninth avenue, N. E. corner Fulton and Ocean Boulevard, S. E. corner Ocean Boulevard and H, S. E. corner Ocean Boulevard and I, and S. E. corner Ocean Boulevard and J.

12-inch main on Folsom street, from Steuart to Third, in place of 6-inch main, with hydrants at N. W. corner Folsom and Main, N. W. corner Folsom and Beale, N. W. corner Folsom and Fremont, N. W. corner Folsom and First, N. side Folsom, 200 feet W. of First, N. side Folsom, 200 feet E. of Second, N. E. corner Folsom and Second, N. side Folsom, 275 feet W. of Second, and N. E. corner Folsom and Third.

12-inch main on Main street, from Market to Harrison, in place of 6-inch main, with hydrants at S. E. corner Main and Market, E. side Main, 275 feet E. of Market, N. E. and S. E. corners Main and Mission, E. side Main, 275 feet S. of Mission, E. side Main, 275 feet S. of Howard, and N. E. and S. E. corners Main and Folsom.

12-inch main on Fremont street, from Market to Harrison, in place of 6-inch and 4-inch main, with hydrants at S. E. corner Fremont and Mission, E. side Fremont, 275 feet S. of Mission, S. E. corner Fremont and Howard, S. E. corner Fremont and Folsom, and E. side Fremont, 275 feet S. of Folsom.

12-inch main on Harrison, from Fremont to Beale, with hydrants at N. E. corner Harrison and Fremont and N. W. corner Harrison and Beale.

12-inch main on Post street, from Kearny to Market, thence to Second, thence to Folsom, in place of 6-inch, with hydrants at N. E. corner Post and Kearny, N. E. Second and Stevenson, N. E. corner Second and Jessie, S. E. corner Second and Mission, N. E. corner Second and Natoma, N. E. corner Second and Howard, N. E. corner Second and Clementina.

8-inch main on Folsom street, from Second to Hawthorne, thence on Hawthorne to Harrison, thence on Harrison to First, in place of 6 and 4-inch mains, with hydrants at S. E. corner Folsom and Hawthorne, E. side Hawthorne, 275 feet S. of Folsom; N. E. corner Hawthorne and Harrison; S. E. corner Harrison and Vassar Place; S. E. corner Harrison and Stanley Place; S. E. corner Harrison and Rincon Place and N. W. corner First and Harrison.

12-inch main on Bryant street, from Fourth to Ninth, in place of 8 and 6-inch mains, with hydrants at N. side Bryant, 412 feet W. of Fourth; S. side Bryant, 200 feet W. of Fifth; N. E. corner Bryant and Sixth, N. side Bryant opposite Boardman Place; N. E. corner Bryant and Seventh, N. W. corner Bryant and Chesley and N. E. and N. W. corners Bryant and Eighth.

8-inch main on Townsend street, from Fifth to Sixth, with hydrants at N. W. corner Townsend and Fifth and N. side Townsend, 275 feet W. of Fifth.

8-inch main on King, from Third to Fourth, in place of 6-inch main, with hydrant on S. side King, 206 feet W. of Third and 206 feet E. of Fourth.

8-inch main on Stevenson street, from Seventh street, 500 feet W., in place of 4-inch main, with hydrants on N. side Stevenson, 250 feet W. of Seventh and 500 feet W. of Seventh.

8-inch main on Jessie street, from Fourth street, 500 feet East, in place of 4-inch main, with hydrants on S. side Jessie, 250 feet E. of Fourth and 500 feet E. of Fourth.

8-inch main on Jessie street, from Sixth street, 500 feet west, in place of 4-inch main, with hydrants on N. side Jessie, 250 feet W. of Sixth and 500 feet W. of Sixth.

8-inch main on Jessie street, from Seventh 500 feet W., in place of 4-inch main, with hydrants on N. side Jessie street, 250 feet W. of Seventh and 500 feet W. of Seventh.

8-inch main on Minna street, from Fourth to Ninth, in place of 4-inch mains, with hydrants on S. side Minna, 275 feet W. of Fourth; S. E. corner Minna and Fifth, N. W. corner Minna and Fifth, N. W. corner Minna and Mary, N. E. corner Minna and Sixth, N. side Minna, 275 feet W. of Sixth; N. side Minna, 275 feet W. of Seventh and N. E. corner of Julia and Minna.

8-inch main on Natoma street, from First to Second, in place of 4-inch main, with hydrants at N. W. corner Natoma and First, N. side of Natoma, 275 feet W. of First and N. E. corner Natoma and Second.

8-inch main on Natoma street, from Third to Fourth, in place of 4-inch main, which is too small to supply the three hydrants connected therewith.

8-inch main on Natoma street, from Fifth to Eighth, in place of 4-inch main, with hydrants at N. W. corner Natoma and Mary, N. side Natoma, 275 E. of Sixth; N. side of Natoma, 200 feet W. of Sixth, N. W. corner Natoma and Seventh and N. side Natoma, 275 feet W. of Seventh.

8-inch mains on Tehama and Clementina streets, from First to Second, in place of 4-inch mains, with hydrants at S. W. corner Tehama and First, S. E. corner Tehama and Second, S. W. corner Clementina and First and S. W. corner Clementina and Second.

8-inch mains on Tehama and Clementina streets, from Fifth to Sixth, in place of 4-inch mains, with hydrants on N. side of Tehama, 275 feet W. of Fifth; N. side of Tehama, 275 feet E. of Sixth; N. E. corner Tehama and Sixth, N. W. corner Clementina and Fifth, N. side Clementina, 275 feet E. of Sixth.

8-inch main on Shipley street, from Fifth to Sixth, in place of 4-inch main, with hydrants at S. W. corner Shipley and Fifth, S. side Shipley, 275 feet W. of Fifth, S. side Shipley, 275 feet E. of Sixth and S. E. corner Shipley and Sixth.

8-inch main on Clara street, from Ritch to Sixth, in place of 4-inch main, with hydrants at Ritch opposite Clara, N. side of Clara, 300 feet W. of Ritch, N. W. corner Clara and Fourth, N. side Clara, 275 feet W. of Fourth, N. E. corner Clara and Fifth, N. side of Clara, 275 feet W. of Fifth and N. E. corner Clara and Sixth.

8-inch main on Perry street, from point 500 feet E. of Third to Fifth, in place of 4-inch and 3-inch mains, with hydrants on S. side of Perry, 500 feet E. of Third, S. side of Perry, 250 feet E. of Third, S. W. corner Perry and Third, S. side of Perry, 275 feet W. of Third, S. side of Perry, 275 feet E. of Fourth, S. W. corner of Fourth, S. side of Perry, W. of Fourth.

8-inch main on Silver street, from Second to Fourth, in place of 4-inch main, with hydrants at S. W. corner Silver and Second, S. side of Silver, 275 feet W. of Second, S. E. corner Silver and Third, S. side Silver, 275 feet W. of Third and S. E. corner Silver and Fourth.

12-inch main on Twelfth street, from Mission to Howard, and on Howard street from Twelfth to Eighteenth, in place of 4-inch main on Twelfth street and 6-inch main on Howard, with hydrants on E. side of Twelfth street opposite Glenn Park avenue; N. E. corner Twelfth and Howard, W. side Howard, 300 feet S. of Twelfth, S. W. corner Howard and Thirteenth, N. W. corner Howard and Erie, N. W. corner Howard and Fourteenth, W. side Howard, 200 feet S. of Fourteenth, N. W. corner Howard and Fifteenth, W. side Howard, 200 feet S. of Fifteenth, S. W. corner Howard and Sixteenth, W. side Howard, 200 feet S. of Sixteenth, S. W. corner Howard and Seventeenth, W. side Howard, 200 feet S. of Seventeenth and N. W. corner Howard and Eighteenth.

12-inch main on Dolores street, from Market to Eighteenth, in place of 6-inch main and 4-inch main, with hydrants at N. W. corner Dolores and Fourteenth, N. E. and S. E. corners Dolores and Sixteenth, E. side Dolores, 200 feet S. of

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Sixteenth, N. E. and S. E. corners Dolores and Seventeenth, N. E. corner Dolores and Dorland, and N. E. corner Dolores and Eighteenth.

8-inch main on Serpentine Place, from Temple to Lower Terrace, with hydrants on Serpentine Place opposite Temple and at S. W. corner Serpentine Place and Lower Terrace.

8-inch main on Caselli avenue, from Douglass to Danvers, in place of 4-inch main, with hydrants at N. W. corner Caselli avenue and Douglass, and N. E. corner Caselli avenue and Clover.

8-inch main on Nineteenth street, from Castro to Eureka, in place of 4-inch and 6-inch main, with hydrants at N. E. corner Nineteenth and Collingwood and N. W. corner Nineteenth and Diamond.

8-inch main on Church street, from Twenty-first to Twenty-second, in place of 6-inch main, with hydrant at S. W. corner Church and Hill.

8-inch main on Twenty-second street, from Sanchez to Vicksburg, with hydrant on Twenty-second opposite Vicksburg.

8-inch main on Hill street, from Noe to Castro, in place of 4-inch main, with hydrants on N. side of Hill, 280 feet W. of Noe, and N. E. corner Hill and Castro.

8-inch main on Alvarado street, from Sanchez to Castro, in place of 4-inch main, with hydrants at N. E. corner Alvarado and Sanchez, N. E. corner Alvarado and Noe, N. E. corner Alvarado and Castro.

8-inch main on Twenty-third street, from Church to Castro, in place of 6-inch main, with hydrants at N. E. corner Twenty-third and Vicksburg, N. E. and N. W. corners Twenty-third and Sanchez, N. side Twenty-third, 280 feet W. of Sanchez, and N. E. corner Twenty-third and Noe.

8-inch main on Noe street, from Twenty-eighth to Twenty-ninth, with hydrants at N. W. corner Noe and Valley, and N. W. corner Noe and Twenty-eighth.

8-inch main on Alameda street, from Kansas to Deharo, with hydrants at N. W. corner Alameda and Rhode Island, and N. W. corner Alameda and Deharo.

8-inch main on Sixteenth street, from Kansas to Deharo, with hydrants at N. W. corner Sixteenth and Rhode Island, and N. W. corner Sixteenth and Deharo.

8-inch main on Nineteenth street, from Pennsylvania avenue to Connecticut, in place of 4 and 6-inch mains, with hydrants at S. W. corner Nineteenth and Pennsylvania avenue, and S. W. corner Nineteenth and Missouri.

8-inch main on Twentieth street, from Arkansas to Mississippi, in place of 6-inch main, with hydrant at S. W. corner Twentieth and Texas.

8-inch main on Mississippi street, from Nineteenth to Twentieth, in place of 4-inch main, with hydrant at S. W. corner Mississippi and Nineteenth.

8-inch main on Twenty-fifth street, from Iowa to Pennsylvania avenue, thence to Army, thence to Holliday avenue, with hydrants at S. W. corner Pennsylvania avenue and Twenty-fifth, W. side Pennsylvania, 433 feet S. of Twenty-fifth, N. E. corner Army and Mississippi, N. E. corner Army and Missouri, N. E. corner Army and Connecticut, N. E. corner Army and Deharo, N. E. corner Army and Kansas, N. side Army opposite Holliday avenue.

8-inch main on Twenty-fifth, from San Bruno avenue to Vermont, and on Vermont from Twenty-fifth to Army, in place of 4-inch main, with hydrants at S. E. corner Vermont and Twenty-fifth, and E. side Vermont, 400 feet S. of Twenty-fifth.

12-inch main on San Bruno avenue, from Army street to Fifteenth avenue S., in place of 4-inch main, with hydrants at N. E. and S. E. corner San Bruno avenue and Army, E. side San Bruno, 330 feet S. of Army, E. side San Bruno avenue opposite Eve, E. side San Bruno avenue, 950 feet S. of Eve, E. side San Bruno avenue, 300 feet N. of Fifteenth avenue, South.

8-inch main on Sixth avenue South, from Railroad avenue to R street South, with hydrant on S. side Sixth avenue, 300 feet W. of P street South, S. E. corner Sixth avenue South and Q street South, S. side Sixth avenue South, 300 feet E. of Q street South, and S. E. corner Sixth avenue South and R street South.

8-inch main of Seventh avenue South and M street South, to L street South, with hydrants at S. W. corner Seventh avenue South and L street South.

8-inch main on Eighteenth avenue South and Railroad avenue, to L street South, with hydrant at N. W. corner Eighteenth avenue South and L street South.

8-inch main on Railroad avenue, from Fifteenth avenue South to Salinas avenue, with hydrants at S. W. corner Railroad avenue and Seventeenth avenue South, S. W. corner Railroad avenue and Bay View, N. W. corner Railroad and Thornton avenues, N. W. corner Railroad and Williams avenues, N. W. corner Railroad avenue and Twenty-fourth avenue South, N. W. corner Railroad avenue and Twenty-ninth avenue South, N. W. corner Railroad and Paul avenues, and N. W. corner Railroad and Salinas avenues.

8-inch main on N street South, from Fifteenth avenue South to Bay View street, with hydrants at N. W. corner N street South and Sixteenth avenue South, S. W. corner N street South and Seventeenth avenue South, S. W. corner N street South and Eighteenth avenue South, W. side N street South, opposite Bay View street.

8-inch main on Q street South, from Fifteenth avenue South to Seventeenth avenue South, with hydrants at S. W. corner Q street South and Sixteenth avenue South, and S. W. corner Q street South and Seventeenth avenue South.

8-inch main on Silver avenue, from Boylston to San Bruno avenues, in place of 6-inch main, with hydrants at N. E. corner Silver avenue and Boylston, N. W. corner Silver avenue and Merrill, N. W. corner Silver avenue and Barneveld.

8-inch main on San Bruno avenue, from Rickard to Ware, with hydrants at S. W. corner San Bruno avenue and Rickard, S. W. corner San Bruno and Sweeney, W. side San Bruno avenue opposite Sillman street, S. E. corner San Bruno and Thornton avenues, N. E. corner San Bruno avenue and Burrows, N. E. corner San Bruno avenue and Bacon, N. E. corner San Bruno avenue and Wayland, N. E. corner San Bruno avenue and Woolsey street, N. E. corner San Bruno and Paul avenues, and N. E. corner San Bruno avenue and Ware.

8-inch main on Bennington street, from Courtland avenue to East avenue, and on East avenue to Andover street, with hydrants at S. E. corner Bennington and Ellert, N. E. corner Bennington and East avenue, and N. W. corner East and Andover avenues.

8-inch main on Arlington street, from Charles to Natick, with hydrants at N. W. corner Arlington and Charles, N. W. corner Arlington and Miguel, N. W. corner Arlington and Mateo, N. W. corner Arlington and Roanoke, and N. E. corner Arlington and Natick.

8-inch main on Bosworth street, from Mission to Rousseau, with hydrants at N. E. corner Bosworth and Cuvier, and N. E. corner Bosworth and Rousseau.

12-inch main on Mission street, from Bosworth to Cotter, with hydrants on W. side Mission opposite Trumbull, W. side Mission opposite Marshall, and S. W. Mission and Tingley.

8-inch main on Silver avenue, from Mission to India avenue, with hydrant on Silver avenue opposite India avenue.

8-inch main on Russia avenue, from Mission to Madrid, with hydrants at S. W. corner Russia avenue and Paris, and S. W. corner Russia avenue and Madrid.

8-inch main on San Jose avenue, from Ocean avenue to Unadilla avenue, with hydrants at S. W. corner San Jose avenue and Geneva avenue, and N. W. corner San Jose avenue and Unadilla avenue.

8-inch main on San Jose avenue, from Broad to Lake View avenue, with hydrants at N. W. corner San Jose avenue and Farallones, and S. W. corner San Jose avenue and Lake View avenue.

8-inch main on Faxon avenue, from Grafton avenue to Ocean avenue, with hydrants on N. W. corner of Faxon and Grafton avenues, S. W. corner Faxon and DeMontfort avenues, and S. W. corner Faxon and Ocean avenues.

WATER RATES.

8-inch main on Capitol avenue, from Broad to Lobos, and on Lobos to Orizaba avenues, with hydrants at S. E. corner Capitol avenue and Farallones, S. W. corner Lobos and Capitol avenues, S. E. corner Lobos and Orizaba.

8-inch main on Sagamore street, from Capitol avenue to Orizaba avenue, with hydrant at S. E. corner Sagamore and Capitol avenues.

12-inch main on Sickles avenue, from San Jose avenue to Mission, and on Mission to Farragut avenue, with hydrants at S. W. corner Sickles and San Jose avenues, N. W. corner Sickles and Wyoming avenues, W. side Sickles avenue opposite Sears, N. W. corner Mission and Sickles avenue, N. W. corner Mission and Sherman avenue, and S. W. corner Mission and Farragut avenue.

I would respectfully recommend that the following hydrants be placed on mains already laid:

- S. E. corner Clay and Davis.
- S. W. corner Clay and Battery.
- N. W. corner Kearny and Sutter.
- W. side Kearny, opposite Summer.
- N. W. corner Mason and O'Farrell.
- S. W. corner Washington and Powell.
- S. W. corner Washington and Wetmore Place.
- S. W. corner Taylor and Bernard.
- N. W. corner Taylor and Lombard.
- S. W. corner North Point and Leavenworth.
- N. W. corner Hyde and Broadway.
- N. W. corner Hyde and Filbert.
- S. E. corner Laguna and Geary.
- N. E. corner Laguna and Pine.
- N. E. corner Buchanan and Pine.
- N. E. corner California and Webster.
- N. E. corner Sacramento and Webster.
- N. W. corner Haight and Fillmore.
- N. W. corner Haight and Steiner.
- N. W. corner Haight and Pierce.
- N. W. corner Haight and Broderick.
- N. E. corner Clayton and Haight.
- S. E. corner Central avenue and Sacramento street.
- N. E. corner Locust and Jackson.
- N. E. corner Washington and First avenue.
- S. E. corner Sixth avenue and A.
- S. E. corner Twentieth avenue and California.
- S. E. corner H and Fourteenth avenue.
- N. side of Mission, 206 feet W. of Sixth.
- S. W. corner Seventh and Irwin.
- E. side of Eighth, 275 feet S. of Brannan.
- N. E. corner Eighth and Townsend.
- S. E. corner Ninth and Mission.
- N. W. corner Howard and Ninth.
- E. side of Tenth, opposite Minna.
- N. W. corner Mission and Eleventh.
- S. E. corner Eleventh and Howard.
- E. side of Illinois, 325 feet S. of Twenty-second.
- W. side of Potrero avenue, opposite Twenty-second.
- N. W. corner Potrero avenue and Twenty-fourth.
- W. side of Potrero avenue, opposite Twenty-fifth.
- N. E. corner Twenty-fifth and Utah.

WATER RATES.

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- N. E. corner Twenty-fifth and Hampshire.
- N. E. corner Twenty-fifth and York.
- S. W. corner Chattanooga and Twenty-third.
- S. E. corner Eugenia avenue and Elsie.
- S. W. corner Eugenia avenue and North avenue.
- S. E. corner Eugenia avenue and Wool.
- S. W. corner Eugenia avenue and Moultrie.
- N. W. corner China avenue and London.
- S. W. corner Brazil avenue and Paris.
- S. W. corner Lisbon and Brazil avenue.
- S. W. corner Mission and Cotter.
- S. W. corner Mission and Francis.
- S. W. corner Mission and Croke.
- S. W. corner Mission and Norton.
- W. side of Mission, opposite Persia avenue.
- S. W. corner Broad and San Jose avenue.

The total number of hydrants embraced in the above recommendations, namely, 500, represents the urgent needs of the City at the present time, but many hydrants in addition to these must be set before the highest standard of efficiency can be attained.

I also desire to call your attention to the manner in which a 20-inch main from College Hill Reservoir feeds a 22-inch main and a 16-inch main. As these mains supply a considerable portion of the City, it is almost needless to state, that in case of an unusual drain upon them they would prove inadequate on account of the insufficient size of the main that feeds them. This was conclusively demonstrated at the time of the Baldwin Hotel Fire. During the progress of this fire, complaints were received from various portions of the City depending for water supply on the College Hill Reservoir. Persons residing in the vicinity of Twenty-fourth and Dolores streets could not obtain any water at all. Similar complaints were received from residents in the neighborhood of Fifteenth and Church streets, Waller and Steiner streets and Eddy and Hyde streets. In my headquarters, in Engine No. 2 on Bush street, the pressure was reduced to such an extent that the elevator could not be raised. Had another fire broken out on that morning in any of the districts depending on this water supply, it would have been impossible to check it.

Therefore, I would also recommend, as I have done on a previous occasion, that a new 22-inch main, from College Hill Reservoir to the point on Valencia street, between Twenty-fifth and Twenty-sixth streets, where the present main divides, be also laid.

Respectfully submitted,

D. T. SULLIVAN, Chief Engineer, S. F. F. D.

Approved by the Honorable Board of Fire Commissioners, February 23, 1901.

J. W. McCARTHY, Secretary.

The following opinion on the question of the power of the Board to compel the Spring Valley Water Company to lay mains of increased size, in order to secure ample fire protection, was filed by the City Attorney March 15, 1901:

COMMUNICATION FROM THE CITY ATTORNEY,

WITH HIS OPINION ON THE QUESTION OF THE POWER OF THE BOARD TO COMPEL THE SPRING VALLEY WATER WORKS TO LAY WATER MAINS OF INCREASED SIZE.

San Francisco, March 15th, 1901.

Gentlemen: I am in receipt of your communication dated March 5th, 1901, requesting an opinion "as to whether or not the City and County has the power to compel the Spring Valley Water Works to lay water mains of sufficient size and adequate to secure ample fire protection to the inhabitants of this City and County." The Chairman of the Judiciary Committee has supplemented this communication with another, in which it is said:

"The specific question is as stated by the Clerk of the Board, and the circumstances that gave rise to it are as follows: The Chief of the Fire Department advised the Board of Supervisors that it was necessary to lay certain mains in certain portions of the city, in order to protect them from destruction by fire. The Board thereupon directed the Spring Valley Water Works, at its own expense, to lay these mains for the accommodation of the fire hydrants which the City will itself place in connection with the mains. The Water Company replied that the laying of the mains would necessitate an outlay on its part of something over \$400,000. The Board thereupon replied: 'We will allow you interest upon the amount necessary to be expended by you in laying these mains—that is, we will allow you in the rates that we prescribe, giving you a reasonable interest—say five per cent upon the amount that will be necessary for you to invest.' Now then, the question for your determination, specifically, is this: Is the position of the Board of Supervisors well taken in law? In other words, can we say to this Water Company, 'You must lay those mains, and as long as we allow you a reasonable interest upon the investment that will be necessary thereby, you have no cause for complaint.'"

It appears from the above that the Board of Supervisors purposes allowing interest upon \$400,000, which has not yet been expended by the Spring Valley Water Company. Such action, from a legal standpoint, would be unwarranted. The principle is now thoroughly well established that in the fixing of water charges a reasonable rate of interest shall be allowed upon the plant and property actually used by the Company in the supplying of water. (San Diego Water Co. vs. San Diego, 118 Cal. 556; Redlands Water Co. vs. Redlands, 121 Cal., 365; San Diego Land Co. vs. National City, 174 U. S., 757.)

The people are not to be compelled to pay a higher price for water in order that the Company may be enabled to carry out projected improvements. It is only after such betterments have become part of the water supply system that the City may allow interest upon the investment made. Thus it is made plain that the question whether the Water Company may be forced to supply the needed mains does not depend upon it or in any way affect the matter of fixing water rates, except in this, that if the rate fixed or to be fixed allowance has been made for interest upon money not yet expended by the Company such allowance should be stricken out if that is possible and the water rates reduced by so much. If the City may force the laying of mains, it may do so whether interest is provided in advance or not. If it is the duty of the Water Company to lay these mains, it would be no defense on the part of the Company to claim that the City had not allowed interest on the cost of laying them, because the law does not permit the City to fix water rates according to what may be expended but upon the basis of what has been expended and is in use. On the part of the City it would not strengthen the City's right to compel the Company to lay mains by alleging that

the City had fixed water rates higher than they otherwise would have been, so as to allow for interest upon an investment that the Company has not made and refuses to make.

If litigation should ensue upon this question, no final determination thereof could be arrived at within two or more years. And if rates were so fixed during those two years as to give interest to the Water Company upon money which it had not invested and perhaps never could be compelled to invest, it is obvious that the people who paid the rates would be the loser, and not the Water Company, which would have received many thousand dollars for which it had given no return. I do not believe it to be the law and have found no authorities which hold that water rates are to be fixed contingently or upon the basis of the promises made by a water company that it will make certain improvements during the coming year.

The question, therefore, of compelling the laying of certain mains does not depend upon the action of the Board in fixing rates, and can be determined if need be after such rates are fixed as well as before.

On the general proposition, whether a water company can be compelled to lay water mains of an increased size so as to more fully protect the City against fire, I have discovered no authorities whatever, either adjudicated case or law writer's text, to sustain the contention of the Board.

If irrespective of the matter of water rates now under your consideration it is desired to determine the matter in the courts, I shall be pleased to institute such proceedings as you may suggest.

Respectfully,

FRANKLIN K. LANE.

NOTE.—Lord Chief Justice Coleridge, upon June 8, 1886, rendered the following opinion in deciding the case of Wells Water Co. vs. Wells Town Council (L. J. P. 135):

"I think the justices were wrong in the case. It is argued that a duty had been imposed on this water company not only to provide proper fire plugs, but to lay proper pipes in which to fix the fire plugs. It would be singular if this heavy responsibility should be laid on the company without clear and unmistakable words being used for the purpose. The contention is, that the duty, if not expressed, is to be implied. But on reading the forty-first section, where an occupier of a factory made demand to have a fire plug, it is stated that this is to be done at the expense of the owner or occupier who demands it. I think that implies that if the owner or occupier complains that the fire plug was insufficient because of the water pipe being too small, he would have to bear the expense also of a larger pipe being laid down. We may infer from that section that no further burden as regards laying down larger pipes was laid on the company. Again, in the thirty-seventh section, as to the fire plugs, while the company are declared to be bound to keep constantly laid on a supply of water in the pipe, except during frost or unavoidable accident, nothing is said as to any obligation to lay down larger pipes. I cannot, therefore, infer that any duty is imposed on the company to enlarge the pipe at their own expense. It may be true that the water company have a monopoly of the water supply, but at the same time many burdens, on the other hand, are laid upon the water company, and no such burden as is now sought to be imposed on the company is to be found among those specified. I think, therefore, our judgment must be for the appellant." Cave, J. concurred.

WATER RATES.

Bill 324, fixing and establishing water rates for 1901-02, came up on final passage March 11, 1901, and was laid over one week until H. F. A. Schussler, Chief Engineer of the Spring Valley Water Works, could furnish the members with printed copies of his "Review on the Water Rate Question."

Bill 324 was taken up on March 18, 1901, and after sundry amendments offered thereto were defeated, the question was taken on final passage and lost, and notice of reconsideration given.

On March 25, 1901, the vote whereby Bill 324 was defeated was reconsidered and the Bill again placed on final passage.

The question was taken and lost, and after the rules had been suspended to admit, notice of reconsideration was again given.

On April 1, 1901, the vote was again reconsidered, and Bill 324 finally passed and numbered Ordinance 264.

ORDINANCE FIXING WATER RATES FOR THE FISCAL YEAR 1901-02.

BILL No. 324—ORDINANCE No. 264.

Regulating the monthly rates of compensation to be collected by any person, company or corporation engaged in the business of supplying water to the inhabitants of the City and County of San Francisco for family uses, for private purposes, for municipal uses and all public purposes of said city and county for the year commencing July 1, 1901, and ending June 30, 1902.

Be it ordained by the people of the City and County of San Francisco,

That the monthly rates of compensation for supplying water be as follows:

GENERAL RATES.

SECTION 1. For buildings occupied by a single family, covering a ground surface of (not including porches):

SQUARE FEET.	ONE STORY.	TWO STORIES.	THREE STORIES.	FOUR STORIES.	FIVE STORIES.
0 to 400.....	\$0.22	\$0.27	\$0.36	\$0.41	\$0.45
400 to 500.....	.27	.36	.41	.45	.54
500 to 600.....	.36	.41	.45	.54	.63
600 to 700.....	.41	.45	.54	.63	.68
700 to 800.....	.45	.54	.63	.68	.72
800 to 900.....	.54	.63	.68	.72	.76
900 to 1,000.....	.63	.68	.72	.76	.86
1,000 to 1,200.....	.68	.72	.76	.86	.90
1,200 to 1,400.....	.72	.76	.86	.90	.94
1,400 to 1,600.....	.76	.86	.90	.94	.99
1,600 to 1,800.....	.86	.90	.94	.99	1.03
1,800 to 2,000.....	.90	.94	.99	1.03	1.08

The foregoing rates also apply to public buildings. No single rate less than twenty-two (22) cents.

For all houses one story in height covering a greater area than two thousand square feet there shall be added nine (9) cents for each additional two hundred square feet or fraction thereof, and the further sum of nine (9) cents for each additional story.

ADDITIONAL FAMILIES.

Where a house or building is occupied by more than one family the general rate for each additional family shall be three-quarters ($\frac{3}{4}$) of the foregoing rates, except:

First—Where a house or building is divided into flats, each flat having a separate entrance and occupied by a separate family, the general rate charged shall be the same for each flat as for a single house of like dimensions.

Second—Where two or more families occupy the same floor, the general rates for each family on such floor shall be the rate for the floor surface occupied by such family (the same as for a single one-story house), according to the foregoing table.

NOTE.—The general rate includes water for general household purposes, but does not include any of the following specified rates:

SPECIAL RATES—BATHING TUBS.

SECTION 2. Bathing tubs in private houses—

Each tub	\$0 32
In public houses, boarding-houses, lodging-houses, hotels and bathing establishments where meters are not used—	
Each tub	\$0 45

SECTION 3— FOR HORSES AND COWS.

For each horse.....	\$0 18
For each cow.....	0 09

BOARDING AND LODGING HOUSES, ETC.

SECTION 4. Boarding and lodging-houses, not including water for baths, water-closets and urinals, or for water without the houses shall be charged for each boarder and lodger within the same in addition to the rates for private families..... \$0 07

IRRIGATION, GARDENS, ETC.

SECTION 5. Irrigation for gardens and grounds, one-half ($\frac{1}{2}$) of a cent per square yard; no monthly charges to be less than fifteen (15) cents.

SECTION 6— WATER-CLOSETS.

For each valve-closet for use of public building	\$0 45
For each valve-closet for use of private dwelling	0 22
Privy vaults (connected with sewer):	
For use of public building, each seat	\$0 41
For use of private dwelling, each seat	0 22
All drain closets to be charged at the same rate as privy vaults.	

SECTION 7 — URINALS AND STATIONARY WASHSTANDS.

For use of public buildings, each	\$0 09
For use of private dwellings, each	0 05

BUILDING PURPOSES.

SECTION 8. Water furnished for building purposes—

Each barrel of lime or cement.....	\$0 14
Each thousand of brick	0 09

STORES, BANKS, SALOONS, HOTELS, ETC.

Stores, banks, bakeries, offices, warehouses, saloons, groceries, eating-houses, barber shops, butcher shops, book binderies, blacksmith shops, confectioners, hotels, lodging-houses, boarding-houses, churches, halls, laundries, photograph galleries, printing offices, steam engines, greenhouses, markets, market stalls, horse troughs, soda fountains and other places of business, each to be charged according to the estimated quantity used, from eighty-one (81) cents to five 40-100 dollars (\$5.40) or by meter at meter rates.

SECTION 9— FIRE-PIPES.

Meters shall be applied to all pipes used specially for fire protection and monthly bills shall be charged for the same at regular meter rates; provided, however, that the monthly bill shall not be less than fifty (50) cents for each one-half ($\frac{1}{2}$) inch of diameter of pipe used.

METER RATES.

SECTION 10. Water furnished for any and all purposes not embraced in the above shall be supplied by meter at the following rates:

WATER RATES.

The first 2,000 cubic feet used (between 0 and 2,000 cubic feet) shall be charged for at the rate of twenty-five (25) cents per 100 cubic feet.

The next 2,000 cubic feet used (between 2,000 and 4,000 cubic feet) shall be charged for at the rate of twenty-four (24) cents per 100 cubic feet.

The next 2,000 cubic feet used (between 4,000 and 6,000 cubic feet) shall be charged for at the rate of twenty-two (22) cents per 100 cubic feet.

The next 2,000 cubic feet used (between 6,000 and 8,000 cubic feet) shall be charged for at the rate of twenty-one (21) cents per 100 cubic feet.

The next 2,000 cubic feet used (between 8,000 and 10,000 cubic feet) shall be charged for at the rate of twenty (20) cents per 100 cubic feet.

The next 5,000 cubic feet used (between 10,000 and 15,000 cubic feet) shall be charged for at the rate of nineteen (19) cents per 100 cubic feet.

The next 5,000 cubic feet used (between 15,000 and 20,000 cubic feet) shall be charged for at the rate of eighteen (18) cents per 100 cubic feet.

The next 5,000 cubic feet used (between 20,000 and 25,000 cubic feet) shall be charged for at the rate of seventeen (17) cents per 100 cubic feet.

The next 5,000 cubic feet used (between 25,000 and 30,000 cubic feet) shall be charged for at the rate of sixteen (16) cents per 100 cubic feet.

The next 10,000 cubic feet used (between 30,000 and 40,000 cubic feet) shall be charged for at the rate of fifteen (15) cents per 100 cubic feet.

The next 10,000 cubic feet used (between 40,000 and 50,000 cubic feet) shall be charged for at the rate of fifteen (15) cents per 100 cubic feet.

The next 10,000 cubic feet used (between 50,000 and 60,000 cubic feet) shall be charged for at the rate of fourteen (14) cents per 100 cubic feet.

The next 10,000 cubic feet used (between 60,000 and 70,000 cubic feet) shall be charged for at the rate of thirteen (13) cents per 100 cubic feet.

All water used in excess of 70,000 cubic feet per month to be charged for at the rate of twelve (12) cents per 100 cubic feet.

No monthly meter bill to be less than one \$0-100 dollars (\$1.80), except as hereafter provided.

Upon application of any ratepayer, the Board of Supervisors shall reserve the right, upon a proper showing of cause, to require the company to put in a meter and charge meter rates for any consumer of water, on such conditions as the Board may impose as to the rental when meter is not actually used.

METER RATES FOR SHIPPING.

Water shall be furnished and delivered by meter measurement to shipping lying alongside of the bulkhead or any of the wharves on the water front where water pipes or mains are laid, between the hours of 6 o'clock A. M. and 6 o'clock P. M. daily upon application being made therefor, at the following rates:

\$1.50 per 1000 gallons, the minimum charge for each separate delivery to be fifty (50) cents.

No water boat furnishing and supplying water to shipping lying at anchor within the limits of the wharves of the City and County of San Francisco shall charge a rate to exceed three (\$3.00) dollars per 1000 gallons.

HYDRANT RATES.

SECTION 11. The rates or compensation to be collected for water supplied by and through hydrants to the City and County of San Francisco shall be eighty thousand (\$80,000.00) dollars in full of all compensation for the fiscal year ending June 30, 1902, for fire purposes and flushing of sewers.

PREVENTION OF WASTE.

SECTION 12. Prevention of waste or excessive use.—In no case where the fixed rates above provided, other than meter rates, are applicable, shall any charge for water be made by meter rates, it being the purpose of this Ordinance to provide for all dwelling-houses a fixed monthly rate, which shall not be increased by the person, company or corporation supplying water.

Provided, however, that for the purpose of discovering and repressing waste or excessive use, all persons, companies or corporations shall have the right in all cases to apply and maintain meters to measure the water used or consumed, and to charge and collect for waste or excessive use under the conditions and to the extent hereafter provided in this section, and not otherwise.

No consumer shall be deemed guilty of waste or excessive use unless the water used or consumed upon his premises in any month shall exceed by fifty (50) per cent the number of cubic feet which at regular meter rates amounts to his rate bill, in which case such excess shall be deemed waste or excessive use.

Immediately after the discovery of any waste or excessive use the consumer shall be notified thereof by the person, company or corporation supplying water, by notice mailed to his address

or to the agent or person to whom his water bills are presented for collection. After such notice the consumer may be charged and there may be collected from him for any waste or excessive use thereafter occurring upon his premises at regular meter rates, but such charge or collection shall not exceed for the first month the sum of two (\$2.00) dollars, for the second month the sum of four (\$4.00) dollars or for any following month the sum of five (\$5.00) dollars.

BOARD OF PUBLIC WORKS TO EXAMINE COMPLAINTS, ETC.

It shall be the duty of the Board of Public Works, by its Gas, Water and Electrical Inspector of this city and county, to inquire into all cases of complaints by water consumers, as to charges made against them for waste or excessive use under the foregoing provisions of this section, and to adjust such charges as follows:

Any water consumer against whom a water bill is presented containing a charge for waste or excessive use of water may, within five days after such bill is presented to him (provided that he first pay the fixed rate charged on such bill, exclusive of the charge made for said alleged waste or excessive use) make complaint to said Inspector that such charge is incorrect, whereupon the said Inspector shall promptly inspect the premises of the consumer so complaining and cause a test to be made of the water meter upon said premises, and from such inspection and test and subsequent inspection and test as said Inspector may see fit and proper to make, shall determine as near as can be the amount of water used, consumed or wasted upon said premises during the period covered by said bill. As soon as such determination is made, and within twenty (20) days after the said complaint is made, said Inspector shall make a certificate, stating amount of water so determined to have been used, consumed or wasted, and showing the true and correct amount, if anything, which may be charged against and collected from said consumer under the foregoing provisions of this section for waste or excessive use, and shall immediately transmit such certificate to the person, company or corporation supplying water, and also a copy thereof by mail to the water consumer.

The said certificate shall be conclusive between the water consumer and said person, company or corporation as to the amount, if anything, which said person, company or corporation shall be entitled to collect from the consumer for waste or excessive use of water during the period covered by the bill of which complaint is made; provided, however, that if either the consumer or the water company is dissatisfied with the certificate of the Water Inspector, appeal may be taken within five (5) days to the Committee on Water and Water Supply of the Board of Supervisors, which shall, within five days after such appeal, hear and finally determine the matter in dispute.

The said Inspector shall keep in his office a proper record or records showing the date of each complaint made to him, the name of the consumer complaining, the location of his premises, and stating briefly the inspection made by him of the premises and the tests applied to the meter, the time or times of such inspection and tests, and the results thereof, with the reading of the meter at each test or inspection, and all other material facts connected therewith. Such records so kept to be open for public examination in his office.

RATES, WHEN PAYABLE.

SECTION 13. All water rates, except meter rates and city and county rates, are due and payable monthly in advance.

Meter and city and county rates are due and payable at the end of each month, and upon meter rates a deposit not exceeding three-fourths ($\frac{3}{4}$) of the value of the estimated quantity of water to be consumed may be required.

NOTICE OF DISCONTINUANCE.

SECTION 14. Any consumer may at any time, upon payment of accrued rates, notify the company in writing to cut off or discontinue the water supply upon his premises, after which no charge shall be made for water for said premises until the use of water is resumed.

MAXIMUM RATES FIXED.

SECTION 15. This Ordinance fixes the maximum, beyond which no person, company or corporation shall be permitted to charge for water supplied.

In Board of Supervisors, San Francisco, April 1, 1901.

After having been published five successive days, according to law, taken up and passed by the following vote:

Ayes—Supervisors Baxton, Braunhart, Conn r, Curtis, D'Arcuna, Dwyer, Fontana, Hotaling, Sanderson, Stafford, Tobin, Wilson.

Noes—Supervisors Booth, Brandenstein, Comte, Jennings, McCarthy, Reed.

JNO. A. RUSSELL, Clerk.

Approved, San Francisco, April 1, 1901.

JAS. D. PHELAN,

Mayor and ex-officio President of the Board of Supervisors

WATER RATES.

The following statement was filed by the Visitacion Water Company, to wit:

STATEMENT OF THE VISITACION WATER COMPANY.

(Filed January 30, 1901.)

INCOME AND EXPENDITURES.	AMOUNT.	TOTAL.
RECEIPTS.		
For water supplied consumers.....	\$6,485 95	
Connections.....	45 50	
Sundries	41 70	
Total income for year 1900		\$6,573 15
DISBURSEMENTS.		
For coal and cartage.....	\$2,375 29	
For labor and maintenance.....	3,086 71	
Taxes.....	136 10	
Total expenditures for the year 1900.....		\$5,598 10

RECAPITULATION.

For Prior Years, and until December 31, 1900.	Gross Amount Expended for Purchase, Construction and Maintenance of Works.	Gross Cash Receipts.
1884.....	\$73,693 95	\$73,728 90
1885.....	36,290 36	37,561 73
1886.....	13,063 83	11,757 51
1887.....	12,183 35	12,183 35
1888.....	14,917 36	15,260 20
1889.....	10,391 73	16,731 22
1890.....	11,830 45	18,049 58
1891.....	12,933 06	17,824 46
1892.....	13,049 29	18,141 95
1893.....	8,639 59	16,919 30
1894.....	9,520 08	16,404 45
1895.....	9,881 71	15,645 85
1896.....	9,255 15	15,027 10
1897.....	8,271 21	14,068 95
1898.....	8,878 49	13,430 77
1899.....	9,666 84	10,089 60
1900.....	5,598 10	6,573 15

During the course of the water rates investigation the Spring Valley Water Works filed the following statements, which show in detail the nature and cost of its various properties:

INVENTORY OF PROPERTY OF THE SPRING VALLEY WATER WORKS.
PILARCITOS.

One earth dam, with clay puddle wall.
 Height above valley..... 90 feet
 Depth of puddle pit below valley..... 45 feet

 Total height.....135 feet

Reservoir capacity nearly one thousand million gallons.

Large brick tunnel, waste weir, with gate-house, and four heavy large iron gates, with hoisting gear and building.

Large chute, partly of brick and the rest of timber, connected with waste weir outlet.

One earth dam, called the "upper dam," thirty-five (35) feet in height.

One dwelling-house of keeper, men's quarters, barn and outhouses.

One stone and brick outlet gate-house, with two heavy iron gates, with hoisting apparatus.

Eleven thousand (11,000) feet of 14x42 inch wooden side flume and feeders, with diverting dams.

One thousand five hundred and fifty (1,550) feet tunnel, 42x54 inches in the clear, brick lined.

Two hundred and eighty (280) feet large wooden flume on trestle, and waste and measuring tank.

Three thousand four hundred and twenty (3,420) feet tunnel, 42x54 inches in the clear, brick lined.

Seven hundred and fifty (750) feet forty-four (44) inch wrought-iron pipe, with manholes, blow-offs and air-valves, and one iron bridge on concrete piers.

Two thousand two hundred (2,200) feet wooden flume, 36x72 inches, with regulating tank 12x40 feet.

Main conduit consisting of:

Seven hundred and seventy-six (776) feet twenty-four (24) inch cast-iron pipe;

Two thousand three hundred and ninety-four (2,394) feet twenty-two (22) inch wrought iron pipe;

Sixty-four thousand two hundred and eighty (64,280) feet thirty (30) inch wrought-iron pipe and bridges, manholes, blow-offs, air-valves, etc.;

Five thousand three hundred (5,300) feet wooden flume, 16x40 inches;

Eight hundred and fifty (850) feet thirty (30) inch wrought-iron pipe;

Two thousand eight hundred and twenty (2,820) feet tunnel, 36x52 inches, brick lined;

One (1) measuring tank;

One (1) screen tank;

One (1) large wooden tank, one-half million gallons capacity.

Mem.—From here the water discharges into Lake Honda Reservoir, in San Francisco. (See San Francisco Distributing System.)

SAN ANDRES.

One earth dam, with clay puddle wall.
 Height above valley..... 90 feet
 Depth of puddle pit below valley..... 45 feet

 Total height.....135 feet

Reservoir capacity nearly six thousand million gallons.

Large brick tunnel, waste weir, with gate-house and three (3) heavy, large, brass-faced iron gates, 4x5 feet, and hoisting apparatus. Timber chute connected with waste weir outlet.

Dwelling-house of keeper, barn and outhouses.

Two (2) outlet gate-wells, one of brick, twenty-six (26) feet in diameter, about ninety (90) feet deep, connected with reservoir by brick tunnel and thirty-eight (38) inch heavy iron inlet pipe on brick piers, and thirty-eight (38) inch gate and hoisting apparatus.

Second forebay of concrete in three (3) compartments, with four (4) large, heavy, brass-faced gates, connected with the above brick forebay and with sub-forebay lake.

Feeder conduit two thousand seven hundred and fifty (2,750) feet of wooden flume, 18x40 inches, and about three thousand five hundred (3,500) feet of twenty-two (22) inch wrought-iron pipe (waste from Pilarcitos).

Davis tunnel, heavily concrete lined, four (4) feet four (4) inches by four (4) feet eight (8) inches, one thousand two hundred (1,200) feet long; inlet flume and concrete dam and feed ditch; heavy wooden chute one thousand four hundred (1,400) feet long, tapering from four (4) feet by six (6) feet to three (3) feet by four (4) feet.

Two thousand eight hundred and twenty (2,820) feet of tunnel 42x54 inches in clear, brick lined.

One (1) measuring tank.

One (1) large screen tank.

Twenty-nine thousand (20,000) feet forty-four (44) inch heavy pipe, wrought-iron, with iron bridges on concrete piers, manholes, blow-offs, air-valves, culverts, etc.

About one thousand four hundred (1,400) feet thirty-seven (37) inch wrought-iron pipe on heavy high-piled trestle at Baden, including gate.

About nine hundred (900) feet of piled bulkhead on nine (9) acre tract, Baden.

Thirty-nine thousand five hundred and thirty-nine (39,539) feet thirty (30) inch wrought-iron pipe, with manholes, blow-offs, air-valves and bridges.

One (1) aerator, near College Hill Reservoir, with thirty (30) inch gate and stand-pipe.

This water discharges into the College Hill Reservoir in San Francisco.

CRYSTAL SPRINGS.

One earth dam, with clay puddle wall, called "upper dam."

Height above valley..... 75 feet

Depth of puddle pit below valley..... 98 feet

Total height from bottom of cut.....173 feet

One tunnel, brick lined, about eight hundred (800) feet in length, with inlet stand-pipe and brick tower, with forty-two (42) inch brass-faced heavy gate and hoisting gear and forty-two (42) inch heavy wrought-iron pipe; one double heavy concrete waste weir, tunnel and chute.

One large concrete dam.

Height above valley.....145 feet

Depth of crosscut..... 15 feet

Total height.....160 feet

Present reservoir capacity about nineteen thousand million gallons.

One brick gate-tower fourteen (14) feet diameter in clear, one hundred and fifty (150) feet deep, connected with reservoir by three (3) forty-four (44) inch cast-iron pipes incased with brick arch and three (3) heavy brass-lined forty-four (44) inch gates, with one fifty (50) inch cast and wrought iron stand-pipe one hundred and fifty (150) feet high.

One brick tunnel, 7 feet 6 inches diameter, about three hundred and sixty (360) feet long, containing a fifty-four (54) inch iron pipe of same length.

One (1) brick gate-well with heavy forty-four (44) inch brass-faced regulating gate.

Concrete wall at north end of dam, in cut twelve (12) feet wide, eighty (80) feet deep and about three hundred (300) feet long. Heavy clay embankment east and west over the same.

Three keepers' houses, men's quarters and stables.

Eighty-seven thousand one hundred and eighty-eight (87,188) feet of forty-four (44) inch wrought-iron pipe, with many bridges, manholes, blow-offs, air-valves, and about five thousand for hundred (5,400) feet of pile trestle bridge and one thousand three hundred and seventy (1,370) feet of concrete pier bridge.

Three hundred (300) feet tunnel (brick around forty-four (44) inch pipe.)

Two thousand one hundred and forty-five (2,145) feet brick tunnel, 52x56 inches.

One large measuring and screen tank, with house.

From this screen tank the water discharges into the University Mound Reservoir, or into the forty-four (44) inch city main pipe direct.

LOCKS CREEK AQUEDUCT.

Fifteen thousand one hundred and fifty (15,150) feet redwood flume, 16x32 inches.

Twenty-six thousand five hundred (26,500) feet redwood flume, 18x32 inches.

Ten thousand (10,000) feet redwood flume, 12x14 inches.

Eleven thousand nine hundred (11,900) feet twenty-two (22) inch wrought-iron pipe.

One (1) granite and brick dam, about thirty-five (35) feet high, with waste weir and blow-off gate.

Four thousand three hundred (4,300) feet redwood flume, 32x60 inches.

Three thousand two hundred (3,200) feet brick lined tunnel, 42x45 inches in clear.

Eleven thousand six hundred and ninety-five (11,695) feet redwood flume, 36x60 inches, with several high trestles.

One (1) earth dam, twenty (20) feet above valley, with puddle pit and deep puddle trench, with concrete waste weir connecting with large timber chute and 12-inch waste pipe and gate.

One (1) concrete dam, about forty-two (42) feet high, with waste weir and sixteen (16) inch cast-iron outlet and gate.

One large settling tank.

Three thousand five hundred and thirty (3,530) feet concrete-lined tunnel, 52x54 inches.

Two thousand nine hundred and eighty (2,980) feet wooden flume, 48x72 inches.

Two thousand one hundred (2,100) feet forty-four (44) inch wrought-iron pipe, with manholes, blow-offs, etc., and two (2) mouthpieces.

Nine thousand six hundred and thirty (9,630) feet 48x72 inch redwood flume and several large trestles near San Andres Dam.

Five hundred and thirty (530) feet 48x72 inch concrete aqueduct.

Four hundred (400) feet forty-four (44) inch pipe, wrought-iron (chute into lake).

One (1) keeper's house and men's quarters, and stable and storehouse.

WATER RATES.

SEARSVILLE.

- One (1) concrete dam, height about seventy-five (75) feet.
 Machinery platform.
 One (1) watchman's house and barn and men's quarters.
 Two (2) cast-iron outlet pipes, sixteen (16) inch diameter, with gates.

PESCADERO CREEK.

- One (1) watchman's house.

ALAMEDA PIPE LINE.

Masonry bedrock dam across Alameda Creek, two and one-fourth (2¼) miles above Niles. Gate-tower with gate near dam.

Stone aqueduct, three (3) feet six (6) inches by three (3) feet, arched over by brick arch (with many manholes), two thousand seven hundred (2,700) feet long.

Stone screen and settling tank, seventy-six (76) feet long by seventeen (17) feet wide, nine (9) feet deep, with building over same.

Wooden screen and settling tank, sixty-one (61) feet long by twenty (20) feet wide, eight (8) feet deep, with building over same.

Three thousand two hundred and thirty-three (3,233) feet of covered redwood flume, forty-eight (48) inches wide by thirty (30) inches deep.

Keeper's house and barn.

Pratt truss iron bridge over Alameda Creek, near Niles, in three (3) spans of one hundred and thirty-four (134) feet two (2) inches each, on iron cylinders filled with concrete.

Nineteen thousand (19,000) feet trestle on piles over salt marsh, east and west side San Francisco Bay, pipe boxed in for two thousand five hundred (2,500) feet.

Four (4) gate-houses on piles, for submarine connections.

Two (2) frame dwelling-houses.

Thirteen thousand six hundred (13,600) feet submarine pipe, sixteen (16) inches diameter, three-tenths (3-10) of an inch thick, under San Francisco Bay.

One hundred and forty-four thousand seven hundred and four (144,704) feet of thirty-six (36) inch wrought-iron pipe; heavy, horizontal thirty-six (36) inch brass-faced gate in brick chamber, and 44 inch by 36 inch connection piece at Burlingame; also about eight hundred (800) feet of four (4) inch iron pipe, with many manholes, blow-offs, air-valves, bridges, etc.

Submarine connections, four (4) complete sets, with two (2) large air-chambers, shock-valves, four (4) large iron screen drums, with brass screens, manholes, blow-offs and pressure gauges, heavy brass-faced gates and other connections.

One measuring and screen tank at San Mateo, with supply and waste connections.

SAN FRANCISCO RESERVOIRS AND PIPE SYSTEM.

LAKE HONDA—Capacity, thirty-three million gallons.

Brick and concrete lined, with brick gate well and two concrete regulating wells, with seven large brass-faced gates, two large check valves, gears, gates, etc.

Brick-lined outlet tunnel, two hundred and seventy-five (275) feet long, containing sixteen (16) inch pipe with gates and check valve.

Brick-lined outlet tunnel, six (6) feet in clear, about two hundred (200) feet long.

Keepers' houses, stable, fences, sewer forebays and complete sewer system, etc.

UNIVERSITY MOUND RESERVOIR—Capacity, thirty-three million gallons.

Earth embankment, lined with concrete, felt and asphaltum on sides and bottom.

Brick gate well and brick-lined tunnel six (6) feet nine (9) inches in clear, ninety-seven (97) feet long; screens and two large, brass-faced gates.

Keeper's house, stable, fences, sewers, etc.

COLLEGE HILL RESERVOIR—Capacity, fifteen million gallons.

Clay embankment lined with stone.

Brick gate well with gates and brick lined outlet tunnel, one hundred and eight (108) feet long, with heavy brass-lined gate.

Keeper's house, stable, fences, etc.

CLAY STREET TANK—Capacity, two hundred and twelve thousand gallons.

Iron, circular, sixty (60) feet diameter by ten (10) feet deep, set on concrete foundation, gates, etc.

Concrete retaining wall, about seven hundred (700) feet long, five (5) feet nine (9) inches high.

Concrete stairs on rear alley, fences.

LAFAYETTE TANK—Capacity, seventy-two thousand gallons.

Redwood, sixty (60) feet long by thirty (30) feet wide by seven (7) feet deep; fence.

Twenty-two (22) inch iron standpipe with base and sixteen (16) inch overflow pipe.

UPPER RUSSIAN HILL—Capacity, when full, about three million seven hundred thousand gallons.

Clay embankment lined with brickwork.

Brick gate well, gates.

Keepers' houses, fences.

Heavy concrete retaining wall on Lombard street.

LOWER RUSSIAN HILL—Capacity, about six million gallons, when full.

Clay embankment lined with brickwork.

Brick gate well, gates and brick-lined outlet tunnel, four (4) feet eight (8) inches in clear, one hundred and fifty (150) feet long, heavily brick lined.

CLARENDON HEIGHTS TANK—Capacity, five hundred and sixty-four thousand gallons.

Steel, circular, eighty (80) feet diameter by fifteen (15) feet deep, set on concrete foundation, gates, etc.

POTRERO HEIGHTS RESERVOIR—Capacity, about one million gallons.

Excavated in rock, brick lined.

Concrete gate well, gates and brick-lined outlet tunnel, five (5) feet in clear.

Keeper's house, fence around reservoir, wooden tank.

PIPE LAID IN SAN FRANCISCO.

CITY DISTRIBUTING SYSTEM SUPPLIED FROM CITY RESERVOIRS.

CAST-IRON PIPE.

SIZE OF PIPE.	FEET OF PIPE.	SIZE OF PIPE.	FEET OF PIPE.
3-inch.....	129,411	16-inch.....	100,345
4-inch.....	340,279	20-inch.....	21,826
6-inch.....	570,764	22-inch.....	23,488
8-inch.....	585,789	24-inch.....	11,727
10-inch.....	9,912	30-inch.....	4,494
12-inch.....	212,337		

WROUGHT-IRON PIPE.

13-inch.....	850	33-inch.....	2,510
22-inch.....	21,201	37½-inch.....	13,312
30-inch.....	12,514	44-inch.....	9,231

Mem.—Cast-iron pipe is extra heavy, especially from 8-inch upward.

Bituminous and other pavements cut, mended and replaced in first-class order.

All fittings, as gates, gate-boxes and covers, lead elbows, crosses, tees, bolts, straps, plugs, etc., wharf hydrants and wharf connections hung from wharves, and all other work required for a first-class distributing system.

About two hundred and twenty-seven (227) miles of service pipe from one-half (½) to two (2) inches diameter.

Five thousand two hundred and eighty-nine (5,289) regular meters and about four thousand five hundred and sixty-seven (4,567) trial meters, with boxes, covers, connections, etc., and all other work necessary for a complete service pipe system.

Seven hundred and eighty-six (786) feet piled trestle over Islais Creek, carrying forty-four (44) inch pipe, boxed in.

Two hundred and twenty-four (224) feet tunnel forty-four (44) inch pipe, bricked in.

Eight hundred and sixty (860) feet piled trestle over Islais Creek, carrying forty-four (44) inch pipe.

One thousand one hundred and twenty (1,120) feet tunnel, forty-four (44) inch pipe bricked in.

At Lake Honda, five hundred and eight (508) feet tunnel, concrete sides, bottom and top, five (5) feet six (6) inches in clear, carrying thirty (30) inch pipe.

At Lake Honda, five hundred and eighty (580) feet sewer tunnel, with six hundred and fifty (650) feet of twenty-four (24) inch cast-iron pipe, concreted in.

Company's office, stable and buildings, blacksmith shop and sheds at pipe yard.

Horses, trucks, wagons, harness, blacksmith's supplies and tools, cast-iron fittings, lead, sleeves, meters, tools and entire equipment for work of company in city and county mains, for painting, coating, laying, repairing pipe, and for excavating and refilling trenches, mending pavements, etc.

Yard paved and graded and fenced.

One (1) upright hoisting engine.

PIPE AND MATERIALS ON HAND (CONTINUED) IN COMPANY'S YARD, SAN FRANCISCO.

654 feet 3-inch cast-iron.

908 feet 4-inch cast-iron.

- 1,962 feet 6-inch cast-iron.
- 3,592 feet 8-inch cast-iron.
- 120 feet 10-inch cast-iron.
- 18,228 feet 12-inch cast-iron.
- 7,066 feet 16-inch cast-iron.
- 1,520 feet 20-inch cast-iron.
- 242 feet 22-inch cast-iron.
- 3,000 feet 24-inch cast-iron.
- 360 feet 30-inch cast-iron.
- 450 plus feet 44-inch wrought-iron pipe.
- 1,100 plus feet 36-inch wrought-iron pipe.
- 50 plus feet 30-inch wrought-iron pipe.
- 3,100 plus feet 22-inch wrought-iron pipe.
- 1,100 plus feet 37-inch wrought-iron pipe (partly laid.)

Sundry pipes, gates and fittings of various sizes.

About three hundred and twenty-two (322) tons of cast-iron fittings at yards on Bryant street and Market street lot.

Company's office building, Stockton and Geary streets, with six (6) complete hydraulic elevator plants; complete repair shop for service pipe system and supplies and tools.

Main office complete, with furniture, etc.

BLACK POINT.

A Corliss compound condensing engine, 200-horsepower (jet condenser); three million gallons capacity, delivery height 414 feet.

A Corliss compound condensing engine, 200 horsepower (surface condenser); three and a quarter million gallons capacity; delivery height 414 feet.

One (1) concussion chamber 33 inches by 30 feet high, with proper connections and gates.

One (1) Heine boiler, 175 horsepower.

One (1) Babcock and Wilcox boiler, 134 horsepower.

One (1) Hazelton boiler, 200 horsepower.

Two (2) engine houses, finished inside and galvanized iron covered.

Two (2) boiler houses, finished inside and galvanized iron covered.

One (1) blacksmith-shop and outhouses.

One (1) brick chimney, 90 feet high.

One (1) coal wharf, about 60 feet square, and runway.

One (1) iron chimney, 60 feet high.

Machinery and boilers all on heavy concrete foundations and in A1 condition.

Feed pumps, traveling cranes, etc.

Long brick tunnel, two and one-half (2½) feet by four and one-half (4½) feet, two thousand five hundred (2,500) feet long, used as a reservoir.

Suction well, suction pipes, etc.

Sewers, etc.

PILARCITOS PUMPS.

Three (3) Dow compound condensing pumps, total capacity four million (4,000,000) gallons daily, lift two hundred and thirty (230) feet.

One (1) independent jet condenser and air pump.

Two (2) Heine boilers, one hundred and seventy-five (175) horse-power each.

Two (2) iron chimneys, forty-two (42) inches by eighty (80) feet high.

Two (2) feed pumps.

One (1) air chamber.

One (1) standpipe, sixteen (16) inches diameter by fifty (50) feet high.

One (1) engine house.

One (1) boiler house.

Three (3) sixteen (16) inch gates, connections with thirty (30) inch Pilarcitos pipe.

About sixteen hundred (1,600) feet heavy sixteen (16) inch cast-iron force-pipe.

LAKE MERCED PUMPS.

Two (2) Corliss compound condensing engines, three hundred (300) horsepower each; capacity, three and a half million gallons each; lift, four hundred and sixty (460) feet.

Two (2) jet condensers.

Four Babcock and Wilcox boilers, one hundred and thirty-six (136) horsepower each.

Two (2) iron chimneys, forty-two (42) inches diameter by eighty (80) feet high.

Two (2) feed pumps.

Two (2) traveling cranes.

One (1) large engine house.

One (1) large boiler house. (All above on concrete foundations.)

Two (2) dwelling houses and outhouses.

One (1) large coal bunker, one thousand (1,000) tons capacity.

One (1) large shock chamber.

One (1) wharf and heavy timber boom.

Two (2) suction pipes and fish screens.

Special broad-gauge railroad track, about one and one-half (1½) miles long, with very heavy cuts and fills and culverts.

Six thousand two hundred and twenty-seven (6,227) feet of heavy twenty-three (23) inch wrought-iron force-pipe, with air-chambers, manholes, blow-offs, air-valves and trestle bridge.

Also two thousand eight hundred and ninety-two (2,892) feet of heavy thirty (30) inch wrought-iron pipe.

Six thousand two hundred and eighty-four (6,284) feet of twenty-two (22) inch wrought-iron suction pipe, connecting San Andres thirty (30) inch main pipe with Lake Merced pumping station; also

Nine hundred and fifty (950) feet heavy eighteen (18) inch pipe, from San Andreas thirty (30) inch pipe to large pressure tank at Ocean View, with large ball cock, gates and other fittings.

Complete aerating plant on Ocean View Hill, with thirty (30) inch regulating gate and thirty (30) inch connections with Pilarcitos main pipe.

Large waste flume from above aerator down to San Andres thirty (30) inch pipe.

OCEAN VIEW PUMP.

One (1) compound direct acting pump of two million gallons daily capacity and 200 feet lift.

Two (2) multi-tubular boilers, from 75 to 100 horsepower each.

Condenser.

Feed pump, with 20-inch cast-iron suction pipe from L. M. pressure tank, 18-inch force pipe connected with 30-inch Lake Merced force pipe.

Complete corrugated iron engine and boiler house and two smokestacks.

BELMONT.

Two (2) Corliss compound condensing engines, two hundred (200) horsepower each; capacity, six million gallons each against two hundred and fifty (250) feet.

Two (2) jet condensers.

Four (4) Hazelton boilers, two hundred (200) horsepower each, with long steam pipe and connections.

Two (2) feed pumps.

Two (2) traveling cranes.

All above on concrete foundations.

One (1) large engine house and one (1) large boiler house. (Both galvanized iron covered.)

Two (2) dwelling houses and outside houses.

One (1) large, heavy standpipe, eighty-seven (87) feet high, on large concrete foundation.

One (1) four million gallons receiving reservoir, with roof.

Three (3) concrete gate wells, with three large gates and screens.

One (1) coal bunker, and railroad track and trestle.

One thousand and seventy-two (1,072) feet of thirty (30) inch heavy force-pipe from pumps to standpipe.

Three hundred and one (301) feet thirty-six (36) inch heavy suction pipe between reservoir and wells and pumps.

Two (2) twenty-two (22) inch drain pipes, eight hundred and eighty (880) feet long each, and one (1) thirty-two (32) inch drain pipe three hundred and twelve (312) feet long.

CRYSTAL SPRINGS.

Four (4) duplex, heavy Thompson & Evans compound, condensing fly-wheel pumps. Total capacity, twelve million gallons to about two hundred and fifty (250) feet elevation.

Two (2) independent fly-wheel air pumps.

Two (2) large surface condensers.

Four (4) Babcock & Wilcox boilers, one hundred and sixty (160) horsepower each.

One (1) large iron chimney, sixty (60) inches diameter by sixty (60) feet high.

One (1) large Day heater.

One (1) large concussion chamber, sixty (60) inches by eight (8) feet in height.

One (1) relief sixteen (16) inch standpipe, fully three hundred (300) feet long.

About three thousand six hundred and forty (3,640) feet of sixteen (16) inch heavy cast-iron force-pipe, with three (3) sixteen (16) inch A1 gates and complete connections with pumps.

About three hundred (300) feet of twenty-four (24) inch cast-iron suction pipe, with two (2) sixteen (16) inch connections and gates, with main Crystal Springs pipe in tunnel.

Twelve (12) inch and eight (8) inch cast-iron pipe system for circulating water, also connecting with forty-four (44) inch main.

Six thousand three hundred (6,300) feet of flume, twenty-six (26) inches by forty-eight (48) inches, and fully two (2) miles of flume two and one-half (2½) by five (5) feet.

One (1) large engine house and large boiler house, corrugated iron.

One (1) large coal bunker.

Two (2) dwelling houses, stables and outhouses.

MILLBRAE.

Two (2) Corliss compound condensing pumping engines, three hundred (300) horsepower each, and eight million gallons capacity each to about two hundred and ten (210) feet net lift.

Two surface condensers.

Four (4) Babcock & Wilcox boilers, one hundred and sixty (160) horsepower each.

One (1) iron chimney, sixty (60) inches diameter by sixty (60) feet high, on heavy brick foundation.

Two (2) Green's Economizers.

Two (2) Day's heaters.

Two (2) feed pumps.

Two (2) traveling cranes.

Three (3) large concussion chambers, sixty (60) inch diameter by twenty-two (22) feet high.

Two (2) shock and relief valves.

One (1) sixteen (16) inch and one (1) twelve (12) inch circulating pipe.

All on heavy concrete foundations.

Four (4) sixteen (16) inch gate connections to forty-four (44) inch main pipe.

One (1) double standpipe, about seventy (70) feet, all on concrete foundation.

One (1) large concrete reservoir, with outlet forebay, gates and tunnel.

One (1) thirty (30) inch gate and one (1) thirty (30) inch check valve, and other connections.

Three thousand eight hundred (3,800) feet of thirty (30) inch wrought-iron pipe connecting pumps, reservoirs, standpipes.

Waste weir overflow.

Seven thousand five hundred (7,500) feet of heavy wrought-iron thirty (30) inch force-pipe, with all connections, and two (2) iron bridges on concrete piers.

Switch, railroad, heavy trestle and large concrete coal bin; also about two hundred (200) feet of two (2) feet by four (4) feet flume.

Large corrugated iron engine and boiler house; also corrugated iron air-chamber house; all on concrete foundations.

Fully two-fifths (2-5) of a mile of iron twenty-two (22) inch sewer pipe crossing railroad to slough.

Two (2) dwelling houses, one (1) storehouse and gate house.

On hand in yard about one-half ($\frac{1}{2}$) mile of pipe from twenty-two (22) inch to twenty-four (24) inch; also large store of tools and fittings.

One (1) dipping kettle with holsting apparatus and four (4) pipe sheds.

CLARENDON HEIGHTS.

Two (2) poppet compound condensing engines, one hundred and ten (110) horsepower each; one and one-fourth million gallons capacity each delivery to about five hundred and twenty (520) feet lift.

Two (2) surface condensers and heater.

One (1) Day heater.

Two (2) Heine boilers, one hundred and twenty-five (125) horsepower each.

Double brick building and boiler house and smokestack on heavy concrete foundations.

Two (2) feed pumps, two (2) traveling cranes, etc.

One (1) workshop and one (1) storehouse, tools, fittings, etc.

PUMPING PLANTS ON HAND.

One (1) Worthington compound engine, about three-fourth million gallons capacity.

Also five (5) portable engines, complete, of about twenty-five (25) horsepower each.

One locomotive boiler and engine, forty (40) horsepower.

Ten (10) steam pumps and four (4) centrifugal pumps.

Six (6) hand pumps.

LAKE MERCED PROPER.

Two (2) earth dams, one at North Lake with concrete forebay and large iron gate and forty-four (44) inch long wrought-iron outlet pipe.

Second dam between two lakes, with brick gate well and forty-four (44) inch gate and pipe bricked in tunnel, one hundred and sixty-two (162) feet long.

Seventeen (17) miles of fences and five (5) miles of roads.

Entire area between both lakes and ocean seeded and planted, which successfully stopped encroachments on the lake by the sand dunes.

Many miles of fences around and across ranch.

Two (2) dwellings, two (2) stables and several outhouses.

LAKE MERCED DRAINAGE SYSTEM.

Concrete bulkhead and brick canal and wooden chute.

Two (2) earth embankments for two (2) settling ponds.

One (1) brick-lined canal about four thousand (4,000) feet long.

One (1) brick-lined tunnel connecting canal with ocean about three thousand one hundred (3,100) feet long.

Brick gate house with two (2) large gates and connecting tunnel with south lake.

Ocean View flume, fully one (1) mile long, with high trestles and large iron, concrete culvert under railroad.

Nine thousand two hundred (9,200) feet of eight (8) inch sewer-pipe, laid in ground, with two (2) trestles, one (1) seventy-five (75) feet high in center and five hundred (500) feet long; one thirty-five (35) feet high in center and two hundred and thirty (230) feet long; both laid with eight (8) inch cast-iron pipe.

LOBOS CREEK.

One (1) sheet pile dam.

Keepers' houses, fences, etc.

About seventy-five (75) miles of private telephone wires in San Francisco, San Mateo and Alameda counties.

Seventy-two (72) miles of fences and forty-five (45) miles of roads in San Mateo County.

[Filed October 25, 1900.]

WATER RATES.

EXHIBIT No. 1.

SHOWING THE COST OF PROPERTY KNOWN AS LAKE MERCED.

The property of the Spring Valley Water Works at this place consists of two bodies of water, known collectively as Lake Merced, and individually as the North Lake and the South Lake.

The North Lake has an area of one hundred and sixteen (116) acres and a water-shed of two and four-tenths (2 4-10) square miles.

The South Lake has an area of three hundred and thirty-seven (337) acres and a water-shed of five and three-tenths (5 3-10) square miles. It contains at present about one thousand and two hundred million (1,200,000) gallons of water. The water is usually of excellent quality, and about three million (3,000,000) gallons a day can be obtained therefrom.

Besides the Lakes, the company owns two thousand six hundred and thirty-six acres of land, with pumping plants, car tracks, buildings and improvements of different kinds thereon.

The total cost of this property may be particularized as follows:

	AMOUNT.	TOTAL.
1.—WATER RIGHTS purchased from the Lake Merced Water Company and the Clear Lake Water Company, on August 3, 1868, for the sum of.....	\$150,000 00	
		TOTAL.
2.—LAND—Acreage of Lake Merced lands:		
The Rancho Laguna de la Merced contains.....		2,219.66 acres
Lots 1, 2, 3, 4, 5, 6, 7, Section 27, contain.....		146.47 acres
Lots 9, 3, and N. E. ¼ of Section 34, contain.....		68.56 acres
Lots 1 and 2, Section 1, contain.....		39.03 acres
Lots 1 and 2, Section 2, contain.....		64.43 acres
Tobin Tract contains.....		31.40 acres
Ocean View Pump Tract contains.....		7.72 acres
5 Chain Strip contains.....		33.00 acres
Lots at Outlet contain.....		15.70 acres
Part of Lot 10, Section 26 (estimated) contains.....		16.00 acres
Lot 3, Section 26 (estimated) contains.....		16.76 acres
		2,658.73 acres
Less Gum Forest.....		22.80 acres
		2,635.93 acres

COST OF LAKE MERCED LANDS.

	AMOUNT.	TOTAL.
Weaver interest in 5 Chain Strip..... Deed dated April 25, 1872.	\$15,000 00	
Fitch interest in outlet lands..... Deeds dated June 12, 1874. Recorded Liber 1167 of Deeds, page 349, San Francisco, Cal.	2,000 00	
Jackson interest—Strip outlet, etc..... Deed dated June 21, 1877. Recorded Liber 1077 of Deeds, page 236, San Francisco, Cal.	90,000 00	
Hibernia Bank interest..... Contract dated March 26, 1883.	380,000 00	
D. H. Ward—Green interest outlet..... Deed dated April 2, 1884. Recorded Liber 1112 of Deeds, page 280, San Francisco, Cal.	12,500 00	
D. H. Ward—Green interest ranch..... Deed dated April 3, 1884. Recorded Liber 1115 of Deeds, page 79, San Francisco, Cal.	7,500 00	
Wm. Sharon—Carpentier interest..... Deed dated February 7, 1884. Recorded Liber 1165 of Deeds, page 99, San Francisco, Cal.	8,000 00	
De Haro interest..... Deed dated March 11, 1886. Recorded Liber 1119 of Deeds, page 73, San Francisco, Cal.	13,500 00	
Hibernia Bank—Interest in the Pringle-Riordan claim Dated dated September 16, 1892. Recorded Liber 60 of Deeds, page 504 San Mateo, Cal.	5,445 00	

COST OF LAKE MERCED LANDS—Continued.

	AMOUNT.	TOTAL.
Rlordan—Interest in the Pringle-Rlordan claim.... Deed dated November 3, 1886. Recorded Liber 42 of Deeds, pages 83 and 87, San Mateo, Cal., and Liber 1213 of Deeds, pages 386-388, San Francisco, Cal.	52,050 00	
Annie Donahue—1-3 Donahue interest..... Deed dated May 9, 1890. Recorded Liber 1399 of Deeds, page 190, San Francisco, Cal.	8,000 00	
J. M. Donahue—1-3 Donahue interest..... Deed dated October 28, 1890. Recorded Liber 1490 of Deeds, page 114, San Francisco, Cal.	9,250 00	
Von Schroeder—1-3 Donahue interest..... Deed dated December 10, 1890. Recorded Liber 1490 of Deeds, page 106, San Francisco, Cal.	9,073 60	
Sharp Estate—Sharp interest..... Deed dated May 18 1894. Recorded Liber 1607 of Deeds, page 347, San Francisco, Cal., and Liber 67 of Deeds, page 432, San Mateo, Cal.	42,500 00	
Daniel Higgins—Higgins interest..... Deed dated April 12, 1891. Recorded Liber 1454 of Deeds, page 111, San Francisco, Cal.	6,000 00	
Bergin—Bergin interest..... Deed dated July 31, 1891. Recorded Liber 1477 of Deeds, page 99, San Francisco, Cal., and Liber 57 of Deeds, page 416, San Mateo, Cal.	9,280 00	
Total		\$670,098 60

PUMPING WORKS.

The first pumping plant was begun in July, 1877, and completed in May, 1878. The pump was built by the Risdon Iron and Locomotive Works, under contract made in December, 1877.

	AMOUNT.	TOTAL.
The original contract is submitted herewith, amounting to.....	\$82,000 00	
To which was added sixty-seven (67) feet of twenty-two (22) inch pipe three-sixteenth (3-16) inch iron, at \$2 25.....	150 75	
Excess in weight over No. 12 iron six hundred and sixty-three (663) lbs, at \$4 35 per lb.....	28 84	
Supplement No. 1 to Contract two thousand four hundred and forty-four and seven-twelfths feet pipe No. 9 iron, at \$2 25.....	5,500 31	
Excess in weight over No. 12 iron thirty-one thousand two hundred and eighty-three (31,283) pounds at \$4 35.....	1,360 81	
Supplement No. 2 to Contract three thousand one hundred and ninety-nine and ten-twelfths (3,199 10-12) feet pipe No. 12 iron at \$2 25.....	7,199 62	
Two thousand three hundred and sixty-one (2,361) feet pipe No. 11 iron at \$2 45.....	5,784 85	
Difference in weight three hundred and ninety-seven (397) feet No. 11 iron pipe changed to No. 10, one thousand six hundred and eighty-two (1,682) lbs at \$4 35.....	73 16	
Total.....		\$102,097 94

To this sum must be added the cost of boilers, foundations, grading, track-laying, engine house, etc., which brought the total cost of Pumping Plant No. 1 up to the sum of \$163,178 05.

Pumping plant No. 2 was begun in March, 1891, and completed in May, 1892, at a total cost of \$226,514 43. It was built by the Risdon Iron and Locomotive Works. The details of the expenditures for this pump are summarized as follows:

	AMOUNT.	TOTAL.
Risdon Iron and Locomotive Works, per contract and extras.....	\$109,660 00	
San Francisco Tool Company, per contract for boilers and extras.....	26,500 00	
For labor.....	28,500 00	
Pipe	14,800 00	
Laying track.....	11,025 00	
Grading for foundations.....	10,230 00	
Castings	6,300 00	
Lumber	5,000 00	
Hardware, iron, etc.....	4,600 00	
Hauling and freight.....	4,400 00	
Cement	3,820 00	
Wood	824 00	
Asphalt and tar.....	700 00	
Total		\$226,090 00

IMPROVEMENTS.

	AMOUNT.	TOTAL.
Tunnel built in May, 1878.....		\$355 14
2.—Tree planting from August, 1880, to December, 1881		2,183 40
3.—Drainage system, begun in June, 1895, and completed in December, 1898.....		176,914 11
The principal items in this last account are as follows:		
Labor	\$58,050 00	
Contract work.....	38,750 00	
Cement	19,000 00	
Lumber	14,400 00	
Brick.....	14,350 00	
Brickwork	2,750 00	
Freight and hauling	11,920 00	
Wells	2,000 00	
Hardware, iron, pipe, etc.....	1,925 00	
Coal	850 00	
Sewer pipe.....	840 00	
Plastering	500 00	
Paints, oils, candles.....	560 00	
Asphalt	260 00	
Feed, etc.....	125 00	
Rock	50 00	\$166,930 00
4.—Ranch from April, 1886, to the present time, which includes fencing, etc., etc.....		\$117,456 10

WATER RATES.

SUMMARY OF COST.

	AMOUNT.	TOTAL.
1.—Water rights.....		\$150,000 00
2.—Land		670,098 60
3.—Pumping works—		
No. 1.....	\$163,178 05	
No. 2.....	226,514 43	
		389,692 48
4.—Improvements—		
1.—Tunnel	\$355 14	
2.—Tree planting.....	2,183 40	
3.—Drainage system.....	176,914 11	
4.—Ranch	117,456 10	
		296,908 75
Total		\$1,506,699 83

EXHIBIT No. 2.

SHOWING COST OF PROPERTY KNOWN AS PILARCITOS LAKE.

Pilarcitos Lake has a watershed of three and eight-tenths (3 8-10) square miles, besides the watershed of the side flume of one and four-tenths (1 4-10) square miles.

The depth of the lake is about ninety (90) feet, its area one hundred and four (104) acres, its capacity about one thousand million gallons of water, and it supplies the city with from three to five million gallons a day.

The cost of the property has been as follows:

	AMOUNT.	TOTAL.
1.—WATER RIGHTS:		
From Denniston and Ames, February 21, 1860..	\$3,000 00	
From Owen and Patrick McMahan, July 23, 1861	5,000 00	
From F. A. Hilm, December, 1864.....	20,000 00	
Total		\$28,000 00

COST OF PILARCITOS LANDS.

	AMOUNT.	TOTAL.
2.—LAND, as follows:		
Jas. S. McQueen—Spring Valley Farm.....	\$1,500 00	
See "Minutes," Vol. A, fols. 65-6.		
Covered by E. L. Sullivan deed.		
M. A. Halstead—Mill.....	11,919 00	
Deed dated February 25, 1861.		
Recorded Liber 2 of Deeds, page 431, San Mateo, Cal.		
John Perry Jr.—Spring Valley Farm— Location of School Land Warrants—		
December 31, 1860.....	1,824 40	
December 25-30, 1875.....	953 00	
June 4, 1862—		
Location No. 83—Wm. Tillinghast.....	112 00	
Location No. 84—A. W. Von Schmidt.....	112 00	
Location No. 81—E. Mickle.....	56 00	
Location No. —E. Mickle.....	112 00	
Pioche, Arguello and Mezes Tunnel Tracts—San Mateo and Spring Valley's 4 acres.....	15,000 00	
Deed dated April 4, 1862.		
Recorded Liber 3 of Deeds page 119, San Mateo, Cal.		
Gorman Senter—40 acres in Sec. 4, T. 5 S., R. 5 W. (School land location).....	120 00	
Deed dated April 14, 1862 (and May 17, 1862)..	155 00	
Recorded Liber 3 of Deeds, page 113, San Mateo, Cal.		
E. L. Sullivan—Omnibus deed.....		
Deed dated January 5, 1864.		
Recorded		
Robert Roxby—Declaration of trust.....		
Dated December 13, 1864.		
Arguello and Pioche—2 tracts 2 acres each, Sec. 28, T. 4 S., R. 5 W.....		
San Mateo Tunnel.		
Deed dated September 25, 1865.		
Recorded Liber 5 of Deeds, page 353, San Mateo, Cal.		

COST OF PILARCITOS LANDS—Continued.

	AMOUNT.	TOTAL.
S. O. de Arguello and —. 31.54 acres, more or less, in Sec. 28, T. 4 S., R. 5 W..... Deed dated July 26, 1866. Recorded Liber 6 of Deeds, page 48, San Mateo, Cal.	788 50	
R. Roxby—Omnibus deed..... Deed dated August 21, 1866. Recorded Liber 5 of Deeds, page 504, San Mateo, Cal.		
M. Maloney—80 acres, Sec. 4, T. 5 S., R. 5 W.... Deed dated January 8, 1867. Recorded Liber 6 of Deeds, page 159, San Mateo, Cal.	650 00	
John Murry—80 acres, more or less, in N. E. $\frac{1}{4}$ of S. W. $\frac{1}{4}$, and Lot No. 2, Sec. 30, T. 4 S., R. 5 W..... Deed dated May 24, 1867. Recorded Liber 6 of Deeds, page 255, San Mateo, Cal.	400 00	
J. Hurlechy—100 acres in Sec. 24-25, T. 4 S., R. 6 W..... Deed dated May 15, 1867. Recorded Liber 6 of Deeds, page 248, San Mateo, Cal.	4,980 00	
N. Luning—1006.41 acres, T. 4 S., R. 6 W., School Land Locations..... Deed dated June 29, 1867. Recorded Liber 13 of Deeds, page 34, San Mateo, Cal.		
T. N. Sweeney and Stephens—2,560 acres..... T. 4 S., R. 5 W.— S. $\frac{1}{2}$ of Sec. 19. S. W. $\frac{1}{4}$ of Sec. 20. S. W. $\frac{1}{4}$ of S. W. $\frac{1}{4}$ of Sec. 28. Section 29. N. E. $\frac{1}{4}$ of Sec. 30.	16,008 00	

WATER RATES.

COST OF PILARCITOS LANDS—Continued.

	AMOUNT.	TOTAL.
N. E. $\frac{1}{4}$ of Sec. 32.		
W. $\frac{1}{2}$ of Sec. 33.		
S. W. $\frac{1}{4}$ of N. E. $\frac{1}{4}$ of Sec. 33.		
S. E. $\frac{1}{4}$ of Sec. 33.		
S. W. $\frac{1}{4}$ of S. W. $\frac{1}{4}$ of Sec. 34.		
T. 5 S., R. 5 W.—		
N. $\frac{1}{2}$ of N. E. $\frac{1}{4}$ of Sec. 4.		
W. $\frac{1}{2}$ of Sec. 3.		
S. W. $\frac{1}{4}$ of N. E. $\frac{1}{4}$ of Sec. 3.		
W. $\frac{1}{2}$ of S. E. $\frac{1}{4}$ of Sec. 3.		
Deed dated February 1, 1867.		
Paid by C. N. Fox on account of "Spring Valley Farm," 1,440 acres—		
Recorded Liber 6 of Deeds, page 168, San Mateo, Cal.		
February 1, 1869, Cert. of Purchase 4.221.....	1,616 00	
February 4, 1869, Cert. of Purchase 4.223.....	292 41	
February 11, 1869, Cert. of Purchase 4.....	1,263 00	
February 26, 1869, Cert. of Purchase 4.247.....	100 00	
March 13, 1871, Cert. of Purchase 5.123.....	628 00	
E. L. Sullivan—1,120 acres.....		
S. E. $\frac{1}{4}$ of Sec. 19.		
S. W. $\frac{1}{4}$ of Sec. 20.		
All of Sec. 29.		
N. E. $\frac{1}{4}$ of Sec. 30 in T. 4 S., R. 5 W.		
Deed dated May 11, 1869.		
Recorded Liber 9 of Deeds, page 326, San Mateo, Cal.		
Samuel E. Willcutt—320 acres.....	3,200 00	
S. $\frac{1}{2}$ of N. E. $\frac{1}{4}$ and S. E. $\frac{1}{4}$ of Sec. 4.		
N. $\frac{1}{2}$ of N. E. $\frac{1}{4}$ of Sec. 9, T. 5 S. R. 5 W.		
Deed dated January 18, 1889.		
Recorded Liber 68 of Deeds, page 389, San Mateo, Cal.		

COST OF PILARCITOS LANDS—Continued.

	AMOUNT.	TOTAL.
Robert Roxby—320 acres..... S. W. $\frac{1}{4}$, W. $\frac{1}{2}$ of S. E. $\frac{1}{4}$, S. E. $\frac{1}{4}$ of N. W. $\frac{1}{4}$ of Sec. 3, T. 5 S., R. 5 W. S. W. $\frac{1}{4}$ of S. W. $\frac{1}{4}$ of Sec. 28, T. 4 S., R. 5 W. Deed dated May 13, 1869. Recorded Liber 9 of Deeds, page 345, San Mateo, Cal.		
Arthur A. Wallace—320 acres, N. $\frac{1}{2}$ Sec. 29, T. 4, S. R. 5. W..... Deed dated January 18, 1889. Recorded Liber 68 of Deeds, page 390, San Mateo, Cal. (Covered by Sullivan Deed.)	3,200 00	
J. Ludlow—160 acres..... Assignment of Certificate of Purchase State School Lands. N. W. $\frac{1}{4}$ Sec. 19, T. 4 S., R. 5 W. Deed dated March 27, 1868. Recorded Liber 7 of Deeds, page 90, San Mateo, Cal. N. G. State location cancelled and U. S. Patent issued.	160 00	
M. Noe, 692.50 acres..... Sec. 25, T. 4 S., R. 6 W. Sec. 30, T. 4 S., R. 5 W. Deed dated July 19, 1870. Recorded Liber 11 of Deeds, page 262, San Mateo, Cal.	10,398 62	
John Murry—131.15 acres..... Lots Nos. 1, 2, 3, 4., Sec. 31, T. 4 S., R. 5 W. Deed dated March 7, 1871. Recorded Liber 12 of Deeds, page 233, San Mateo, Cal. March 13, 1869, John Murry was paid (4-265).	657 51 761 98	
M. Noe—80 acres..... Sec. 30, T. 4 S., R. 5 W. Deed dated February 28, 1874. Recorded Liber 22 of Deeds, page 386.	712 00	

WATER RATES.

COST OF PILARCITOS LANDS—Continued.

	AMOUNT.	TOTAL.
A. F. Green—240 acres..... Sec. 25, T. 4 S., R. 6 W. (14-147). Deed dated May 22, 1888. Recorded Liber 46 of Deeds, page 312. (See Noe deed.)	373 55	
H. Green et al.—160 acres..... Sec. 25, T. 4 S., R. 6 W. Deed dated May 22, 1888. Recorded Liber 46 of Deeds, page 314, San Mateo, Cal. (See Noe deed.)		
Leonide H. Burling—165 acres..... Lots 1 and 2 of N. W. $\frac{1}{4}$ of Sec. 4, T. 5 S., R. 5 W. Deed dated October 31, 1894. Recorded Liber 67 of Deeds, page 555, San Mateo, Cal.	1,650 00	
S. E. Bogart—328 acres..... W. $\frac{1}{2}$ of S. W. $\frac{1}{4}$ of Sec. 17—8 acres. E. $\frac{1}{2}$ of S. E. $\frac{1}{4}$, Sec. 18. N. E. $\frac{1}{4}$ of Sec. 19, T. 4 S., R. 5 W. Deed dated August 18, 1888. Recorded Liber 45 of Deeds, page 128, San Mateo, Cal. (Water Rights, page ante).....	10,500 00 28,000 00	
3.—FLUME— Preliminary expense in August, 1860..... Grading begun in September, 1860..... Flume construction begun in 1861 and running to November, 1868..... Provisions	 \$3,626 48 16,239 12 299,363 25 4,040 46	
4.—Tunnel No. 1, begun December, 1860..... 5.—Pipe, January, 1862-May, 1868..... 6.—Steam Engine, October, 1864..... 7.—Original Dam, begun in September, 1863, and finished in January, 1865..... 8.—Small Dam, from March to July, 1864.....	 \$18,988 57 187,615 22 1,520 60 30,403 15 1,142 75	
		\$323,269 31

COST OF PILARCITOS LANDS—Continued.

	AMOUNT.	TOTAL.
9.—Branch Flume (built in May, 1864).....	9,770 06	
10.—Dam, begun in March, 1863, and finished in March, 1869.....	335,749 36	
11.—Artesian Wells (in August, 1869).....	6,001 03	
12.—Reservoir (begun in June, 1872, and com- pleted in 1878).....	12,932 54	
13.—Side Flume (May, 1876).....	13,525 88	
14.—Pumping Works built by Risdon Iron and Locomotive Works in September, 1897.....	24,122 57	
Total		\$1,083,249 01

EXHIBIT NO. 3.

SHOWING COST OF PROPERTY KNOWN AS LOBOS CREEK.

The property and rights of Mountain Lake and Lobos Creek were acquired by a transfer from the San Francisco City Water Works in February, 1865.

In August, 1867, an adjustment and agreement was made with E. L. Sullivan and other claimants, by which parcels of land in the Parker tract, around and including Mountain Lake and Lobos Creek, together with all the water rights to the same, were acquired by this Company.

	AMOUNT.	TOTAL.
In May, 1869, some artesian wells were sunk in the tract at a cost of.....	\$634 90	
And in January, 1871, the Lobos Flume was begun. It cost.....	20,248 02	
Total		\$20,882 92

WATER RATES.

EXHIBIT NO. 4.

SHOWING COST OF PROPERTY KNOWN AS LAKE SAN ANDREAS.

This lake has a watershed of eight and a half (8½) square miles, an area of four hundred and sixty (460) acres and a depth of one hundred and sixty (160) feet.

Its capacity is about six thousand million (6,000,000,000) gallons, and it furnishes the City with from eight (8) to ten (10) million gallons of water per day.

It has cost:

	AMOUNT.	TOTAL.
1—LAND—		
George Bernent—200 acres in Sec. 8, 16, 17, T. 4 S., R. 5 W.....	\$12,000 00	
Deed dated April 16, 1868.		
Recorded Liber 7 of Deeds, page 88, San Mateo, Cal.		
T. Le Roy—237.50 acres in Sec. 16, T. 4 S., R. 5 W.	6,350 00	
Deed dated April 24, 1868.		
Recorded Liber 6 of Deeds, page 684, San Mateo, Cal.		
C. K. Garrison—36.60 acres in Sec. 16, T. 4 S., R. 5 W.....	4,392 00	
Deed dated August 14, 1868.		
Recorded Liber 7 of Deeds, page 306, San Mateo, Cal.		
C. K. Garrison—5.85 acres tunnel outlet, Secs. 9-16, T. 4 S., R. 5 W.....	1,755 00	
Deed dated July 14, 1869.		
Recorded Liber 9 of Deeds, page 562, San Mateo, Cal.		
F. Cunningham—52.25 acres in Sec. 8-9, T. 4 S., R. 5 W., 66.90 acres in Sec. 5-6, T. 4 S., R. 5 W.....	10,965 00	
Deed dated July 18, 1868.		
Recorded Liber 8 of Deeds, page 151, San Mateo, Cal.		
D. O. Mills and A. J. Easton—153.75 acres in Sec. 5-8, T. 4 S., R. 5 W.....	10,762 50	
Deed dated July 17, 1868.		
Recorded Liber 8 of Deeds, page 149, San Mateo, Cal.		

EXHIBIT NO. 4—Continued.

	AMOUNT.	TOTAL.
D. O. Mills—96.11 acres in Sec. 16, T. 4 S., R. 5 W..... Deed dated July 17, 1868. Recorded Liber 8 of Deeds, page 149, San Mateo, Cal.	11,533 20	
A. Bolcoff and wife—31.69 acres in Sec. 9, T. 4 S., R. 5 W..... Deed dated July 17, 1868. Recorded Liber 7 of Deeds, page 254, San Mateo, Cal.	3,802 80	
E. Taylor—66.92 acres in Sec. 16, T. 4 S., R. 5 W.. Deed dated July 18, 1868. Recorded Liber 24 of Deeds, page 153, San Mateo, Cal.	8,030 40	
D. S. Cook—1-140 Buri-Buri Ranch, 95 acres..... 1-36 San Pedro, 357.50 acres..... Deed dated April 17, 1868. Recorded Liber 6 of Deeds, page 643, San Mateo, Cal.	10,000 00 3,000 00	
H. S. Jones—34.52 acres in Sec. 16, T. 4 S., R. 5 W..... Deed dated September 8, 1868. Recorded Liber 8 of Deeds, page 288, San Mateo, Cal.	4,142 40	
W. C. Ralston—4 Deeds Buri-Buri Ranch, August 1, 1868 (4-11).....	41,291 10	
C. N. Fox—Partition Buri-Buri Ranch, August 24, 1868 (4-51).....	106 15	
W. C. Ralston—34.74 acres W. T. Coleman (Carrie M. P. Coleman Tract)— August 27, 1868 (4-51)..... November 9, 1871 (5-243)..... November 29, 1871 (5-255).....	4,168 80 840 00 1,680 00	

EXHIBIT NO. 4—Continued.

	AMOUNT.	TOTAL.
C. N. Fox—840 acres Spring Valley Farm—		
December 4, 1871 (5-257).....	179 00	
January 8, 1872 (5-275).....	42 00	
January 23, 1872 (5-283).....	740 00	
July 6, 1872 (5-341).....	116 00	
A. Cahill—27.23 acres in Sec. 3, T. 5 S., R. 5 W. (4-477)	815 90	
Deed dated June 14, 1870.		
Recorded Liber 11 of Deeds, page 206, San Mateo, Cal.		
Arquello et al.—(See Crystal Springs).		
Deed dated June 24, 1870.		
E. Sweeney—637.43 and 4.62 acres in Sections 7, 8, 18, T. 4 S., R. 5 W.....	10,815 50	
Section 13, T. 4 S., R. 6 W.....	672 00	
Deeds dated November 5, 1874; June 25, 1878.		
Recorded Liber 24 of Deeds, page 107; Liber 28 of Deeds, page 600, San Mateo, Cal.		
D. O. Mills—22.38 acres in Sections 15, 16, 21, T. 4 S., R. 5 W.....	3,916 50	
Deed dated October 6, 1874.		
Recorded Liber 24 of Deeds, page 166, San Mateo, Cal.		
Chas. Ashton—17.52 acres at head of Lake.....	1,401 60	
Deeds dated June 30, 1876; November 15, 1876.		
Recorded Liber 27 of Deeds, page 44; Liber 26 of Deeds, page 387, San Mateo, Cal.		
(The second deed given to correct error in the description in the first one.)		
A. N. Shattuck (Odd Fellows' Bank)—1.03 acres in N. E. $\frac{1}{4}$ of S. E. $\frac{1}{4}$ of N. E. $\frac{1}{4}$, Section 17, T 4 S., R. 5 W.....	51 50	
Deed dated July 15, 1876.		
Recorded Liber 27 of Deeds, page 55, San Mateo, Cal.		

WATER RATES.

EXHIBIT NO. 4—Continued.

	AMOUNT.	TOTAL.
A. M. Easton—5.18 acres in Section 5, T. 4 S., R. 5 W., at angle of "Mills & Easton" and "Ashton" Purchases. Deed dated September 15, 1876. Recorded Liber 27 of Deeds, page 355, San Mateo, Cal.		
Samuel Davis—Shattuck Ranch, 388.97 acres in N. W. $\frac{1}{4}$, S. $\frac{1}{2}$ of N. E. $\frac{1}{4}$, W. $\frac{1}{2}$ of S. E. $\frac{1}{4}$, E. $\frac{1}{2}$ of S. W. $\frac{1}{4}$ of Section 17, T. 4 S., R. 5 W.. Deed dated May 14, 1897. Recorded Liber 74 of Deeds, page 570, San Mateo, Cal.	6,000 00	
Edward Kelley—.18 acre in Pipe Line part of P. Brooks Tract..... Deed dated March 6, 1899. Recorded Liber 82 of Deeds, page 111, San Mateo, Cal.	100 00	
Ning Yung Benevolent Association Cemetery—.23 acre on Pipe Line part of P. Brooks Tract.... Deed dated March 6, 1899. Recorded Liber 82 of Deeds, page 107, San Mateo, Cal.	200 00	
Christian Chinese Cemetery Association—.20 acre on Pipe Line part of P. Brooks Tract..... Deed dated March 7, 1899. Recorded Liber 82 of Deeds, page 114, San Mateo, Cal.	210 00	
2.—Tunnel begun in June, 1861.....	2,441 32	
3.—San Mateo and San Andreas Tunnel, begun in October, 1865.....	73,624 01	
4.—Reservoir begun in May, 1868.....	227,162 70	
5.—Dam begun in May, 1868.....	223,969 52	
6.—Pipe Line begun in May, 1868.....	199,605 36	
7.—Forebay begun in November, 1897, finished in June, 1898.....	14,982 29	
8.—New Pipe Line begun in October, 1897, finished in June, 1899.....	209,562 88	
Total		1,201,427 43

WATER RATES.

EXHIBIT NO. 5.

SHOWING COST OF PROPERTY KNOWN AS CRYSTAL SPRINGS.

	AMOUNT.	TOTAL.
<p>Area about 1,317 acres. Depths about 114 feet. Water shed about 23½ square miles. Capacity about 19,000 million gallons. Supplies from 10 to 16 million gallons of water daily.</p> <p style="text-align: center;">COST.</p> <p>1.—REAL ESTATE, as follows— George H. Ensign—San Andres and San Mateo Creeks, Crystal Springs Farm, etc..... Deed dated April 5, 1862. Recorded Liber 3 of Deeds, page 115, San Mateo, Cal.</p> <p>Crystal Springs Water Company—Franchise. Deed dated August 22, 1863. Recorded Liber 4 of Deeds, page 11, San Mateo, Cal.</p> <p>S. O. de Arguello and J. R. de Arguello, S. M. Mezes, F. L. A. Pioche, Henry Linden—Feliz Ranch (4-481)..... Feliz Ranch (4-135)..... Deed dated June 24, 1870. Recorded Liber 11 of Deeds, page 240, San Mateo, Cal.</p> <p>S. O. de Arguello and J. R. de Arguello, S. M. Mezes, F. L. A. Pioche, Henry Linden—Locks Creek Line (4-479)..... Locks Creek Line (4-481)..... Deed dated June 17, 1870. Recorded Liber 11 of Deeds, page 223, San Mateo, Cal. "Linden et als" were paid "June 18, 1870, 4-479," and "June 20, 1870, 4-481," for "Lands at Outlet of Tunnel."</p>	<p>1,400 00 657 50 687 50 1,312 50</p>	

EXHIBIT NO. 5—Continued.

	AMOUNT.	TOTAL.
Leander Sawyer—2,450 acres, Section 27-8, 33-4-5 of T. 4 S., R. 5 W., Sec. 2, 3, 11 of T. 5 S., R. 5 W.....	31,406 35	
Deed dated August 1, 1874. Recorded Liber 23 of Deeds, page 230.		
Jas. D. Walker—Same.....	7,185 00	
Deed dated August 10, 1874. Recorded Liber 24 of Deeds, page 49 7-153, San Mateo, Cal.		
Jas. Byrnes—Carey Tract (134.24 acres) in Section 1, T. 5 S., R. 5 W.....	8,150 00	
Deed dated April 21, 1874. Recorded Liber 23 of Deeds, page 245, San Mateo, Cal. (April 14, 1874, Jas. Byrnes was paid on "account of Real Estate San Mateo" \$8,150 00.)		
I. Friedlander—95.14 acres in Sec. 1-2, T. 5 S., R. 5 W., Crystal Springs Hotel Tract.....	37,500 00	
Deed dated July 20, 1874. Recorded Liber 23 of Deeds, page 242, San Mateo, Cal. (July 17, 1874, C. N. Fox was paid "on account Real Estate Crystal Springs" \$36,500 00; July 16, 1874, Jas. Byrnes was paid same account \$1,000 00—\$37,500 00.		
Romeo Mauvais—13.23 acres in Section 34-5, T. 5 S., R. 5 W.....	5,500 00	
Deed dated August 29, 1874. Recorded Liber 23 of Deeds, page 309, San Mateo, Cal.		

EXHIBIT NO. 5—Continued.

	AMOUNT.	TOTAL.
<p>Gustave Touchard—516.43 acres in Secs. 6-7, T. 5 S., R. 4 W., Secs. 1-12, T. 5 S., R. 5 W., Mezes and Arguello Tract..... Deed dated July 27, 1874. Recorded Liber 23 of Deeds, page 236, San Mateo, Cal.</p> <p>July 23, 1874, Jas. Byrnes was paid "on account Real Estate Crystal Springs" \$15,-492 90. The Touchard deed calls for \$15,-492 00.</p>	15,492 90	
<p>L. S. and A. H. Theller—21.86 acres in Sec. 18, T. 5 S., R. 4 W..... Deed dated November 20, 1874. Recorded Liber 24 of Deeds, page 154, San Mateo, Cal.</p>	1,867 50	
<p>A. Cassell and G. F. Maynard—158.40 acres 7.50 acres in Sec. 18, T. 5 S., R. 4 W., Peyton Tract Deed dated November 21, 1874. Recorded Liber 24 of Deeds, page 152, San Mateo, Cal.</p>	40,000 00	
<p>J. Byrnes—Payton Tract, 452.74 acres..... Deed dated November 21, 1874. Recorded Liber 24 of Deeds, page 126, San Mateo, Cal. (See page 4, \$1,750 00).</p>		
<p>J. and R. Spaulding—44.65 acres in Secs. 27-34, T. 4 S., R. 5 W..... Deed dated September 21, 1874. Recorded Liber 23 of Deeds, page 361, San Mateo, Cal.</p>	6,000 00	
<p>C. Bollinger—1161.78 acres in Secs. 7, 8, 16, 17, 18, 19, 20 and 21, T. 5 S., R. 4 W..... Deed dated April 16, 1875. Recorded Liber 24 of Deeds, page 425, San Mateo, Cal.</p>	70,000 00	

EXHIBIT NO. 5—Continued.

	AMOUNT.	TOTAL.
Margaret O'Callahan—659.80 acres in Secs. 20, 29, 30 and 31, T. 5 S., R. 4 W..... Deed date June 1, 1875. Recorded Liber 25 of Deeds, page 54, San Mateo, Cal.	15,500 00	
M. Dolan—68.67 and 2.80 acres in Sec. 12, T. 5 S., R. 5 W. (Upper Dam Site)..... Deed dated April 7, 1875. Recorded Liber 24 of Deeds, page 412, San Mateo, Cal.	15,000 00	
L. and J. C. Maynard—494 acres in Secs. 17, 18, 19, 20, T. 5 S., R. 4 W..... Deed dated August 18, 1875. Recorded Liber 25 of Deeds, page 457, San Mateo, Cal.	42,000 00	
E. A. Rowe—109.22 acres in Secs. 1-12, T. 5 S., R. 5 W..... Deed dated October 13, 1876. Recorded Liber 26 of Deeds, page 348, San Mateo, Cal.	5,000 00	
A. C. Webber and J. and A. Claffey—98.94 acres in Sec. 20, T. 5 S. R. 4 W..... Deed dated July 2, 1877. Recorded Liber 28 of Deeds, page 195, San Mateo, Cal.	11,872 80	
L. A. Arguello—62.74 acres in Sec. 35, T. 4 S., R. 5 W. ($\frac{1}{4}$ interest)..... Deed dated May 16, 1879. Recorded Liber 29 of Deeds, page 633, San Mateo, Cal.	392 12	

WATER RATES.

EXHIBIT NO. 5—Continued.

	AMOUNT.	TOTAL.
San Mateo Water Works—10 parcels of land in Crystal Springs Valley and watershed. Deed dated October 3, 1883. Recorded Liber 37 of Deeds, page 26, San Mateo, Cal.		
Consideration—11-420	101,645 83	
12-3	100,000 00	
12-11	145,000 00	
12-11	50,000 00	
As further consideration agrees to furnish to San Mateo Water Works 300,000 gallons free per day in its reservoir near town of San Mateo. Failure to provide entails a penalty of 60 cents per 1,000 gallons short (damage to be paid by Spring Valley Water Works). If San Mateo Water Works fails to take water when provided or "act of God," no penalty attaches to Spring Valley Water Works.		
Home Mutual Insurance Company (2 deeds)— 317.35 acres in Secs. 26-7, T. 4 S., R. 5 W., the Redington Tract..... Deed dated January 9, 1886. Recorded Liber 39 of Deeds, page 423; Liber 38 of Deeds, page 505, San Mateo, Cal.		26,974 75
W. H. Howard, Agnes and H. P. Bowie—981½ acres in Secs. 26, 35-6, T. 5 S., R 5 W. (13-249) Deed dated December 14, 1886. Recorded Liber 41 of Deeds, page 125, San Mateo, Cal. \$36,000 of this was for damage supposed to be caused to balance of tract by the diversion of waters of San Mateo Creek and \$30,000 for right to erect dam in San Mateo Creek above Polhemus bridge.		188,150 00
J. J. Mezes and others—62.74 acres in Sec. 35, T. 4 S., R. 5 W. (¾ interest)..... Deed dated December 14, 1886. Recorded Liber 40 of Deeds, page 465. San Mateo, Cal.		4,706 00

EXHIBIT NO. 5—Continued.

	AMOUNT.	TOTAL.
R. E. and E. Sherwood—87.64 acres in Sec. 2, T. 5 S., R. 5 W..... Deed dated April 8, 1887. Recorded Liber 42 of Deeds, page 165, San Mateo, Cal.	32,500 00	
J. Donald—28.55 acres in Sec. 1, T. 5 S., R. 5 W.. Deed dated April 13, 1887. Recorded Liber 41 of Deeds, page 338, San Mateo, Cal.	4,700 00	
M. and J. A. Drinkhouse (Decree of Condemnation)—14.45 acres in Sec. 35, T. 4 S., R 5 W. July 30, 1887 (13-407)..... October 13, 1888 (14,291)..... Deed dated July 27, 1887. Recorded Liber 42 of Deeds, page 359, San Mateo, Cal.	5,248 55 5,000 00	
This second sum was deposited in Court to cover any damages which might be found upon a future appraisalment of the value of the land.		
E. Carey—23.65 acres in Sec. 12, T. 5 S., R 5 W. (13-413) Deed dated August 8, 1887. Recorded Liber 41 of Deeds, page 515, San Mateo, Cal.	6,500 00	
Mary Creigh (Craig)—64.97 acres in Sec. 3, T. 4 S., R. 5 W. (13-413)..... Deed dated August 8, 1887. Recorded Liber 41 of Deeds, page 517, San Mateo, Cal.	7,500 00	
E. C. Bowen—3 acres in Secs. 34-5, T. 4 S., R 5 W. Deed dated December 26, 1889.	349 50	

WATER RATES.

EXHIBIT NO. 5—Continued.

	AMOUNT.	TOTAL.
Recorded Liber 47 of Deeds, page 453, San Mateo, Cal.		
H. Barrollhet—43.17 acres on San Mateo Creek, east of Crystal Springs Dam..... Deed dated July 7, 1886. Recorded Liber 54 of Deeds, page 316, San Mateo, Cal. July 7, 1886, Polhemus deeded to Barrollhet in trust for Spring Valley Water Works a tract of 818.94 acres, of which the above 43.17 is a part. July 7, 1886 (January 31, 1891), Barrollhet deeded the above 43.17 acres directly to Spring Valley Water Works, the balance (775.77 acres) to Chas. Webb Howard. Recorded Liber 54 of Deeds, page 320. The sum paid for the whole \$32,160 00.		
Robt. Lewis Coleman (Tract C. M. P. Coleman, deceased)—16.39 acres on county road near Millbrae (Millbrae Pump)..... Deed dated November 9, 1897. Recorded Liber 78 of Deeds, page 23, San Mateo, Cal.	4,097 50	
A. Borel and wife—326 acres, S. E. $\frac{1}{4}$ and fractional N. $\frac{1}{2}$ of Sec. 13, T. 5 S., R. 5 W., 340 acres N. by Quinn, E. by Maynard, S. by Clafey, W. by Ward. Deed dated November 12, 1897. Recorded Liber 76 of Deeds, page 442. Consideration—Borel Casey	9,732 00 10,736 30	
F. W. Quinn, Mary J. Starr, Ellen G. Gilcrest—152.12 acres, Lots 1, 2, 3 and N. E. $\frac{1}{4}$ of N. E. $\frac{1}{4}$ and S. W. $\frac{1}{4}$ of N. E. $\frac{1}{4}$ of Sec. 24, T. 5 S., R. 5 W.; 52 acres and .30 acre adjoining on S. E., excepting $3\frac{1}{2}$ acres..... Deed dated October 7, 1897. Recorded	5,000 00	
Francis H. Page (to M. B. Kellogg)—51.71 acres adjoining Millbrae Pump..... Deed dated July 7, 1898. Recorded Liber 78 of Deeds, page 550, San Mateo, Cal.	15,640 19	

WATER RATES.

EXHIBIT NO. 5—Continued.

	AMOUNT.	TOTAL.
W. H. Howard—100 feet by 200 feet on N. side of road from San Mateo to Half Moon Bay, adjoining reservoir of San Mateo Water Works on west, reserving 30x60 from S. W. corner of tract	1,000 00	
Deed dated April 27, 1897. Recorded Liber 74 of Deeds, page 400.		
Bernard McNamara—118.58 acres in Sec. 12, T. 5 S., R. 5 W.....	15,000 00	
Deed dated December 19, 1893. Recorded Liber 67 of Deeds, page 60, San Mateo, Cal.		
Jos. and Theresa Debendetti—320 acres, N. W. and S. E. ¼ of Sec. 10, T. 5 S., R. 5 W.....	3,200 00	
Deed dated September 25, 1899. Recorded Liber 82 of Deeds, page 382, San San Mateo, Cal.		
2.—Upper dam begun in April, 1875.....	219,596 61	
3.—Pumping Works begun in May, 1877.....	105,844 66	
4.—Pump built in 1898.....	91,610 49	
5.—Pipe Line begun in August, 1882.....	1,347,563 07	
6.—Dam begun in February, 1886.....	2,242,864 37	
Total		\$5,099,243 99

EXHIBIT NO. 6.

SHOWING COST OF ALAMEDA AND CALAVERAS SYSTEM.

	AMOUNT.	TOTAL.
1.—Purchase from Alameda Water Company, Calaveras Valley, Vallejo's Mills and Water Rights	\$1,000,000 00	
Deed dated June 28, 1875. Recorded Liber 100 of Deeds, page 463, Alameda County.		
2.—LAND, as follows:		
Western Pacific Railroad to Jos. Gregory, August 19, 1867—S. $\frac{1}{2}$ of S. E. $\frac{1}{4}$ of Section 13, T. 5 S., R. 1 E.....	200 00	
John Gregory to Jos. Gregory, January 11, 1870—N. E. $\frac{1}{4}$ of Section 24, T. 5 S., R. 1 E.....	500 00	
Jos. Gregory to G. I. Ives—S. $\frac{1}{2}$ of S. E. $\frac{1}{4}$ of Sec. 13, N. W. $\frac{1}{4}$ of Section 24, N. E. $\frac{1}{4}$ of Section 24, T. 5 S., R. 1 E.....	7,000 00	
San Francisco and Oakland Water Works—N. E. $\frac{1}{4}$, N. $\frac{1}{2}$ of N. W. $\frac{1}{4}$, E. $\frac{1}{2}$ of S. W. $\frac{1}{4}$, N. $\frac{1}{2}$ of S. E. $\frac{1}{4}$ of Section 13, T. 5 S., R. 1 E..... Deed dated June 25, 1875. Recorded Liber 109 of Deeds, page 459, Alameda County.	5,000 00	
San Francisco and Oakland Water Works—Interest in the lands of Ives and in water rights on Alameda Creek..... Deed dated June 25, 1875. Recorded Liber 109 of Deeds, page 457, Alameda County.	1,000 00	
H. H. Ellis—W. $\frac{1}{2}$ of S. W. $\frac{1}{4}$ of Section 13, T. 5 S., R. 1 E., Dam Site..... Deed dated October 10, 1876. Recorded Liber 133 of Deeds, page 228, Alameda County.	15,000 00	

COST OF ALAMEDA AND CALAVERAS SYSTEM.

	AMOUNT.	TOTAL.
John Walpert—50 varas square, near Settling Tank on Stone Aqueduct..... Deed dated October 10, 1888. Recorded Liber 369 of Deeds, page 276, Alameda County.		
Tract of acres given in exchange out of Vallejo Mills Tract.		
David Campbell—525 acres in Sections 35-6, T. 5 S., R. 1 E., Sections 30-1, T. 5 S., R. 2 E..... Deed dated November 26, 1875. Recorded Liber 38 of Deeds, page 254, Santa Clara County.	29,000 00	
R. K. Ham and Dudley Wells—200 acres in Section 25, T. 5 S., R. 1 E..... Deed dated December 1, 1875. Recorded Liber 38 of Deeds, page 259, Santa Clara County.	13,500 00	
H. Pomeroy—175 acres, more or less, in Sections 25-6, T. 5 S., R. 1 E..... Deed dated December 1, 1875. Recorded Liber 38 of Deeds, page 257, Santa Clara County.	11,250 00	
W. S. Gains—790 acres in Sections 24-5, T. 5 S., R. 1 E., Sec. 30, T. 5 S., R. 2 E..... Deed dated December 1, 1875. Recorded Liber 38 of Deeds, page 264, Santa Clara County.	30,000 00	
N. R. Harris—240 acres in Sections 25-6, T. 5 S., R. 1 E..... Deed dated December 1, 1875. Recorded Liber 38 of Deeds, page 262, Santa Clara County.	20,000 00	
J. S. and Hannah C. Cederbloom—80 acres in Section 26, T. 5 S., R. 1 E..... Deed dated June 12, 1889. Recorded Liber of Deeds, page , Santa Clara County.	1,900 00	

COST OF ALAMEDA AND CALAVERAS SYSTEM.

	AMOUNT.	TOTAL.
<p>Nelson Rasmussen—200 acres in E. $\frac{1}{2}$ of N. W. $\frac{1}{4}$, S. $\frac{1}{2}$ of N. E. $\frac{1}{4}$, N. E. $\frac{1}{4}$ of S. E. $\frac{1}{4}$, Section 30, T. 5 S., R. 2 E.....</p> <p>Deed dated March 25, 1891. Recorded Liber of Deeds, page , San Clara County.</p> <p>David Jeffery, who "took up" the land, deeds to Rasmussen March 25, 1891. Recorded Liber 134 of Deeds, page 598, Santa Clara County.</p>	1,250 00	
<p>Nelson Rasmussen—40 acres in N. W. $\frac{1}{4}$ of Section 30, T. 5 S., R. 2 E.....</p> <p>Deed dated September 22, 1891. Recorded Liber of Deeds, page , San Clara County.</p> <p>David Jeffery to Nelson Rasmussen, September 22, 1891. Recorded Liber 137 of Deeds, page 639, Santa Clara County.</p>	250 00	
<p>John T. Sherman—311 acres in Sections 35-6, T. 5 S., R. 1 E., Section 31, T. 5 S., R. 2 E.....</p> <p>Deed dated July 23, 1892. Recorded Liber 150 of Deeds, page 183, Santa Clara County.</p>	23,000 00	
<p>S. J. Sherman and .....—160 acres in S. $\frac{1}{2}$ of Section 36, T. 5 S., R. 1 E.....</p> <p>Deed dated July 22, 1893. Recorded Liber 158 of Deeds, page 628, Santa Clara County.</p> <p>Keystone Consol. Mining Company to S. J. Sher- man, June 23, 1893. Recorded Liber 158 of Deeds, page 628.</p>	10,800 00	

COST OF ALAMEDA AND CALAVERAS SYSTEM.

	AMOUNT.	TOTAL.
3.—RIPARIAN RIGHTS, as follows:		
M. Ahean or Heron.		
Deed dated March 29, 1888.		
Recorded Liber G of Miscellaneous, page 69, Alameda.		
12 acres and 45.62 acres in Washington and Eden Townships.		
Right to divert the waters of Alameda Creek, at or above the Vallejo Mill Stone Chute.		
November 12, 1887.....	1,500 00	
April 16, 1888.....	558 00	
November 12, 1888, Ahearn, Rodrigues, Camenan	1,500 00	
Geo. and Wilhelmina Althouser.....	12,500 00	
Deed dated October 26, 1889.		
Recorded Liber 387 of Deeds, page 266.		
55 acres near Smith and Lots Nos. 1, 2, 3, 4 and part of Lot No. 5, Block 70, Alvarado.		
Right to divert the waters of Alameda Creek at or above the Vallejo Mills Stone Chute.		
Alvarado Sugar Company.....	1,478 12	
Deed dated October 30, 1895.		
Recorded in Liber 574 of Deeds, page 159, Ala- ameda.		
73.29 acres, 4.68x80x7.40 chains on creek.		
Right to divert the waters of Alameda Creek at or above Vallejo Mills Chute.		
M. J. Bittencourt.....	1,400 00	
Deed dated March 30, 1888.		
Recorded Liber G of Miscellaneous, page 71, Alameda.		
13 acres, part of Nelson Tract.		
Right to divert waters of Alameda Creek at or above, but not below Vallejo Mills Stone Chute.		

COST OF ALAMEDA AND CALAVERAS SYSTEM.

	AMOUNT.	TOTAL.
H. F. Baker.....	686 95	
Deed dated May 12, 1888.		
Recorded Liber G of Miscellaneous, page 104, Alameda.		
Right to divert waters of Alameda Creek at Vallejo Mills Stone Chute.		
Walker Baker.....	1,815 05	
Deed dated May 7, 1888.		
Recorded Liber G of Miscellaneous, page 106.		
71.42 acres on road from Alvarado to Center- ville.		
Right to divert waters of Alameda Creek at Vallejo Mills Stone Chute.		
Abijah Baker.....	4,261 59	
Deed dated November 30, 1889.		
Recorded Liber 396 of Deeds, page 345, Ala- meda.		
100 acres between lands of Lowrie Estate and Wissman, near Alvarado.		
Right to divert waters of Alameda Creek at but not below Vallejo Stone Chute.		
Further compensation to be paid if same is decreed in Beard case, according to front- age., Beard's being 3,244.56 feet and Baker's 1,382.70.		
May 20, 1890, paid.....	2,129 35	
in full for all demands under above agree- ment.		
E. L. Beard, October 2, 1887 (September 26, 1888)	15,175 00	
Right to divert the waters of Alameda Creek at or above but not below Vallejo Mills Stone Chute. Further compensation to be paid or suit replaced on calendar after two years' stay without prejudice, September 26, 1888.		

COST OF ALAMEDA AND CALAVERAS SYSTEM.

	AMOUNT.	TOTAL.
<p>J. G. Clark and E. H. Dyer.....</p> <p>369.82 acres on Decoto Road. Deed dated March 1, 1888. Recorded Liber G of Miscellaneous, page 54, Alameda. Right to divert the waters of Alameda Creek at or above but not below Vallejo Mills Stone Chute.</p>	9,198 00	
<p>Central Pacific R. R.—Right of way over line near Niles. Deed dated May 10, 1888. Recorded Liber 367 of Deeds, page 233, Ala- meda. Spring Valley Water Works to pay for any damage caused at any time by breaks or by re- pairing same.</p>		
<p>E. Clark—Survey No. 58, Lot No. 68, 144.89 acres. Survey No. 59, Lot No. 69, 85.49 less 60.28, surveyed by Scott & Miller. Deed dated April 10, 1888. Recorded Liber G of Miscellaneous, page 224, Alameda. Right to divert the waters of Alameda Creek at or above but not below Vallejo Mills Stone Chute.</p>		
<p>E. Clarke, December 18, 1888.....</p> <p>And further compensation not to exceed what will make the whole sum of \$15,000 00. Has reference to deed above of April 10, 1888. This claim settled December 24, 1898, for..</p>	8,514 00	
<p>A right of way for one conduit 3,500 feet, more or less, given on same day for.....</p>	3,000 00	
	4,000 00	
<p>E. Clarke.....</p> <p>Deed dated April 2, 1889. Recorded Liber 368 of Deeds, page 171, A in Survey No. 59, agreement to buy the land. "May 16, 1889, Land \$3,000 00." See Real Estate.</p>	4,000 00	

COST OF ALAMEDA AND CALAVERAS SYSTEM.

	AMOUNT.	TOTAL.
<p>California Nursery Company (John Rock)—463.38 acres between Shinn and Petersen.</p> <p>Right to divert at but not below Vallejo Mills Stone Chute as much as 36-inch pipe will carry, but no more, below a dam at junction of Calaveras and Alameda Creeks. Grantor to have 12-inch pipe full as may be whenever there is water in creek. Company to construct it for \$4,000 00. When no water in creek Company to furnish on demand 500,000 gallons per day from pipe, but not to exceed 50,000,000 gallons in one year. May demand 10,000 gallons per day, though water be running in Washington and Murray Township Ditch, same being charged against the 50,000,000 gallons. Water may be delivered by pumps erected by Company on land of grantor, and from wells of grantor.</p> <p>Dated June 30, 1888.</p>		
<p>J. R. Clough—Survey No. 80, Lot No. 90.</p> <p>Deed dated March 1, 1888.</p> <p>Recorded Liber G of Miscellaneous, page 8.</p> <p>Right to divert waters of Alameda Creek at or above Vallejo Mills Stone Chute. Subject to grant made to Washington and Murray Township Water Company. Grantee to lay pipe and deliver 1,095,000 gallons per year free, with head sufficient to give 100,000 gallons daily in tank seven feet above ground.</p> <p>Consideration</p>	3,379 85	
<p>Mary Ives Crocker and Kate May Dillon</p> <p>Deed dated December 30, 1898.</p> <p>Recorded Liber 1 of Miscellaneous, page 203.</p> <p>Right to way for flume over part of Section 11, T. 4 S., R. 1 W.</p>	631 75	
<p>Hattie Camman.....</p> <p>Deed dated December 8, 1888.</p> <p>Recorded Liber G of Miscellaneous, page 221.</p> <p>Northerly portion of Lot No. 1, Block No. 35, on Malden Lane, Union City.</p> <p>Right to divert the waters of Alameda Creek at or above but not below Vallejo Mill Stone Chute.</p>	1,761 50	

COST OF ALAMEDA AND CALAVERAS SYSTEM.

	AMOUNT.	TOTAL.
"Claudine" (Mathew and Annie Clouding)..... February 14, 1898. 201 feet 1-acre tract on road from Centerville to Decoto, part of Rodrigues Tract.	400 00	
E. F. Dyer. Dated March 28 1888. Recorded Liber G of Miscellaneous, page 57. April 3, 1888.....	4,000 00	
20.36 acres at intersection of Alvarado road and S. P. Coast R. R., 1,851 feet. March 6, 1888.....	21,130 08	
March 21, 1888, J. G. Clark and E. H. D.. (See Clarke.)	9,198 00	
E. H. Dyer.....	2,524 50	
Dated March 1, 1888. Recorded Liber G of Miscellaneous, page 14, Alameda. 26.50 chains on Alameda Creek, commencing at Alvarado Upper Bridge. Right to divert waters of Alameda Creek at or above but not below Vallejo Mill Stone Chute.		
E. H. Dyer.....	3,605 58	
36.50 chains on Alameda Creek at Meek Tract Runs to Emery Tract. Right to divert waters of Alameda Creek at or above but not below Vallejo Mill Stone Chute.		
Manuel Enos.....	500 00	
Dated November 4, 1887. Recorded Liber F of Miscellaneous, page 462, Alameda. Lot No. 2 of the Estate of Frank Williams, 15 acres 6.44 chains on Alameda Creek. Right to divert waters of Alameda Creek at Vallejo Mills Stone Chute. No rights to land itself intended to be conveyed.		

COST OF ALAMEDA AND CALAVERAS SYSTEM.

	AMOUNT.	TOTAL.
Eureka Chemical Manufacturing Company..... Dated April 17, 1888. Recorded Liber G of Miscellaneous, page 83, Alameda. 4.64 acres near Alvarado, in N. W. $\frac{1}{4}$ of Section 17. Right to divert waters at or above but not below Vallejo Mills Stone Chute.	585 00	
W. F. Emery..... Dated March 5, 1888. Recorded Liber G of Miscellaneous, page 142. 8.05 acres next E. H. Dyer (Section 11), near Alvarado. Right to divert waters of Alameda Creek at or above Vallejo Mills Stone Chute.	1,500 00	
H. B. Ellsworth..... Dated October 17, 1887. Recorded Liber G of Miscellaneous, page 29. Survey No. 60 Lot No. 70, near Vallejo Mills. 189.92 acres, less 4 acres (Sec. 22, T. 4 S., R 1 W.) Right to divert waters of Alameda Creek above Vallejo Mills Stone Chute. Subject to grant to Washington and Murray Township Water Company. Spring Valley Water Works to deliver 100,000 gallons per day in its own pipe for use on tract.	1 00	
Mary Emerson and Geo. and Frank Dennis..... Dated June 19, 1889. Recorded Liber G of Miscellaneous, page 339. Lots Nos. 1 and 2, Block No. 61, Union City. Right, title and interest of grantors in riparian rights on Alameda Creek.	115 00	
Geo. Emerson. Dated June 14, 1889. Recorded Liber G of Miscellaneous, page 321, Alameda. Same as above.		

COST OF ALAMEDA AND CALAVERAS SYSTEM.

	AMOUNT.	TOTAL.
Manuel Ferreila..... Dated August 24, 1888. Recorded Liber G of Miscellaneous, page 180. 50 acres south of Decoto, on road from Alvarado to Centerville. Right to divert waters of Alameda Creek at or above Vallejo Mills Stone Chute. If a pipe is laid along the county road, grantor is to have 5,000 gallons per day free; he to lay pipes.	2,450 00	
Manuel Forster..... Dated March 7 1888. Recorded Liber G of Miscellaneous, page 86. 54.72 acres adjoining Union City. Right to divert waters of Alameda Creek at any point at or above Vallejo Mill Stone Chute.	310 00	
Geraldine Frisble..... Dated September 16, 1887. Recorded Liber 42 of Deeds, page 540. Dated July 25, 1888. Recorded Liber 45 of Deeds, page 113, Alameda. Right of way for 36-inch pipe and trestle over tract of ————. A near Ravenswood, San Mateo County, 2611x1406 feet from Kavanaugh to Flood & Mackey. All damage to be paid for. If line is changed, a new right of way must be paid for. Deed of July 25, 1888, gives right to blow off and changes courses and distances slightly.	2,500 00	
F. B. Granger and F. B. Granger Jr..... Deed dated April 2, 1888. Recorded Liber G of Miscellaneous, page 50. 42.4 acres near Alvarado, 32.23 acres Benson's Landing, Lot on 10th street, Union City, Lots Nos. 3, 4, 5, 6, Block No. 61, Lot adjoining Willey Place, Lot on Canal street. Excepting property of Eureka Chemical Works. Right to divert waters of Alameda Creek at or above Vallejo Mill Stone Chute.	2,000 00	

WATER RATES.

COST OF ALAMEDA AND CALAVERAS SYSTEM.

	AMOUNT.	TOTAL.
<p>Pat Geary and wife.....</p> <p>Dated May 25, 1891.</p> <p>Recorded Liber 435 of Deeds, page 174.</p> <p>N. E. ¼ of Section 11, T. 5 S., R. 1 E. Right to divert waters of Alameda Creek at any point at or above Vallejo Mill Stone Chute.</p>	1,000 00	
<p>Maurice Gallivan.....</p> <p>Dated May 16, 1888.</p> <p>Recorded Liber G of Miscellaneous, page 115.</p> <p>48.77 acres Tract No. 1 of Rancho Arroyo de la Alameda, except strip 80 feet wide, containing 2 acres on line between swamp lands of G. & Howard, 11.90 chains on creek (Section 9, T. 4 S., R. 2 W.) Right to divert waters of Alameda Creek at or above Vallejo Mill Stone Chute.</p> <p>The description in this deed (foregoing) being found to be incorrect, a new deed was given</p> <p>Dated May 27, 1890.</p> <p>Recorded Liber 404 of Deeds, page 332.</p>	2,000 00	
<p>P. Gilbert.....</p> <p>Dated April 7, 1888.</p> <p>Recorded Liber G of Miscellaneous, page 89.</p> <p>Part of the Nelson Tract, Alvarado. Right to divert waters of Alameda Creek at or above but not below Vallejo Mill Stone Chute.</p>	1,500 00	
<p>L. Gregory and A. E. G. Bush.....</p> <p>Dated October 24, 1887.</p> <p>Recorded Liber F of Miscellaneous, page 440.</p> <p>4.91 acres on line of road from Centerville to Decoto, less 1 acre on the west and 11 square rods on the east. Right to divert waters of Alameda Creek.</p>	644 00	
<p>Fco. George.....</p> <p>Dated February 17, 1888.</p> <p>Recorded Liber G of Miscellaneous, page 165.</p> <p>39 acres between Alvarado and Centerville. Right to divert waters of Alameda Creek at or above but not below Vallejo Mill Stone Chute.</p>	2,200 00	

COST OF ALAMEDA AND CALAVERAS SYSTEM.

	AMOUNT.	TOTAL.
Estate W. F. Goad (Ella Goad Hooker, executrix) Dated June 14, 1899. Recorded Liber 703 of Deeds, page 234. Right of way for aqueduct over tract of 1734.64 acres, survey No. 57, etc., ex-Mission San Jose, excepting Nichols, Champion, Fonte, Wal- pert and some other previous deeds.	8,500 00	
Mrs. Isadora Joyce..... Dated May 22, 1893. Recorded Liber 510 of Deeds, page 89. 35 feet Union City, portion of Block No. 35, bounded North by Alameda Creek, South by Maiden Lane, East by Funk, West by Cameron (Camman).	60 00	
J. M. and Emily H. Ingalls..... Dated March 13, 1888. Recorded Liber G of Miscellaneous, page 119. 27.22 acres and 10-foot strip adjoining Vander- pepper, near Alvarado. Right to divert the waters of Alameda Creek at or above Vallejo Mill Stone Chute.	5,750 00	
W. F. and Margaret C. Ingalls..... Dated March 13, 1888. Recorded Liber G of Miscellaneous, page 122. 25.61 acres adjoining above tract. Right to divert the waters of Alameda Creek at or above Vallejo Mill Stone Chute.	3,000 00	
Chas. Kavanaugh..... Dated July 5, 1888. Recorded Liber 44 of Deeds, page 157. A near Ravenswood, San Mateo County, right of way for iron pipe. Spring Valley Water Works to pay for any subsequent damage.	400 00	
Francis and Bridget King..... Dated June 16, 1891. Recorded Liber 438 of Deeds, page 382. — A in N. W. $\frac{1}{4}$ of S. E. $\frac{1}{4}$ and N. E. $\frac{1}{4}$ of S. E. $\frac{1}{4}$ of Section 12, T. 4 S., R. 1 W. Right to divert waters of Alameda Creek, etc., at any point.	1,600 00	

COST OF ALAMEDA AND CALAVERAS SYSTEM.

	AMOUNT.	TOTAL.
Catherine K. Liston..... Dated July 5, 1888. Recorded Liber G of Miscellaneous, page 137. Lots Nos. 4, 7, 8, 9, 10, 11, Block No. 80, Alvarado, Brooklyn Hotel. Right to divert waters of Alameda Creek at Niles Canyon.	400 00	
Mathew Lasido..... Dated May 7, 1888. Recorded Liber 389 of Deeds, page 30. Lots Nos. 21 and 22, and parts of Lots Nos. 20 and 23, Centerville, Stevens Tract. Right of way for pipe—confined to Bane avenue.		
Mary Lowrie (executrix)..... Dated April 23, 1889. Recorded Liber 367 of Deeds, page 400. Lowrie Estate at Centerville, Decree of Con- demnation of Water Rights. Agreement as to 30,000 gallons per month to be delivered at a point designated by Lowrie, and to run with the land. Spring Valley Water Works to Mary Lowrie, widow of John Lowrie, deceased, and Mary Ellen to be designated by Lowrie, and to run with the Josephine Lowrie, children of said Mary and John Lowrie. To be delivered while the water is run- ning regularly in main of Spring Valley Water Works from Alameda Creek. Deed March 30, 1889. Acknowledged but not recorded.	10,000 00	
Ambrose J. and Almira Lattin..... Dated January 28, 1889. Recorded Liber G of Miscellaneous, page 292. Portion of Lots Nos. 3, 4, 5, Block No. 35, also Lot on Lever street, Alvarado. Right to divert waters of Alameda Creek at or above Vallejo Mill Stone Chute.	250 00	

COST OF ALAMEDA AND CALAVERAS SYSTEM.

	AMOUNT.	TOTAL.
Sophia and Henry May et als..... Dated September 3 1888. Recorded 355 of Deeds, page 122. 83.26 acres and 4.81 acres on road from Alvarado to San Leandro. Final decree of condemnation. Right to divert waters of Alameda Creek at or above Vallejo Mills Stone Chute.	10,000 00	
F. H. Meek, W. Meek, S. Meek..... Dated February 27, 1888. Recorded Liber G of Miscellaneous, page 145. Undivided 8-10. W. E. Meek. Dated May 8, 1889, undivided 1.10..... Meek.	10,000 00 1,250 00	
	1,250 00	
129.33 acres in Section 11, T. 4 S., R. 2 W., near Alvarado.		
H. McWhinney..... Dated November 1, 1887. Recorded F of Miscellaneous, page 436. 25.66 acres on road from Centerville to Decoto, near bridge, 2200 feet on creek. Right to divert waters of Alameda Creek at Vallejo Mills Stone Chute.	1,700 00	
W. H. Moffit and wife..... Dated April 7, 1888. Recorded Liber G of Miscellaneous, page 90. Land in Union City. Right to divert waters of Alameda Creek at any point above inlet of Vallejo Mills Stone Chute.	301 00	
T J. Mahan and E. Salz..... Dated June 11, 1888. Recorded Liber G of Miscellaneous, page 163. 53.65 acres on road from Centerville to Alvarado. Right to divert waters of Alameda Creek at Vallejo Mills Stone Chute.	3,412 50	

COST OF ALAMEDA AND CALAVERAS SYSTEM.

	AMOUNT.	TOTAL.
Morgan Oyster Company..... Dated December 12, 1887. Recorded Liber 44 of Deeds, page 420. 1,500 gallons of water per diem. Right of way for trestle across tide lands of grantor.		
J. M. Noia..... Dated October 26, 1887. Recorded Liber F of Miscellaneous, page 433. 99.12 acres, between Shinn and Bittencourt tracts, part of Survey No. 83, Lot No. 93. Right to divert. Spring Valley Water Works to furnish 1,000 gallons per day free to grantor's tank on demand, but it has not been demanded.	2,000 00	
W. A. Nelson..... Dated June 30, 1888. Recorded Liber G of Miscellaneous, page 144. ¾ of acre in town of Union City. Right to divert waters of Alameda Creek at or above Vallejo Mills Stone Chute.	150 00	
Jas. Nichols..... Dated February 15, 1888. Recorded Liber F of Miscellaneous, page 469. Survey No. 81 (Lot No. 91), next to Shinn. 90,000 gallons per month free delivered to grantor's tank, opposite Niles.	3,350 15	
H. Overacker..... Dated November 1, 1887. Recorded Liber G of Miscellaneous, page 16. Survey No. 84 (Lot No. 94, 246.53 acres, excepting Gomez and Nelson Tracts, also 17 acres (Lloyd or Petty). Right to divert waters of Alameda Creek at or above Vallejo Mills Stone Chute. Spring Valley Water Works to deliver to grantor's tank 70,000 gallons per week for use on land in question.		

COST OF ALAMEDA AND CALAVERAS SYSTEM.

	AMOUNT.	TOTAL.
Pacific Land Investment Company..... Dated March 13, 1888. Land near Alvarado. Right to take waters of Alameda Creek at any point at or above Vallejo Mill Stone Chute.	9,900 00	
Pacific Improvement Company. February 7, 1890..... May 13, 1890..... Land on south side of the right of way of the Western Pacific R. R., near Niles. Right to take waters of Alameda Creek.	110 00 3,550 00	
Henry Pierce and H. A. Mahew..... Dated November 29, 1889. Recorded Liber 387 of Deeds, page 124. 38.42 acres north of Vallejo Mills property and all of Survey No. 60 lying north of road from Niles to Sunol. Right to divert waters of Alameda Creek; right to maintain flumes, etc.; right to waste, but not to flood lands in question. Grantors to have free water through 100 feet of 1-inch pipe on lands of Mahew.	20,000 00	
Henry Pierce, Henry A. and Emily P. Mahew.... Dated May 4, 1899. Recorded Liber 703 of Deeds, page 191. Right of way for aqueduct over lands of Pierce, between Clarke and Ellsworth, also conveys "Picnic Grounds." (See also folio 42 of Deeds, Alameda).	15,000 00	
M. S. Peixoto..... Dated April 3, 1888. Recorded Liber G of Miscellaneous, page 67. On road from Centerville to Decoto, between lands of Mrs. Baker and Gregory and Bush. Right to divert waters of Alameda Creek at Vallejo Mills Stone Chute.	1,347 50	

WATER RATES.

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COST OF ALAMEDA AND CALAVERAS SYSTEM.

	AMOUNT.	TOTAL.
<p>J. H. Petersen.....</p> <p style="padding-left: 20px;">Dated February 27, 1888.</p> <p style="padding-left: 20px;">Recorded Liber G of Miscellaneous, page 148.</p> <p style="padding-left: 20px;">Acres adjoining Rock Nursery, 12.96 chains on Alameda Creek. Right to divert water at but not below Vallejo Mills Stone Chute, and Spring Valley Water Works agrees to defend grantor against any action brought on account of this grant.</p>	2,537 00	
<p>M. S. Perez.....</p> <p style="padding-left: 20px;">Dated May 27, 1888.</p> <p style="padding-left: 20px;">Recorded Liber G of Miscellaneous, page 128.</p> <p style="padding-left: 20px;">57.33 acres on road from Centerville to Alvarado. Right to divert waters of Alameda Creek above Vallejo Mills Stone Chute only. Spring Valley Water Works to furnish 1,000 gallons per day for use on this land gratis; grantor to lay pipe. Has also granted riparian rights to Washington and Murray Township Water Company.</p>	2,250 00	
<p>J. Quigley.....</p> <p style="padding-left: 20px;">Dated May 16, 1888.</p> <p style="padding-left: 20px;">Recorded Liber G of Miscellaneous, page 139.</p> <p style="padding-left: 20px;">200 acres in Washington Township, 2 acres and Block 37 in Union City. Right to divert waters at Niles Dam.</p>	3,500 00	
<p>D. Riley.....</p> <p style="padding-left: 20px;">Dated April 3, 1888.</p> <p style="padding-left: 20px;">Recorded Liber G of Miscellaneous, page 111.</p> <p style="padding-left: 20px;">Beginning at line of Heron (Ahern) and Smith, 11.70 chains on the creek. Right to divert waters of Alameda Creek at or above Vallejo Mills Stone Chute.</p>	1,001 30	
<p>Jos. Rose.....</p> <p style="padding-left: 20px;">Dated November 26, 1878.</p> <p style="padding-left: 20px;">Recorded Liber 171 of Deeds, page 285.</p> <p style="padding-left: 20px;">S. E. ¼ of S. E. ¼ of Section 12, T. 4 S., R. 1 W. Right to divert waters of Alameda Creek at any point above.</p>	200 00	

COST OF ALAMEDA AND CALAVERAS SYSTEM.

	AMOUNT.	TOTAL.
<p>Antone Rodrigues and M. A. de S. Rodrigues..... Dated July 23, 1888. 18 acres Lot No. 1 Washington Township, near land of J. C. Whipple. Right to divert waters of Alameda Creek at or above Vallejo Mills Stone Chute.</p> <p>Fanetta Ralph..... Dated December 7, 1888. Recorded Liber G of Miscellaneous, page 228. Lot No. 81, Block No. 78, Alvarado. Right to divert waters of Alameda Creek at Vallejo Mills Stone Chute.</p> <p>Rankin and Dyer (Alameda Water Company to Spring Valley Water Works). Dated June 28, 1875. Recorded Liber 109 of Deeds, page 461. Beginning at a point in the easterly line of C. C. Scott's land in the middle of Alameda Creek, thence up the middle of said creek as far as the official survey of Thos. Robinson extends, and the lands hereby intended to be conveyed lying on both sides of said line or creek and running back therefrom to line of highest flow of the waters thereof, so as to include the mill race built thereon by J. J. Vallejo. On the east and west sides said lands are bounded by lines crossing said creek at right angles. Also sufficient land outside of and contiguous to said high-water line upon which to erect buildings to use the water power of said creek and to dig or erect flumes to make the same available. Also all stone quarries that may exist within 5 chains of said middle line of said creek, the working of which will not interfere with the cultivation of arable land. (See McLaughlin.)</p>		

COST OF ALAMEDA AND CALAVERAS SYSTEM.

	AMOUNT.	TOTAL.
Jas. Shinn..... Dated February 9, 1888. Recorded Liber G of Miscellaneous, page 24. 93.10 acres, 112.01 acres, 25.68 acres adjacent to town of Niles. Right to divert waters of Alameda Creek at or above Vallejo Mill Stone Chute. Spring Valley Water Works to deliver free to tank of grantor 70,000 gallons per week, as long as water is taken from creek.	10,000 00	
Jas. Shinn and L. E. Shinn, his wife..... Dated June 29, 1894. Shinn's Island, 30.67 acres. Recorded Liber Right to divert waters of Alameda Creek at or above Vallejo Mill Stone Chute. Releases from all claims.	5,833 75	
S. Salz and E. Niehaus..... Dated March 28, 1888. 2.87 acres on road from Decoto to Centerville. Right to divert waters of Alameda Creek at or above Vallejo Mills Stone Chute.		
Salz. December 10, 1888.....	4,763 40	
December 19, 1888.....	7,000 00	
August 12, 1890.....	615 80	
Jas. Soas..... October 29, 1887.....	1,000 00	
John F. Stevenson..... Dated March 29, 1888. Recorded Liber G of Miscellaneous, page 73. 404.74 acres adjoining Lowrie Estate, near Centerville, 40.94 chains on creek. Right to divert waters of Alameda Creek at but not below Vallejo Mills Stone Chute and no other rights. Spring Valley Water Works to furnish 2,500 gal- lons per day free for use on said land. Grantors to lay pipe. to permit grantor to lay pipe through its lands if necessary.	10,203 75	

WATER RATES.

COST OF ALAMEDA AND CALAVERAS SYSTEM.

	AMOUNT.	TOTAL.
H. A. Tay and O. J. Backus..... Dated March 26, 1888. Lots in Union City. Right to divert waters of Alameda Creek at or above Vallejo Mills Stone Chute.	1,750 00	
F. Vargas..... Dated December 14, 1887. Recorded Liber F of Miscellaneous, page 446. 12 acres, Lot No. 3 of William's Estate on "Dry Creek" (about 1 mile southwest from Decoto), 6.10 chains on Alameda Creek. Right to divert waters of Alameda Creek at Vallejo Mills Stone Chute, but no title in lands themselves intended to be conveyed.	254 63	
D. Van Ness..... Dated March 1, 1888. Recorded Liber G of Miscellaneous, page 117. 381.54 acres near Alvarado. Right to divert waters of Alameda Creek at Vallejo Mill Stone Chute, not to interfere with bed of creek in this tract. Reserves right to all waters which flow past dam down to him.	1,000 00	
J. G. Vanderpeer..... Dated May 29, 1888. Recorded Liber G of Miscellaneous, page 124. 72.33 acres next Ingalls on road from Niles to Alvarado, less two tracts of 8 acres each. Right to divert waters of Alameda Creek above Vallejo Mill Stone Chute.	4,000 00	
J. C. and E. Whipple..... Dated February 16, 1888. Recorded Liber G of Miscellaneous, page 21. Acres near Decoto, 96.80 chains down Alameda Creek. Right to take waters of creek at Stone Dam, but not below.	8,000 00	

COST OF ALAMEDA AND CALAVERAS SYSTEM.

	AMOUNT.	TOTAL.
<p>J. C. Whipple and J. B. Sherk..... Dated February 16, 1888. Recorded Liber G of Miscellaneous, page 6. 62.17 acres adjoining Meek Tract, 27.50 chains on Alameda Creek for both tracts. Right to divert waters of Alameda Creek at but not below Vallejo Mills Stone Chute.</p>	3,176 25	
<p>J. C. Whipple..... Dated February 16, 1888. Recorded Liber G of Miscellaneous, page 19. 49.90 acres in Section 18, 11.29 chains on Ala- meda Creek. Right to divert waters of Alameda Creek at but not below Vallejo Mills Stone Chute.</p>		
<p>D. Weigman..... Dated October 27, 1888. Recorded Liber G of Miscellaneous, page 219. Southerly part of Block No. 70, Alvarado, and Lot No. 1 and fractional 12, Block No. 80. Right to divert waters of Alameda Creek at or above Vallejo Mill Stone Chute.</p>	800 00	
<p>G. F. Wissman..... Dated December 19, 1888. Recorded Liber G of Miscellaneous, page 226. 50 acres adjoining Ralph property on road from Centerville to Alvarado, 22.55 chains on creek. Right to divert at or above Vallejo Mill Stone Chute.</p>	5,003 42	
<p>Edward and Alice E. Watkins..... Dated November 27, 1891. Recorded Liber 454 of Deeds, page 255. The N. E. $\frac{1}{4}$ and N. E. $\frac{1}{4}$ of N. W. $\frac{1}{4}$, Sec- tion 10, T. 5 S., R. 1 E. Right to divert Alameda Creek, feeders or tributaries at or above Vallejo Mills Stone Chute.</p>	1,000 00	

WATER RATES.

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COST OF ALAMEDA AND CALAVERAS SYSTEM.

	AMOUNT.	TOTAL.
4.—Pipe Line, begun in September, 1887, and completed in November, 1890.....		\$1,506,674 62
Total		1,589,869 30
		\$3,096,543 92

EXHIBIT NO. 7.

SHOWING COST OF PUMPING WORKS AT BELMONT AND MILLBRAE.

	AMOUNT.	TOTAL.
BELMONT.		
1.—LAND—		
W. H. Adams—41.67 acres on S. P. R. R. ½ mile south of Belmont.....		\$8,012 67
Deed dated August 8, 1887.		
Recorded Liber 41 of Deeds, page 509, San Mateo.		
2.—Pumping Works, begun in March, 1888, and finished in December, 1888.....		166,535 22
For description of these works see "Inventory," page 9.		
MILLBRAE.		
1.—Land—included in Crystal Springs account.		
2.—Pumping Works, begun in December, 1897, finished in May 1899.....		263,219 98
For description of these works see "Inventory," pages 10-11. For details of cost see "Detailed Statements" for 1897, 1898 and 1899, on file in office of the Board of Supervisors.		
Total		\$437,767 87

EXHIBIT NO. 8.

SHOWING COST OF LOCKS CREEK AND BALD HILL PIPE LINES.

	AMOUNT.	TOTAL.
COST.		
1.—Land, as follows:		
M. Maloney—80 acres in Sec. 4, T. 5 S., R. 5 W.. Deed dated January 8, 1867. Recorded Liber 6 of Deeds, page 159, San Mateo.	\$650 00	

COST OF LOCKS CREEK AND BALD HILL PIPE LINES.

	AMOUNT.	TOTAL.
Ames and Byrnes—435 acres in Secs. 5-8-9, T. 5 S., R. 5 W..... Deed dated November 18, 1870. Recorded Liber 10 of Deeds, page 501, San Mateo.	\$5,200 00	
J. B. Lock—153.5 acres in Section 6, T. 5 S., R. 5 W..... Deed dated September 8 1872. Recorded Liber 17 of Deeds, page 256, San Mateo.		
Linden et als—"Lands at Outlet of Tunnel." (See Cost of Crystal Springs Lands.)		
J. and P. Hatch—243.8 acres in S. E. $\frac{1}{4}$ of Section 4, N. $\frac{1}{2}$ of N. E. $\frac{1}{4}$ of Section 9, 3.8 acres in S. $\frac{1}{2}$ of Section 9, T. 5 S., R. 5 W..... Deed dated July 18, 1879. Recorded Liber 30 of Deeds, page 618, San Mateo.	1,500 00	

COST OF LOCKS CREEK AND BALD HILL PIPE LINES.

	AMOUNT.	TOTAL.
State of California to Clara E. Glover—Certificate of Purchase, November 25, 1891 (No. 18884). Clara E. Glover to Samuel C. Goodhue—Assignment, December 2, 1891.		
Samuel C. Goodhue and wife to Spring Valley Water Works—Assignment, January 13, 1896. Lots 3 and 5 of Section 6 and S. W. ¼ of N. W. ¼ of Section 9, T. 5 S., R. 5 W..... Recorded Liber of Deeds, page , San Mateo.	524 00	
BADEN.		
South San Francisco Land Improvement Co.— 8.847 acres near 12-Mile Farm..... Deed dated September 14, 1895. Recorded Liber 70 of Deeds, page 425, San Mateo.	4,423 50	
COLMA.		
School Land Association—Lot No. 1, Block No. 17 Deed dated June 29, 1872. Recorded Liber 18 of Deeds, page 159, San Mateo.	397 75	
ABBEY HOMESTEAD ASSOCIATION.		
Abbey Homestead Association—N. Luning. Lot No. 3, Block No. 32. Lot No. 3, Block No. 156. Lots Nos. 8 and 9 of Block No. 171. Part of Block No. 171. Lots Nos. 2 and 5, Block No. 177. Lot No. 8, Block No. 176. Lot No. 2, Block No. 185..... Deed dated March 12, 1874. Recorded Liber 23 of Deeds, page 161, San Mateo.	2,000 00	
		\$14,695 25

COST OF LOCKS CREEK AND BALD HILL PIPE LINES.

	AMOUNT.	TOTAL.
2.—Locks Creek Tunnel, begun in May, 1870, to May, 1873.....	\$42,190 38	
3.—Locks Creek Line, begun in June, 1871, to May, 1875.....	320,142 49	
4.—New Locks Creek Line, begun in November, 1897, to June, 1899.....	206,263 50	
For details of cost of the "New Locks Creek Line," see "Detailed Statements" for 1897 to 1898 and 1899, on file in office of the Supervisors.		\$588,291 62

BALD HILL PIPE LINE.

This pipe line is properly part of the San Andres system, and should have been included in the account of the San Andres system.

	AMOUNT.	TOTAL.
1.—Tunnel, begun in June, 1869, and cost.....	\$48,253 75	
2.—Pipe Line, begun in May, 1870, and cost.....	292,401 61	
Total cost.....		\$340,655 36

WATER RATES.

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EXHIBIT NO. 9.

STATEMENT OF ANNUAL RECEIPTS AND DISBURSEMENTS, BY YEARS,
FROM JULY 1, 1878, TO JUNE 30, 1900.

FROM JULY 1, 1881, TO JUNE 30, 1882.

	AMOUNT.	TOTAL.
RECEIPTS.		
From Water Rates.....	\$1,345,403 92	
From Rents and other sources.....	18,131 91	
		\$1,363,535 83
DISBURSEMENTS.		
For operating expenses.....	\$287 671 73	
For dividends.....	640,000 20	
For coupon interest.....	224,250 00	
For other interest.....	17,413 00	
For taxes.....	28,969 05	
		1,198,303 98
Gain		\$165,231 85
For permanent improvements.....		66,774 55

WATER RATES.

STATEMENT OF ANNUAL RECEIPTS AND DISBURSEMENTS.
FROM JULY 1, 1882, TO JUNE 30, 1883.

	AMOUNT.	TOTAL.
RECEIPTS.		
From Water Rates.....	\$1,306,172 65	\$1,313,971 80
From Rents, etc.....	7,799 15	
DISBURSEMENTS.		
For operating expenses.....	\$511,484 93	1,423,989 75
For dividends.....	413,333 45	
For coupon interest.....	238,500 00	
For other interest.....	6,182 86	
For taxes.....	254,488 51	
Loss		\$110,017 95
For permanent improvements.....		156,915 87

STATEMENT OF ANNUAL RECEIPTS AND DISBURSEMENTS.
FROM JULY 1, 1883, TO JUNE 30, 1884.

	AMOUNT.	TOTAL.
RECEIPTS.		
From Water Rates.....	\$1,214,245 78	\$1,221,684 13
From Rents, etc.....	7,438 35	
DISBURSEMENTS.		
For operating expenses.....	\$419,655 60	1,117,714 19
For dividends.....	240,000 00	
For coupon interest.....	238,500 00	
For other interest.....	61,831 21	
For taxes.....	157,727 38	
Gain		\$108,969 94
For permanent improvements.....		1,051,667 44

WATER RATES.

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STATEMENT OF ANNUAL RECEIPTS AND DISBURSEMENTS. FROM JULY 1, 1884, TO JUNE 30, 1885.

	AMOUNT.	TOTAL.
RECEIPTS.		
From Water Rates.....	\$1,284,539 15	
From Rents.....	8,028 50	
		\$1,292,567 65
DISBURSEMENTS.		
For operating expenses.....	\$329,004 77	
For dividends.....	514,288 00	
For coupon interest.....	253,500 00	
For other interest.....	53,269 90	
For taxes.....	54,531 14	
		1,204,593 81
Gain		\$87,973 84
For permanent improvements.....		614,072 85

STATEMENT OF ANNUAL RECEIPTS AND DISBURSEMENTS. FROM JULY 1, 1885, TO JUNE 30, 1886.

	AMOUNT.	TOTAL.
RECEIPTS.		
From Water Rates.....	\$1,252,169 41	
From Rents.....	15,066 90	
		\$1,267,236 31
DISBURSEMENTS.		
For operating expenses.....	\$325,653 40	
For dividends.....	568,239 50	
For coupon interest.....	229,580 00	
For other interest.....	42,055 02	
For taxes.....	56,605 44	
		1,262,133 36
Gain		\$5,102 95
For permanent improvements.....		1,373,744 24

WATER RATES.

STATEMENT OF ANNUAL RECEIPTS AND DISBURSEMENTS.
FROM JULY 1, 1886, TO JUNE 30, 1887.

	AMOUNT.	TOTAL.
RECEIPTS.		
From Water Rates.....	\$1,308,370 77	
From Rents.....	10,915 35	
		\$1,319,286 12
DISBURSEMENTS.		
For operating expenses.....	\$323,697 08	
For dividends.....	600,000 00	
For coupon interest.....	269,580 00	
For other interest.....	34,632 86	
For taxes.....	58,686 82	
		1,286,596 76
Gain		\$32,689 36
For permanent improvements.....		652,982 07

STATEMENT OF ANNUAL RECEIPTS AND DISBURSEMENTS.
FROM JULY 1, 1887, TO JUNE 30, 1888.

	AMOUNT.	TOTAL.
RECEIPTS.		
From Water Rates.....	\$1,357,975 74	
From Rents.....	12,992 59	
		\$1,370,968 33
DISBURSEMENTS.		
For operating expenses.....	\$351,516 78	
For dividends.....	600,000 00	
For coupon interest.....	340,980 00	
For other interest.....	30,112 08	
For taxes.....	69,280 27	
		1,331,889 13
Loss		\$30,920 80
For permanent improvements.....		2,320,485 04

WATER RATES.

STATEMENT OF ANNUAL RECEIPTS AND DISBURSEMENTS.
FROM JULY 1, 1888, TO JUNE 30, 1889.

	AMOUNT.	TOTAL.
RECEIPTS.		
From Water Rates.....	\$1,444,540 96	\$1,458,296 96
From Rents.....	13,756 00	
DISBURSEMENTS.		
For operating expenses.....	\$400,202 75	1,568,402 16
For dividends.....	600,000 00	
For coupon interest.....	424,470 00	
For other interest.....	63,106 13	
For taxes.....	70,623 28	
Loss		\$110,105 20
For permanent improvements.....		\$1,709,187 02

STATEMENT OF ANNUAL RECEIPTS AND DISBURSEMENTS.
FROM JULY 1, 1889, TO JUNE 30, 1890.

	AMOUNT.	TOTAL.
RECEIPTS.		
From Water Rates.....	\$1,427,483 82	\$1,475 380 62
From Rents and other sources.....	18,796 80	
From coal transferred.....	29,011 00	
DISBURSEMENTS.		
For operating expenses.....	\$424,984 06	1,278,301 44
For dividends.....	250,000 00	
For coupon interest.....	458,500 00	
For other interest.....	54,007 59	
For taxes.....	90,809 79	
Gain		\$197,079 18
For permanent improvements.....		311,670 74

WATER RATES.

STATEMENT OF ANNUAL RECEIPTS AND DISBURSEMENTS.
FROM JULY 1, 1890, TO JUNE 30, 1891.

	AMOUNT.	TOTAL.
RECEIPTS.		
From Water Rates.....	\$1,553,079 36	\$1,573,930 10
From Rents.....	20,850 74	
DISBURSEMENTS.		
For operating expenses.....	\$401,919 78	1,836,605 15
For dividends.....	805,000 00	
For coupon interest.....	473,500 00	
For other interest.....	70,341 12	
For taxes.....	85,844 25	
Loss		\$262,675 05
For permanent improvements.....		813,303 52

STATEMENT OF ANNUAL RECEIPTS AND DISBURSEMENTS.
FROM JULY 1, 1891, TO JUNE 30, 1892.

	AMOUNT.	TOTAL.
RECEIPTS.		
From Water Rates.....	\$1,642,164 50	\$1,657,755 51
From Rents.....	15,591 01	
DISBURSEMENTS.		
For operating expenses.....	\$385,067 64	1,657,897 81
For dividends.....	660,000 00	
For coupon interest.....	481,564 80	
For other interest.....	38,916 98	
For taxes.....	92,348 39	
Loss		\$142 30
For permanent improvements.....		492,966 13

WATER RATES.

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STATEMENT OF ANNUAL RECEIPTS AND DISBURSEMENTS. FROM JULY 1, 1892, TO JUNE 30, 1893.

	AMOUNT.	TOTAL.
RECEIPTS.		
From Water Rates.....	\$1,649,794 24	
From Rents.....	23,726 04	
		\$1,673,520 28
DISBURSEMENTS.		
For operating expenses.....	\$398,868 83	
For dividends.....	660,000 00	
For coupon interest.....	498,500 00	
For other interest.....	37,550 79	
For taxes.....	91,930 03	
		1,686,849 65
Loss		\$13,329 37
For permanent improvements.....		183,962 01

STATEMENT OF ANNUAL RECEIPTS AND DISBURSEMENTS. FROM JULY 1, 1893, TO JUNE 30, 1894.

	AMOUNT.	TOTAL.
RECEIPTS.		
From Water Rates.....	\$1,639,802 36	
From Rents, etc.....	30,991 62	
		\$1,670,793 98
DISBURSEMENTS.		
For operating expenses.....	\$383,844 18	
For dividends.....	684,500 00	
For coupon interest.....	498,500 00	
For other interest.....	36,930 33	
For taxes.....	96,843 65	
		1,700,618 16
Loss		\$20,824 18
For permanent improvements.....		451,166 57

WATER RATES.

STATEMENT OF ANNUAL RECEIPTS AND DISBURSEMENTS.
FROM JULY 1, 1894, TO JUNE 30, 1895.

	AMOUNT.	TOTAL.
RECEIPTS.		
From Water Rates.....	\$1,659,828 97	
From Rents.....	23,773 93	
		\$1,683,602 90
DISBURSEMENTS.		
For operating expenses.....	\$369,389 23	
For dividends.....	702,000 00	
For coupon interest.....	498,500 00	
For other interest.....	35,639 73	
For taxes.....	94,614 69	
		1,700,143 65
Loss		\$16,540 75
For permanent improvements.....		213,268 58

STATEMENT OF ANNUAL RECEIPTS AND DISBURSEMENTS.
FROM JULY 1, 1895, TO JUNE 30, 1896.

	AMOUNT.	TOTAL.
RECEIPTS.		
From water rates.....	\$1,730,924 80	
From rents.....	19,950 05	
		\$1,750,874 85
DISBURSEMENTS.		
For operating expenses.....	\$385,210 23	
For dividends.....	667,500 00	
For coupon interest.....	498,500 00	
For other interest.....	35,280 55	
For taxes.....	126,207 00	
		1,712,697 78
Gain		\$38,177 07
For permanent improvements.....		577,847 18

WATER RATES.

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STATEMENT OF ANNUAL RECEIPTS AND DISBURSEMENTS. FROM JULY 1, 1896, TO JUNE 30, 1897.

	AMOUNT.	TOTAL.
RECEIPTS.		
From Water Rates.....	\$1,785,422 76	
From Rents.....	19,962 83	
		\$1,805,385 59
DISBURSEMENTS.		
For operating expenses.....	\$388,695 17	
For dividends.....	755,562 50	
For coupon interest.....	498,500 00	
For other interest.....	39,919 03	
For taxes.....	103,024 54	
		1,785,701 24
Gain		\$19,684 35
For permanent improvements.....		514,791 31

STATEMENT OF ANNUAL RECEIPTS AND DISBURSEMENTS. FROM JULY 1, 1897, TO JUNE 30, 1898.

	AMOUNT.	TOTAL.
RECEIPTS.		
From Water Rates.....	\$1,667,821 38	
From Rents.....	33,981 81	
		\$1,701,803 19
DISBURSEMENTS.		
For operating expenses.....	\$422,342 29	
For dividends.....	810,500 00	
For coupon interest.....	398,500 00	
For other interest.....	32,086 35	
For taxes.....	121,464 89	
		1,784,893 53
Loss		\$83,090 34
For permanent improvements.....		1,311,254 53

WATER RATES.

STATEMENT OF ANNUAL RECEIPTS AND DISBURSEMENTS.
FROM JULY 1, 1898, TO JUNE 30, 1899.

	AMOUNT.	TOTAL.
RECEIPTS.		
From Water Rates.....	\$1,824,244 52	
From Rents.....	50,837 85	
		\$1,875,082 37
DISBURSEMENTS.		
For operating expenses.....	\$465,756 54	
For dividends.....	714,000 00	
For coupon interest.....	534,000 01	
For other interest.....	25,483 81	
For taxes.....	135,540 98	
		1,874,781 34
Gain		\$301 03
For permanent improvements.....		801,039 74

STATEMENT OF ANNUAL RECEIPTS AND DISBURSEMENTS.
FROM JULY 1, 1899, TO JUNE 30, 1900.

	AMOUNT.	TOTAL.
RECEIPTS.		
From Water Rates.....	\$1,903,070 97	
From Rents.....	47,215 91	
		\$1,950,286 88
DISBURSEMENTS.		
For operating expenses.....	\$427,008 78	
For dividends.....	705,600 00	
For coupon interest.....	572,055 55	
For other interest.....	24,255 04	
For taxes.....	198,276 22	
		1,927,165 59
Gain		\$23,121 29
For permanent improvements.....		683,519 30

WATER RATES.

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STATEMENT OF ANNUAL RECEIPTS AND DISBURSEMENTS. FROM JULY 1, 1900, TO DECEMBER 31, 1900.

	AMOUNT.	TOTAL.
RECEIPTS.		
From Water Rates.....	\$914,718 33	
From Rents.....	23,031 45	
		\$937,749 78
DISBURSEMENTS.		
For operating expenses.....	\$214,214 42	
For taxes.....	201,592 53	
For coupon interest.....	297,250 00	
For other interest.....	11,162 76	
For dividends.....	352,800 00	
		1,077,019 71
Loss		\$139,269 93
For permanent improvements.....		205,091 69

EXHIBIT NO. 10.

SHOWING COST OF PESCADERO, SAN GREGORIO AND SAN PEDRO CREEKS, AND SAUSALITO WATER WORKS.

	AMOUNT.	TOTAL.
1.—Real Estate.....	\$24,200 00	
2.—Improvements, Surveys, Grading, etc.....	17,698 01	
Total		\$41,398 01

WATER RATES.

SAUSALITO WATER WORKS.

	AMOUNT.	TOTAL.
1.—Real Estate.....	\$15,519 07	
Sausalito Water and Steam Tug Company. Lots 11, 12, 13 and 14 in Block 6. Lots 16 and 17 in Block 10. Lots 6, 7, 16 and 17 in Block 14. Lots 3, 4, 5, 11, 12 and 13 in Block 16. Deed dated August 29, 1871. Recorded Liber 2 of Deeds, page 552		

DAVIS TUNNEL.

	AMOUNT.	TOTAL.
Davis Tunnel should be included in San Andres System, June, 1897.....	\$32,287 00	

WATER RATES.

EXHIBIT NO. 11.

SHOWING COST OF SEARSVILLE, OR PORTOLA.

	AMOUNT.	TOTAL.
1.—Real Estate.....		\$140,095 50
John Murry and wife—100 acres in Sec. 18, T. 6 S., R. 3 W..... Deed dated October 18, 1878. Recorded Liber 30 of Deeds, page 111.	\$13,000 00	
E. Eikerenkotter—.495 acre in Section 13, T. 6 S., R. 3 W..... Deed dated February 8, 1879. Recorded Liber 29 of Deeds, page 551.	60 00	
Wm. Thompson—4 acres in Sec. 19, T. 6 S., R. 3 W., junction of Sanzon, Alembique and Dennis Martin Creeks..... Deed dated February 25, 1881. Recorded Liber 33 of Deeds, page 160.	1,500 00	
Jos. H. Hallett—15.189 and 22.263 acres in Secs. 12, 13, T. 6 S., R. 4 W., on Bear Gulch Creek. Deed dated February 28, 1881. Recorded Liber 33 of Deeds, page 182. Consideration—March 10, 1881..... March 31, 1881.....	1,800 00 3,300 00	
Chas. Webb Howard—2 acres adjoining Searsville and 200 acres on Corte Madera and Sanzon Creeks, Preston Tract..... Deed dated July 25, 1883. Recorded Liber 38 of Deeds, page 265.	15,000 00	
Chas. Webb Howard—147.67 acres in Sec. 18, T. 6 S., R. 3 W., Sec. 13, T. 6 S., R. 4 W., Hughes Tract Deed dated August 18, 1883. Recorded Liber 38 of Deeds, page 256.	9,500 00	
J. M. Allen—60.36 acres in Sec. 12, T. 6 S., R. 4 W., on Bear Gulch Creek..... Deed dated October 6, 1883. Recorded Liber 39 of Deeds, page 259.	4,587 50	

COST OF SEARSVILLE OR PORTOLA.

	AMOUNT.	TOTAL.
E. W. Burr and J. Jephson—10 acres Mountain Home Ranch on Bear Gulch Creek. Deed dated August 24, 1885. Recorded Liber 39 of Deeds, page 264.		
Jas. Jephson—12.124 acres on Bear Gulch Creek... Deed dated August 24, 1885. Recorded Liber 39 of Deeds, page 263.	\$3,000 00	
Wm. Lloyd and Jane Lloyd—84.41 acres in Searsville and between Alembique and Dennis Martin Creeks..... Deed dated April 10, 1886. Recorded Liber 39 of Deeds, page 450.	13,500 50	
Thos. Shine—55.13 acres on Bear Gulch Creek..... Deed dated April 8, 1886. Recorded Liber 39 of Deeds, page 445.	9,650 00	
J. Dempsey and Bridget Dempsey—5.37 acres on Bear Gulch Creek..... Deed dated April 3, 1886. Recorded Liber 39 of Deeds, page 437.	2,750 00	
A. and H. Elkerenkotter—10.28 acres on Alembique Creek, "Hotel Tract"..... Deed dated April 5, 1886. Recorded Liber 39 of Deeds, page 440.	9,650 00	
C. W. Fischer—47.75 acres on east side of Bear Gulch Creek..... Deed dated April 10, 1886. Recorded Liber 39 of Deeds, page 448.	2,850 00	
J. S. Spaulding—Lots 1, 2, 3, 10, 11, 12, Block No. 2, Searsville, and 3 acres on Dennis Martin Creek Deed dated April 12, 1886. Recorded Liber 33 of Deeds, page 460.	2,075 00	
Chas. McLaughlin—All his real estate in or near Searsville (Block No. 1)..... Deed dated April 12, 1886. Recorded Liber 39 of Deeds, page 458.	10,550 00	

WATER RATES.

COST OF SEARSVILLE OR PORTOLA.

	AMOUNT.	TOTAL.
J. H. Sears—½ acre in Block No. 1, Searsville, "Old Sears Place"..... Deed dated May 18, 1886. Recorded Liber 40 of Deeds, page 118.		
D. S. Sniveley—40.55 acres on Bear Gulch Creek.. Deed dated April 12, 1886. Recorded Liber 39 of Deeds, page 455.	\$9,250 00	
John Owens—Part of Block No. 3 in Town of Searsville Deed dated May 28, 1887. Recorded Liber 42 of Deeds, page 264.	1,000 00	
H. Barrollhet—62.4 acres on Dennis Martin Creek, Walsh Tract..... Deed dated January 6, 1888. Recorded Liber 44 of Deeds, page 392.	10,722 50	
M. J. Townsend—1 acre next to School Lot, Sears- ville Deed dated March 13, 1888. Recorded Liber 43 of Deeds, page 207.	500 00	
Wm. Hughes—4 acres on Alembique Creek..... Deed dated August 13, 1888. Recorded Liber 46 of Deeds, page 63.	3,000 00	
Maria F. Taylor—30.38 acres near Woodside (Shaft No. 2)..... Deed dated October 5, 1888. Recorded Liber 39 of Deeds, page 155.	6,000 00	
T. M. Pennell—3 acres on Bear Gulch Creek (Langley Tract)..... Deed dated June 2, 1891. Recorded Liber 56 of Deeds, page 187. (A. S. Langley et al. deed to Pennell).	2,000 00	
William Lloyd—Searsville School Lot (1st and 3d parcels noted below)..... Deed dated April 14, 1894. Recorded Liber 67 of Deeds, page 271. (April 27, 1894.)	150 00	

COST OF SEARSVILLE OR PORTOLA.

	AMOUNT.	TOTAL.
Searsville School District of San Mateo County and George Fromhertz, Hugh Kelley and John Owens, Trustees—Searsville School Lots (3 parcels), 29 feet on county road, piece lying between above tract and land formerly of Lloyd. Piece adjoining 2d parcel 60 feet on road by 361 feet.	2,850 00	
Deed dated April 14, 1894. Recorded Liber 67 of Deeds, page 274. (April 27, 1894.)	\$140,005 50	
Grantors to retain title to buildings and fence if removed within reasonable time.		
2.—Tunnel, July, 1888.....	89,865 53	
3.—Dam, July, 1891.....	32,303 09	
4.—Manzanita Water Company, June, 1890.....	23,550 81	
Total		\$285,814 93

WATER RATES.

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EXHIBIT NO. 12.

SHOWING COST OF CITY PIPE SYSTEM.

	AMOUNT.	TOTAL.
1.—Brannan-Street Reservoir, 1861.		
1.—Real Estate—		
C. V. Stuart—Southwest corner Center street and Potrero avenue, 400x380 feet.....	\$1,500 00	
Deed dated November 1, 1860.		
Recorded Liber 118 of Deeds, page 255.		
N. de Tissot—Southwest corner Center street and Potrero avenue, 400x300 feet.....		
Deed dated April 2, 1861.		
Recorded Liber 306 of Deeds, page 3.		
S. Fuller—Potrero Block No. 65.....	250 00	
Deed dated June 27, 1862.		
Recorded Liber 171 of Deeds, page 99.		
E. Miller and A. H. Wheeler.....	625 00	
Deed dated November 30, 1865.		
Recorded Liber 306 of Deeds, page 286.		
Willard Hodges.....	50 00	
Deed dated November 30, 1865.		
Recorded Liber 306 of Deeds, page 289.		
Total		\$2,425 00

MARKET, OR BUCHANAN, STREET RESERVOIR (August, 1862).

	AMOUNT.	TOTAL.
1.—Real Estate—		
H. Carleton Jr.—Lots 2 and 3, Block 292, W. A..	\$315 00	
Deed dated April 21, 1863.		
Recorded Liber 199 of Deeds, page 50.		
(Oct. 9, 1862, E. A. Breed to H. Carleton Jr., same lots, consideration in deed \$2,300 00).		

MARKET, OR BUCHANAN, STREET RESERVOIR.

	AMOUNT.	TOTAL.
H. Carleton Jr.—Block 292..... Deed dated February 29, 1864. Recorded Liber 233 of Deeds, page 274. (Title of R. H. Lloyd purchased August 29, 1863, at \$3,500 00). (Title of M. Lynch purchased August 29, 1863, at \$300 00, probably included in above \$6,300 00).	\$6,300 00	
E. L. Sullivan—Block No. 292..... (See deed from J. S. and M. Pollack.) Deed dated March 22, 1864. Recorded Liber 242 of Deeds, page 255.	3,600 00	
J. Buckley—Part of Blocks 292-3..... Deed dated February 8, 1865. Recorded Liber 273 of Deeds, page 227.	400 00	
Robt. Roxby—Omnibus..... Deed dated April 1, 1865. Recorded Liber 318 of Deeds, page 270. Deed dated March 10, 1866. Recorded Liber 318 of Deeds, page 270.		
A. C. Chick—S. E. Buchanan and Kate, 25 feet on Kate by 100 feet..... Deed dated February 10, 1865. Recorded Liber 314 of Deeds, page 407.	500 00	
E. L. B. Brooks—Blocks Nos. 292-3..... Deed dated April 11, 1867. Recorded Liber 359 of Deeds, page 384.	200 00	
J. S. and M. Pollack—Block No. 292..... Deed dated February 21, 1871. Recorded Liber 758 of Deeds, page 343. (See deed from E. L. Sullivan). Journal Entry June 1, 1871, "Reservoir Lot," Buchanan Street.	2,000 00 18,505 92	
2.—Reservoir		\$31,820 92
		38,603 28
		\$70,423 20

WATER RATES.

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LAKE HONDA (May, 1861).

	AMOUNT.	TOTAL.
Real Estate—		
F. L. A. Ploche, Levi Parsons, J. B. Felton—25 acres surrounding Lake Honda. Deeds dated January 26 and May 31, 1861. Recorded Liber 127 of Deeds, page 38. Recorded Liber 352 of Deeds, page 296. Consideration—25 shares full-paid stock at \$1,000 00	\$25,000 00	
T. U. Sweeney—14.75 acres N. of N street and E. of 7th avenue..... Deed dated August 27, 1862. Recorded Liber 175 of Deeds, page 96. \$442 50 appears to have been the amount paid Sweeney, but there also appears the entry under date of August 26, 1862, "Paid to County Clerk S. F. condemnation price of 15 acres adjoining 25-acre tract".....	442 50 875 00	
F. L. A. Ploche and Levi Parsons—4 acres adjoining 25-acre tract on south strip 16.30 chs. by 2.42 chs. Deed dated June 12, 1863. Recorded Liber 202 of Deeds, page 306.		
F. L. A. Ploche and Levi Parsons—0.6 acre adjoining 4-acre tract on S. strip 16.30 ch. by 0.42 ch..... Deed dated August 27, 1866. Recorded Liber 340 of Deeds, page 60.	200 00	
F. L. A. Ploche and L. L. Robinson—1 acre Tunnel Inlet..... Deed dated December 31, 1866. Recorded Liber 352 of Deeds, page 294.	300 00	
F. L. A. Ploche and L. L. Robinson—2.8 acres Tunnel Outlet..... Deed dated December 31, 1866. Recorded Liber 352 of Deeds, page 296. January 23, 1867, "Paid F. L. A. Ploche and L. L. Robinson for land at inlet and outlet of Lake Honda Tunnel."	1,700 00	

LAKE HONDA.

	AMOUNT.	TOTAL.
City and County of San Francisco—2.8 acres Tunnel Outlet. Deed dated August 15, 1868. Recorded Liber 453 of Deeds, page 55.		
D. Winter and H. Ickleheimer—All of the S. E. $\frac{1}{4}$ of Sec. 13, T. 2 S., R. 6 W., lying east of Lake Honda 25-acre tract..... Deed dated February 15, 1870. Recorded Liber 540 of Deeds, page 268.	2,905 00	
George Turner—30 acres Waste Pond Tract Deed dated August 21, 1871. Recorded Liber 634 of Deeds, page 121.		
S. F. Sinclair—O. L. Block 867, eastern portion.. Deed dated August 10, 1872. Recorded Liber 677 of Deeds, page 76.	328 00	
Wm. Bosworth, Tax Collector—O. L. Block 858 (Eastern portion), O. L. Block 775 (S E. portion), 15.63 acres E. of Serpentine avenue..... Deed dated January 27, 1872. Recorded Liber 649 of Deeds, page 258.	1,985 00	
A. K. P. Harmon—Lot N. E. corner 7th avenue and L street, 20 feet by 140 feet..... Deed dated November 21, 1895. Recorded Liber 1675 of Deeds, page 163.	300 00	\$34,035 50
2.—Reservoir, May, 1861.....		432,535 74
3.—Engine, September, 1864.....		1,237 55
4.—Tunnel, December, 1866.....		48,291 94
Total		\$516,109 73

WATER RATES.

ISLAIS CREEK (January, 1861).

	AMOUNT.	TOTAL.
1.—Real Estate—		
Norbert C. and Besse Babin—Lots Nos. 1055-1057, Gift Map No. 2..... Deed dated May 22, 1900. Recorded Liber	\$450 00	
Norbert C. and Besse Babin—Lots Nos. 1059-1061- 1065, Gift Map No. 2..... Deed dated February 8, 1900. Recorded Liber	750 00	
Wm. and Alice Brooks—Lots Nos. 74, 75, 51, 52, 97, 119, 2115, 2116, 2117, in Gift Map No. 4. Deed dated May 19, 1897. Recorded Liber 1731 of Deeds, page 357.		
Chas. H. Reynolds and Francis A., his wife— Lots 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 30, 31, 32, 33, 34, Gift Map No. 4..... Deed dated August 4, 1897. Recorded Liber 1747 of Deeds, page 160.	2,250 00	
A. C. Hussey and Abbie F. Hussey, his wife— Precita Valley Land 80 feet 9 inches by 120 feet, Ripley and Columbia Places..... Deed dated November 7, 1900. Recorded Liber 1906, page 74.....	1,000 00 6,075 00	
2.—Construction	34,407 60	
3.—Reservoir, November, 1860.....	6,511 92	
4.—Flume, December, 1871.....	16,918 56	
5.—Islais Creek Crossing, new work begun in De- cember, 1897, not yet finished.....	38,252 98	
Total		\$102,166 06

UNIVERSITY MOUND RESERVOIR.

	AMOUNT.	TOTAL.
1.—Real Estate—		
George C. Potter—Blocks 50, 56, 57, 66, 67..... Deed dated February 4, 1881. Recorded Liber 1057 of Deeds, page 264.	\$17,900 00	
George C. Potter—Block 41..... Deed dated October 17, 1882. Recorded Liber 1396 of Deeds, page 181.	1,750 00	
George C. Potter Jr.—Lots 2, 3, 6, 7, Block 55.... Deed dated March 12, 1885. Recorded Liber 1164 of Deeds, page 147.	2,300 00	
R. H. Dorland—Lot No. 8, Block No. 65, 100 feet on University by 120 feet on Bacon street..... Deed dated August 18, 1885. Recorded Liber 1167 of Deeds, page 345.	700 00	
Ann Bardley—Lot , Block 51, Dartmouth, 100 feet N. of Burrows, N. 25 feet by 120 feet..... Deed dated September 24, 1885. Recorded Liber 1179 of Deeds, page 117.	150 00	
Bridget O'Brien—Lot , Block No. 51, Dartmouth, 175 feet N. of Burrows, North 50 feet by 120 feet Deed dated November 30, 1885. Recorded Liber 118 of Deeds, page 166.	650 00	
Bridget Dougherty—Lot , Block No. 51, Bow- doin, 125 feet south of Fulton, south 25 feet by 120 feet..... Deed dated December 14, 1885. Recorded Liber 1196 of Deeds, page 358.	250 00	
J. S. Kohn—Lot , Block No. 51..... Deed dated May 7, 1886. Recorded Liber 1196 of Deeds, page 350.	300 00	
T. J. Riordan—Lot , Block No. 51. 55 feet on Felton by 100 feet on Dartmouth, S. E. corner..... Deed dated May 7, 1886. Recorded Liber 1196 of Deeds, page 318.	1,002 82	

UNIVERSITY MOUND RESERVOIR.

	AMOUNT.	TOTAL.
W. P. Veuve—Lot , Block No. 51, north side of Burrows, 29 feet east of Dartmouth, east 26 feet by 100 feet..... Deed dated April 30, 1888. Recorded Liber 1287 of Deeds, page 332.	\$425 00	
J. S. Kohn—Block No. 51..... Deed dated September 23, 1885. Deed dated April 23, 1890. Recorded Liber 1196 of Deeds, page 350; Liber 1408 of Deeds, page 94.	160 00	
E. R. Elder—Lot , Block No. 51, Dartmouth, 150 feet south of Felton, south 25 feet by 120 feet.. Deed dated April 11, 1891. Recorded Liber 1454 of Deeds, page 107.	275 00	
Michael Gallagher and Alice McWilliams—Lot , Block No. 51, N. W. Burroughs and Bowdoin, 29x100 Deed dated July 22, 1899. Recorded Liber 1828 of Deeds, page 331.	200 00	
C. E. Job—Lots , Block No. 51, N. E. Burroughs and Dartmouth, 29 east by 100 north, north side of Burroughs 55 feet east of Dartmouth, east 26 feet by 100 feet..... Deed dated August 31, 1891. Recorded Liber 1472 of Deeds, page 362.	400 00	
	\$26,462 82	
2.—Labor, etc., October, 1880.....	170,045 48	
Total		\$196,508 30

COLLEGE HILL RESERVOIR.

	AMOUNT.	TOTAL.
1.—Real Estate—		
George Quarre—South side Santa Marina street, 350 feet east of Gladys street, 25 feet by 100 feet	\$750 00	
Deed dated December 29, 1893. Recorded Liber 1586 of Deeds, page 375. (Jas. G. Fair deeds to George Quarre, Decem- ber 28, 1893).		
Jas. G. Fair—North side of West avenue, 640 feet by 534 feet, 219 feet southeast from Mission Holly Park Tract.....	27,500 00	
Deed dated November 5, 1870. Recorded Liber 594 of Deeds, page 46.		
Chas. R. Bishop—Lot No. 1 and part of No. 2, Block A, French and Gilman Tract.....	2,000 00	
Deed dated January 23, 1896. Recorded Liber 1828 of Deeds, page 317.	33,250 00	
2.—Labor, etc., November, 1870.....	5,197 63	
Total		\$38,447

CLAY STREET TANK.

	AMOUNT.	TOTAL.
1.—Real Estate—		
T. and M. Maguire (north half)—50-vara No. 828, S. W. Jones and Washington, 137 feet 6 inches on Jones by 120 feet.....	\$2,750 00	
Deed dated May 23, 1874. Recorded Liber 741 of Deeds, page 71.		

CLAY STREET TANK.

	AMOUNT.	TOTAL.
W. N. Meeks (south half)—50-vara No. 828, as preceding	\$2,060 00	
Deed dated February 18, 1865. Recorded Liber 275 of Deeds, page 213. Journal Entry June 1, 1871, "Reservoir Lot Clay Street."	2,074 75	
A. E. Head—50-vara No. 827, N. W. Clay and Jones, 137 feet 6 inches on Jones, 120 on Clay.. Deed dated January 17, 1891. Recorded Liber 1439 of Deeds, page 335.	25,500 00	
Edith Gertrude Moody—50-vara No. 829, Clay between Priest and Reed, N. W. Clay and Priest streets, 57 feet 6 inches by 97 feet 6 inches.... Deed dated February 10, 1892. Recorded Liber 1519 of Deeds, page 328.	4,950 00	
Edith Gertrude Moody—N. E. Clay and Reed, 45 feet by 97½ feet..... Deed dated April 13, 1892. Recorded Liber 1519 of Deeds, page 326.	3,325 00 40,659 75	
2.—Reservoir, March, 1865.....	6,711 96	
3.—Engine, April, 1872.....	21,784 61	
Total		\$69,156 32

LAFAYETTE TANK.

	AMOUNT.	TOTAL.
1.—Real Estate—		
C. N. Fox—N. side of Clay street, 137 feet 6 inches W. of Webster, W. 35 feet by 127 feet 8¼ inches, in W. A. Block 316..... Deed dated May 23, 1884. Recorded Liber 1259 of Deeds, page 358.	3,000 00	
2.—Pump, May, 1882.....	9,005 77	
Total		\$12,005 77

UPPER RUSSIAN HILL, OR FRANCISCO STREET, RESERVOIR.

	AMOUNT.	TOTAL.
1.—Real Estate—		
John Bensley and A. Chabot to S. F. City W. W.—Lots Nos. 1, 2, 3, Block No. 291..... Deed dated July 10, 1860. (Included in "Consolidation Deed," page 14.)		
Jas. Bell to S. F. City W. W.—Lot No. 4, Block No. 292. Deed dated November 20, 1860. Included in "Consolidation Deed," page 14. November 24, 1859, Jas. Bell was paid \$1,000 00 on account (\$3,000 00 full amount) purchase, 50-vara lots 1434-1345, 1252 (Enter above). November 24, 1860, balance paid \$2,000 00, int. \$240, taxes, etc., \$60 50.		
Est. Daniel Gibb to S. F. City W. W.—Lots Nos. 5-6, Block No. 292. Deed dated April 16, 1864. Included in "Consolidation Deed," page 14. January 14, 1864, Est. of Daniel Gibb to be paid \$1,800 00 for 50 varas 1436-1347-1163. These are subdivisions 4, 5, 6 of Block 291, see page 16.		
D. Frazer to S. F. City W. W.—Lots 4, 5, 6, Block No. 292. Deed dated May 27, 1864. Included in "Consolidation Deed," page 14.		

LOWER RUSSIAN HILL, OR LOMBARD STREET, RESERVOIR.

	AMOUNT.	TOTAL.
1.—Real Estate—		
E. F. Stone to A. Chabot—Lots Nos. 1-2, Block No. 294. Deed dated March 2, 1860. Included in "Consolidation Deed," page 14.		
E. F. Stone to S. F. City W. W.—Lots Nos. 5-6, Block No. 294. Deed dated — Included in "Consolidation Deed," page 14.		
Montgomery Avenue Tax Sale—Lots Nos. 3-4, Block No. 294. Included in "Consolidation Deed," page 14.		
Eliza Miller, Sarah E. Miller, Carleton W. Miller, Justus P. Miller—50-vara No. 780 or Lot No. 3, Block No. 294..... Deed dated May 27, 1867. Liber 374, of Deeds, page 337.	1,600 00	
E. Kennedy and T. A. Hopkins—50-vara No. 781, Lot No. 4, Block No. 294..... Deed dated February 4, 1869. Recorded Liber 480 of Deeds, page 225.	5,000 00	
2.—Labor, etc., November, 1878.....	6,600 00	
	8,340 71	
		14,940 71

POTRERO HEIGHTS RESERVOIR.

	AMOUNT.	TOTAL.
1.—Real Estate—		
Real Estate Development Company—N. $\frac{1}{2}$ of Potrero Block No. 194, 200 feet by 200 feet..... Deed dated April 9, 1897. Recorded Liber 1736 of Deeds, page 241.	6,000 00	
C. V. Stuart—S. W. Center and Potrero avenue, 400 feet on Potrero avenue by 380 feet..... Deed dated November 1, 1860. Recorded Liber 118 of Deeds, page 255.	1,500 00	
N. de H. Tissot—S. W. Center street and Potrero avenue, 400 feet on Potrero avenue by 300 feet. Deed dated April 2, 1861. Recorded Liber 306 of Deeds, page 3.		
S. Fuller—Potrero Block No. 65..... Deed dated June 27, 1862. Recorded Liber 171 of Deeds, page 99.	250 00	
E. Miller and A. H. Wheeler..... Deed dated November 30, 1865. Recorded Liber 306 of Deeds, page 286.	625 00	
Willard Hodge..... Deed dated November 30, 1865. Recorded Liber 306 of Deeds, page 289.	50 00 6,000 00	
	20,075 28	
2. Reservoir, April, 1897.....		
	26,075 28	
In addition to the above special accounts, labor done and materials furnished to different reservoirs have been charged to City Reservoirs, from August, 1870		87,048 88

CITY STABLE AND PIPE YARD.

	AMOUNT.	TOTAL.
1. Real Estate—		
Moses Ellis and Martha A., his wife—Part of 100- vara 186, in Block 376, N. W. side of Freelon street, 275 feet southwesterly from Fourth street, S. W. 275 by 80.....	10,312 50	
Deed dated July 11, 1896. Recorded Liber 1658 of Deeds, page 143.		
R. E. Northam, Exr.—In 100-vara Block No. 376, S. W. side of Bryant street, 275 feet west of Fourth street, thence S. W. 137 feet 6 inches by 275 feet.....	26,000 00	
Deed dated June 26, 1888. Recorded Liber 1300 of Deeds, page 63.	36,312 50	
2.—Building, 1863.....	20,521 96	
3.—Shop	3,345 04	
4.—Stable, December, 1888.....	25,832 15	
5.—Yard, November, 1888.....	7,830 49	
		93,842 14

WATER RATES.

CITY ENGINE (BLACK POINT).

	AMOUNT.	TOTAL.
1.—Real Estate:		
50-vara lot No. 3, W. A. Block 37.....		
50-vara lot No. 4, W. A. Block No. 38.....		
Hiram Pearsons—Lot No. 3, Block No. 37.....		
Deed dated April 15, 1865.....		
Recorded Liber 282 of Deeds, page 268.	500 00	
(Lot No. 4, in Block No. 38, on which the old		
"City Engine" stands, is covered by the		
"Consolidation Deed," page 14.)		
City and County of San Francisco—Lot No. 4, W.		
A. Block No. 38; Lot No. 3, W. A. Block No.		
37		
Deed dated March 13, 1871.		
Recorded Liber 619 of Deeds, page 162.	500 00	
2.—Engine and buildings, June, 1872.....	104,128 62	
3.—Additional engine, June, 1893.....	49,053 44	
		153,682 06

OCEAN VIEW PUMP.

	AMOUNT.	TOTAL.
1.—Real Estate:		
Monroe Greenwood—7.72 acres in N. E. $\frac{1}{4}$ of Sec.		
1, T. 3 S., R. 6 W.....	1,752 50	
Deed dated August 2, 1886.		
Recorded Liber 39 of Deeds, page 550.		
2.—Pump, boilers, etc., February, 1891.....	23,596 74	
		25,349 24

WATER RATES.

ASHBURY HEIGHTS.

	AMOUNT.	TOTAL
1.—Real Estate:		
Will and Alice Brooks (John and Sarah Thomason)—De Long avenue, 200 feet S. of Waller, 25 feet by 80 feet.....	1,550 00	
Deed dated April 3, 1893.		
Recorded Liber 1611 of Deeds, page 171.	1,550 00	

CLARENDON HEIGHTS PUMP.

	AMOUNT.	TOTAL.
1.—Real Estate:		
Market and Stanyan Streets and Golden Gate Park Land and Improvement Company—1.887 acres, Eighteenth street and Clarendon avenue.....	2,000 00	
Deed dated December 30, 1891.		
Recorded Liber 1500 of Deeds, page 239.		
Chas. R. Bishop—Lot corner Seventeenth and Pond streets	11,826 75	
Deed dated May 28, 1894.		
Recorded Liber 1828 of Deeds, page 316.		
Adolph and Marienne Unger to Bishop, May 28, 1894.		
Recorded Liber 1605 of Deeds, page 368.		
Geo. H. Davis, Admr. Estate of David Stern—Lot on N. side of Seventeenth street, 27½ feet W. of Prosper, 27½x107½.....	1,845 00	
Deed dated August 27, 1900.		
Recorded Liber 1881 of Deeds, page 383.	15,671 75	
2.—Pump and reservoir, June, 1895.....	70,093 49	
(Supplementary pump not yet paid in full.)		
		85,765 24

WATER RATES.

OFFICE LOTS AND BUILDINGS.

	AMOUNT.	TOTAL.
1.—Office lot, California street.....	15,243 20	
2.—Office building, California street.....	19,899 70	
	35,142 90	
Sold for.....	25,000 00	
	10,142 90	
3.—Office lot corner Geary and Stockton streets.... Deed dated November 14, 1882.	120,000 00	
4.—New building begun in May, 1896.....	434,975 78	
		565,118 68

RIDLEY STREET CUT.

	AMOUNT.	TOTAL.
Grading begun in August, 1893.....		66,871 88

ABBAY FLUME.

	AMOUNT.	TOTAL.
June, 1868.....		9,233 41

OTHER REAL PROPERTIES.

	AMOUNT.	TOTAL.
1.—Mountain Lake and Lobos Creek.		
S. F. City Water Works. Consolidation. Deed dated February 13, 1865. Recorded Liber 277 of Deeds, page 109. This deed also conveys the City Engine lots, the Polk street lots, the Francisco street reservoir, the Lombard street reservoir, the Larkin street lots.		
Sullivan Barstow et als.....	500 00	
Deed dated March 11, 1868. Recorded Liber 428 of Deeds, page 382, October 24, 1858. January 15, 1859, A. B. Perkins given 50 shares (\$1,000 00 each) full paid stock of the S. F. C. W. W. in payment for his interest in "Lobos Creek Ranch."		
June 8, 1859—Van Tyne.....	1,500 00	
John H. and Maria Baker to S. F. City Water Works—150 feet strip on the east side of the center line of Lobos Creek from the Ocean to Mountain Lake (appropriated as part of the Presidio Reservation by the U. S. Government) Deed dated September 11, 1862. Recorded Liber 173 of Deeds, page 260.	500 00	
City and County of S. F.—Lobos Creek. Deed dated November 18, 1871. Recorded Liber 637 of Deeds, page 259.		
A. W. Von Schmidt—Lobos Creek. Deed dated October 11, 1871. Recorded Liber 632 of Deeds, page 274.		

OTHER REAL PROPERTIES.

	AMOUNT.	TOTAL.
W. M. Bunker..... Deed dated September 25, 1890. Quit-claims all lying north of a line commencing on easterly line of Twenty-fourth avenue (if extended) 500 feet N. of N. line of Lake street (if extended), and running to a point on W. line of Twenty-second avenue (if extended 390 feet, N. of line of Lake street (if extended). S. V. quit-claims to all south of said line. Bunker recorded his deed.	2,500 00	
2.—Larkin-street lots: Jas. Bell to S. F. City W. W.—Lot 3, Block No. 293. Deed dated February 14, 1861. Included in "Consolidation Deed," page 14.		
H. Pierce to S. F. City W. W.—Lot No. 6, W. A. Block 28..... Deed dated August 8, 1862 Included in "Consolidation Deed," page 14.		
G. W. Frink—Lot No. 6, W. A. Block No. 28..... Deed dated July 19, 1883. Recorded Liber 1085 of Deeds, page 315.	400 00	
W. S. Hobbs—Lot No. 6, W. A. Block No. 28..... Deed dated February 8, 1887. Recorded Liber 1221 of Deeds, page 279.....	225 00 625 00	
3.—Polk-street lots: J. B. Thomas to S. F. City W. W.—Lots Nos. 2, 3, 4, W. A. Block No. 29. Deed dated December 18, 1860. Included in "Consolidation Deed," page 14. November 16, 1860, paid J. Barkeloes, account J. B. Thomas..... December 24, 1860, paid J. B. Thomas.....	52 75 1,500 00	
City and County of S. F.—Lots Nos. 2, 3, 4, W. A. Block No. 29. Deed dated March 13, 1871. Recorded Liber 619 of Deeds, page 162.		

OTHER REAL PROPERTIES.

	AMOUNT.	TOTAL.
G. W. Frink—Lots Nos. 2, 3, 4, W. A. Block No. 29	400 00	
Deed dated July 19, 1883.		
Recorded Liber 1085 of Deeds, page 315.		
4.—Railroad Homestead:		
Chas. R. Bishop to S. V. W. W.		
June 3, 1896.		
Recorded Liber 1740 of Deeds, page 126.		
J. and W. Jennings—S. E. Capitol and Sagamore, 100x135	500 00	
Deed dated October 30, 1885.		
Recorded Liber 1179 of Deeds, page 114.		
All but that portion covered by Capitol street (60x100) conveyed to Wm. Murphy.		
Deed dated February 11, 1889.		
Recorded Liber 1332 of Deeds, page 39.		
Reserving right of way for pipe. (See Rights of Way B. H. P. L.).....	2,200 00	
5.—Lake View Reservoir:		
Christian de Guigne—42.2 acres adjoining "Industrial School" (Branch Jail) tract on west.....	63,300 00	
Deed dated January 19, 1894.		
Recorded Liber 1599 of Deeds, page 94.		
6.—Lake Merced Coal Yard:		
R. E. Arnold—Lots 9, 10, Block No. 9, San Miguel City	1,600 00	
Deed dated May 14, 1887.		
Recorded Liber 1234 of Deeds, page 302.		
7.—Lake View Lot:		
Will and Alice Brooks—Lot No. 24 in Block 25, Lakeview	500 00	
Deed dated October 25, 1895.		
Recorded Liber 1731 of Deeds, page 357.		
8.—Visitacion Valley:		
Catherine Dunne, C. T. Ryland, et als., Spring Valley Water Works, J. C. Rued, et als.—Lot on Tobin street (S. side), 1043 feet 4 inches		

OTHER REAL PROPERTIES.

	AMOUNT.	TOTAL.
easterly of Schwerin, easterly 66 feet, southerly 309 feet 10 inches, easterly 105 feet 8 inches, 87 feet 6 inches, westerly 171 feet 8 inches, northerly 397 feet 4 inches..... Deed dated August 7, 1895.	900 00	
		73,525 00

PIPE.

	AMOUNT.	TOTAL.
1.—From January, 1861, to November, 1886.....	450,124 33	
2.—Islais Creek pipe, May, 1861.....	276,683 92	
3.—Lake Honda pipe, April, 1867.....	210,407 24	
4.—Abbey pipe, November, 1867.....	38,387 53	
5.—Valencia street pipe, July, 1875.....	41,339 81	
6.—Sierra Point pipe, January, 1890.....	2,614 96	
7.—Chenery street pipe, December, 1895.....	16,221 26	
		1,035,779 05

SERVICE CONNECTIONS.

	AMOUNT.	TOTAL.
From 1861.....		183,840 06

METERS.

	AMOUNT.	TOTAL.
From 1861.....		145,233 49

RECAPITULATION OF CITY SYSTEM.

	AMOUNT.	TOTAL.
1.—Brannan Street Reservoir.....	2,425 00	
2.—Market or Buchanan Street Reservoir.....	70,423 20	
3.—Lake Honda Reservoir.....	516,100 73	
4.—Islais Creek Reservoir.....	102,166 06	
5.—University Mound Reservoir.....	196,508 30	
6.—College Hill Reservoir.....	38,447 62	
7.—Clay Street Tank.....	69,156 32	
8.—Lafayette Tank.....	12,005 77	
9.—Francisco Street Reservoir.....		
10.—Lombard Street Reservoir.....	14,940 71	
11.—Potrero Heights Reservoir.....	26,075 28	
12.—City Reservoirs.....	87,046 83	
13.—City Stable and Pipe Yard.....	93,842 14	
14.—City Engine, Black Point.....	153,682 06	
15.—Ocean View Pump.....	25,349 24	
16.—Ashbury Heights Pump.....	1,550 00	
17.—Clarendon Heights Pump.....	85,765 24	
18.—Office Lots and Buildings.....	565,118 68	
19.—Ridley Street Cut.....	66,871 88	
20.—Abbey Flume.....	9,233 41	
21.—Real Estate.....	73,525 00	
22.—Pipe	1,035,779 05	
23.—Service Connections.....	183,840 06	
24.—Meters	145,233 49	
Total		\$3,575,086 05

EXHIBIT No. 13.

SHOWING GENERAL RECAPITULATION OF COST.

	AMOUNT.	TOTAL.
1.—Lake Merced.....	\$1,506,699 83	
2.—Pilarcitos	1,083,249 01	
3.—San Andres.....	1,201,427 43	
4.—Crystal Springs.....	5,099,243 99	
5.—Locks Creek Line.....	583,291 62	
6.—Bald Hill Pipe Line.....	340,655 36	
7.—Belmont Works.....	174,547 89	
8.—Millbrae	263,219 98	
9.—Alameda Creek System.....	3,096,543 92	
10.—San Francisco City Water Works System.....	\$3,200,000 00 20,882 92	
	3,220,882 92	
11.—Davis Tunnel.....	32,287 08	
12.—Searsville	285,814 93	
13.—Pescadero	41,808 01	
14.—Sausalito	15,519 07	
15.—City System.....	3,575,068 08	
16.—Water Right, Property and aqueducts con- nected with Alameda System.....	1,309,034 30	
17.—General Construction Account, items not charged to the specific accounts already enu- merated	4,415,694 24	
Total		\$26,245,095 66

EXHIBIT No. 14.

ESTIMATE OF SPRING VALLEY WATER WORKS FOR 1901.

	AMOUNT.	TOTAL.
For operating expenses.....	\$450,000 00	
For taxes.....	260,000 00	
For coupons.....	658,500 00	
For other interest.....	19,000 00	
For 12 dividends, 5 per cent.....	705,600 00	
Total		\$2,093,100 00
Less rent of building.....	\$34,200 00	
Other rents.....	10,000 00	
	44,200 00	
Amount needed from water rates.....		\$2,048,900 00

EXHIBIT No. 15.

GENERAL STATEMENT FOR THE YEAR ENDING DECEMBER 31, 1900.

	AMOUNT.	TOTAL.
RECEIPTS.		
Water rates.....	\$1,884,752 34	
Rents	41,954 95	
		\$1,926,707 29
DISBURSEMENTS.		
Lake Merced Pump.....	\$25,486 06	
Belmont Pump.....	35,147 42	
Clarendon Heights Pump.....	14,648 16	
Ocean View Pump.....	797 30	
Locks Creek Line.....	8,588 39	
Pilarcitos Pipe Line.....	5,857 63	
San Andres Pipe Line.....	3,250 97	
Alameda Pipe Line.....	7,433 65	
Crystal Springs Pipe Line.....	1,272 52	
Lobos Creek.....	1,230 02	
San Andres Reservoir.....	7,859 74	
Pilarcitos Reservoir.....	3,404 82	
Portola Reservoir.....	792 45	
Crystal Springs Reservoir.....	18,369 51	
San Mateo Stable.....	683 35	
City Reservoirs.....	16,739 66	
City Engine.....	23,564 62	
City Stable.....	5,122 31	
Pipe Yard.....	3,707 46	
Main Repairs.....	40,590 54	
Pescadero Expense.....	1,068 05	
Meter Expense.....	23,969 32	
General Expense.....	13,041 88	
Office Expense.....	9,057 78	
Legal Expense.....	19,878 54	
Land Account.....	7,696 55	
Salaries	41,049 99	
Bookkeeping Department.....	19,375 05	
Engineers' Department.....	18,513 55	
Inspectors' Department.....	10,023 75	
Collection Account.....	20,842 17	
Telephone Account.....	5,936 41	
Crystal Springs Pump.....	173 16	
Millbrae Pump.....	2,964 57	
Pilarcitos Pump.....	5,472 17	
Total		\$428,609 52

GENERAL STATEMENT—CONTINUED.

	AMOUNT.	TOTAL.
Interest	24,123 32	
Coupons	586,500 00	
Dividends	705,600 00	
Taxes	226,660 02	
Total		1,542,883 34
Loss in 1900.....		1,966,492 86
PERMANENT IMPROVEMENTS.		
New construction.....	\$98,837 84	
Alameda riparian rights.....	1,800 00	
Lake Merced Ranch.....	4,120 34	
Alameda Water Company.....	1,034 71	
Additional rights, etc.....	666,287 58	
Alameda System.....	248,291 79	
Islais Creek Crossing.....	37,947 98/	
New Clarendon Heights Pump.....	10,604 14	
Belmont Pump Boilers.....	10,264 50	
Total		\$1,079,278 88

EXHIBIT No. 16.

ESTIMATE OF COST OF SUPPLYING THIRTY MILLION GALLONS OF
WATER DAILY TO SAN FRANCISCO MADE BY H. F. A. SCHUSSLER,
ENGINEER S. V. W. W.

SAN FRANCISCO, January 25, 1901.

*To the Honorable the Board of Supervisors
Of the City and County of San Francisco—*

Gentlemen: At your request, I hereby furnish you my estimate of what it will cost for the acquisition of the necessary water rights, lands and rights of way.

WATER RATES.

and for the construction of the works necessary to store and convey a daily supply of thirty million gallons of water from Calaveras Valley, via Crystal Springs Reservoir, to San Francisco City and County:

	AMOUNT.	TOTAL.
Additional lands and water rights to be acquired..	\$250,000 00	
Calaveras Dam, 350,000 cubic yards at \$10.....	3,500,000 00	
Right of way for Tunnel No. 1.....	12,000 00	
11,700 feet, Tunnel No. 1, capacity one hundred million gallons daily, at \$50.....	585,000 00	
120,000 linear feet 46-inch pipe, clear diameter, capacity thirty million gallons per 24 hours (65,000 feet ½-inch, 15,000 feet 7-16-inch, 12,500 feet ¾-inch, 12,500 feet 5-16-inch, 15,000 feet ¼-inch), laid complete in ditch and on trestle, including rivets, coating, fittings, etc.	2,390,000 00	
60,000 linear feet of four pile trestle, including stringers, bolts, covering, at \$7.....	420,000 00	
Right of way for 60,000 linear feet of pipe underground, at \$1.....	60,000 00	
Right of way for 60,000 linear feet of trestle and pipe at \$2.....	120,000 00	
Right of way for four miles canal.....	20,000 00	
Excavating four miles canal, capacity two hundred and fifty million gallons, 300,000 cubic yards at 25 cents.....	75,000 00	
Concreting four miles canal, six inches thick.....	95,000 00	
Right of way for Tunnel No. 2.....	10,000 00	
7,000 feet Tunnel No. 2, of two hundred and fifty million gallons capacity per 24 hours, at \$60 per foot (steep grade).....	420,000 00	
Seventeen miles 56-inch pipe from Crystal Springs Reservoir to proposed reservoir and distributing station on Lake Merced Ranch, capacity thirty million gallons per 24 hours, iron 5-16-inch thick, pipe laid complete in ditch, inclusive of bridges, trestles, rights of way, etc....	1,750,000 00	
Incidentals 10 per cent.....	970,000 00	
Total		3,520,000 00
		\$10,677,000 00

Respectfully yours,

H. SCHUSSLER,
Chief Engineer S. V. W. W.

EXHIBIT No. 17.

TABULATED STATEMENT OF OPERATING EXPENSES OF SPRING VALLEY
WATER WORKS, 1897-1900 (INCLUSIVE).

SAN FRANCISCO, January 15, 1901.

*To the Honorable the Board of Supervisors
Of the City and County of San Francisco—*

Gentlemen: Herewith I submit to your Honorable Board a compiled list of the annual operating expenses of the past four years, from 1897 to 1900, both inclusive, in which they are segregated under 36 different heads. As there will be a largely increased supply drawn from Alameda Creek in 1901, which is pumped at Belmont, and as other pumping plants will also be called upon to somewhat increase the amount of water pumped over the amount delivered by them in 1900, I respectfully call the attention of your Honorable Body to allow in the proposed water rate budget for 1901, under operating expenses, about twenty-six thousand dollars additional, over and above the operating expenses of 1900, which were four hundred and twenty-three thousand six hundred and nine and fifty-two hundredths (\$423,609 52) dollars. In my estimate to the Spring Valley Water Works I have placed the operating expenses for 1901 at \$450,000, this figure having been nearly reached in 1899 and exceeded in 1898, on account of extra pumping expenses.

I estimate that the other items of the operating expenses (outside of pumping), by proper economy, may be kept at about the same figure as last year (unforeseen accidents excepted).

In order to show your Honorable Body that, in spite of a large increase in the population of San Francisco, and consequent increase in the amount of water supplied since the year 1890, I take the liberty to present to you the following exhibit, which shows the increase in population and water supply from 1890 to 1900, and operating expenses of the Spring Valley Water Works:

WATER RATES.

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OPERATING EXPENSES.

	DURING THE YEAR.....	1897.	1898.	1899.	1900.	1901.
1	Lake Merced Pumps.....	\$18,571 83	\$36,139 15	\$31,407 93	\$25,486 06	
2	Clarendon Heights Pumps.....	12,851 41	13,274 73	13,216 19	14,648 16	
3	Belmont Pumps.....	12,425 19	31,447 53	31,133 38	35,147 42	
4	Ocean View Pumps.....	722 40	724 80	983 71	797 30	
5	Black Point Pumps.....	20,870 86	24,918 57	22,379 59	23,564 62	
6	Pilarcitos Pumps.....	6,206 45	17,744 34	2,230 72	5,472 17	
7	Crystal Springs Pumps.....		28,393 49	2,755 79	173 16	
8	Millbrae Pumps.....		4,344 15	27,223 63	2,964 57	
9	Crystal Springs Reservoir.....	8,276 14	6,745 91	12,249 18	18,369 51	
10	San Andres Reservoir.....	7,735 13	7,340 77	11,454 47	7,859 74	
11	Pilarcitos Reservoir.....	4,844 57	6,431 83	5,162 37	3,404 82	
12	Portola Reservoir.....	766 73	786 75	808 94	792 45	
13	City Reservoirs.....	21,538 97	17,606 97	19,371 05	16,739 66	
14	Potrero Heights Reservoir.....		358 56	307 80		
15	Crystal Springs Pipe Line.....			1,323 78	1,272 52	
16	San Andres Pipe Line.....			2,202 38	3,250 97	
17	Locks Creek Line.....	4,809 90	11,530 46	12,062 99	8,588 39	
18	Bald Hill Pipe Line.....	11,430 31	3,970 64			
19	Alameda Pipe Line.....	7,216 28	7,543 75	7,416 86	7,433 65	
20	Main Repairs.....	44,251 04	34,987 04	41,843 51	40,590 54	
21	Pilarcitos Pipe Line.....			5,324 43	5,857 63	
22	Legal Expense.....	23,395 45	17,530 34	17,889 17	19,878 54	
23	Meter Expense.....	13,079 27	22,411 72	22,847 23	23,969 32	
24	Office Expense.....	10,795 33	15,598 15	9,793 41	9,057 78	
25	General Expense.....	17,309 00	13,377 85	13,713 81	13,041 88	
26	Pescadero Expense.....	983 30	869 00	918 60	1,068 05	
27	Lobos Creek.....	2,110 00	1,560 00	1,460 00	1,230 02	
28	City Stables.....	6,009 20	6,535 91	6,967 4	5,122 31	
29	San Mateo Stable.....	997 64	537 96	821 75	683 35	
30	Pipe Yard.....	4,938 05	3,905 89	3,663 14	3,707 46	
31	Land Account.....	5,705 25	6,951 65	7,487 00	7,696 55	
32	Salaries.....	40,474 96	40,399 96	40,074 96	41,049 99	
33	Bookkeeping Department.....	18,561 00	15,968 00	16,232 7	19,375 05	
	Engineer's Department.....	13,557 80	13,872 44	14,375 05	18,513 75	

Estimated operating expenses for 1901.

WATER RATES.

OPERATING EXPENSES—CONTINUED.

No.....	DURING THE YEAR.....	1897.	1898.	1899.	1900.	1901.
34	Inspector's Department.....	\$8,303 10	\$10,824 00	\$9,756 98	\$10,023 75	
35	Collection Department.....	27,358 30	26,962 36	24,668 84	20,842 17	
36	Telephone Department.....	2,269 41	7,156 13	3,375 80	5,936 41	
	Total.....	\$388,364 27	\$458,750 80	\$444,864 59	\$423,609 52	\$450,000 00

It also shows the operating expenses of the Spring Valley Water Works in these two years, compared with those of some of the prominent City departments, which latter increased more or less proportionately with the increase of population.

YEAR.	Population.....	Water Supplied During Year in Million Gallons.	Operating Expenses of Spring Valley Water Works.	Approximate Operating Expenses of S. F. Police Department (Fiscal Year.)	Approximate Operating Expenses of S. F. Fire Department. (Fiscal Year.)	Approximate Operating Expenses of S. F. School Department. (Fiscal Year.)
1890.....	300,000	7,457	\$432,312 90	\$580,000	\$400,000	\$1,000,000
1900.....	350,000	9,295	423,609 52	830,000	600,000	1,200,000
Increase in per cents.....	16	24	00	43	50	20

The above table shows that although the population in this decade increased sixteen per cent. and the water consumption twenty-four per cent., still the operating expenses of the Spring Valley Water Works did not increase, although in the year 1900 there were pumped fourteen hundred million gallons more than in 1890.

From the above showing, your Honorable Body will see that extreme care and economy have been practiced by the Spring Valley Water Works in order to achieve this remarkable result in its operating expenses.

Most respectfully yours,

H. SCHUSSLER,
Chief Engineer Spring Valley Water Works.

STATEMENT SHOWING ALL THE REVENUE DERIVED BY THE SPRING VALLEY WATER WORKS FROM ALL SOURCES FOR THE YEAR PRECEDING JANUARY 1, 1901, AND AN ITEMIZED STATEMENT OF ALL EXPENDITURES MADE FOR SUPPLYING WATER DURING SAID TIME.

	AMOUNT.	TOTAL.
RECEIPTS.		
Water Rents—Private consumers.....	\$1,566,854 45	
City and County.....	225,977 39	
Shipping	91,920 50	
Other sources.....	\$1,884,752 34	
Total income.....	41,954 95	\$1,926,707 29
DISBURSEMENTS.		
For operating expenses.....	423,600 52	
For taxes.....	226,660 02	
For interest.....	610,623 32	
For dividends.....	705,600 00	
		\$1,966,492 86
Loss		\$39,785 57
Paid on account of permanent improvements.....		\$1,079,278 88

SPRING VALLEY WATER WORKS.

PELHAM W. AMES, Secretary.

By CHAS. WEBB HOWARD, President.

Subscribed and sworn to before me by Chas. Webb Howard, President, and Pelham W. Ames, Secretary, of the Spring Valley Water Works, this 29th day of January, 1901.

(Seal.)

HENRY P. TRICOU,

Notary Public in and for the City and County of San Francisco, State of California.

WATER RATES.

STATEMENT OF SALES OF STOCKS AND BONDS.

Before the issuance of the present bonded indebtedness, the Spring Valley Water Works were represented by a capital stock of \$6,000,000, divided into 60,000 shares.

Thereafter it was successively increased to its present amount of 160,000 shares, of which 140,000 shares are now issued.

We realized from the sale of these 80,000 shares \$6,835,670 86.

Meanwhile, a bonded indebtedness of three successive series was created, as follows:

	AMOUNT.	TOTAL.
1.—First mortgage 6 per cent. bonds.....	\$4,975,000 00	
Which realized net.....		\$4,873,477 50
2.—Second mortgage 4 per cent. bonds.....	\$5,000,000 00	
Which realized net.....		4,785,163 19
3.—Third mortgage 4 per cent. bonds, authorized..	4,000 000 00	
For \$2,000,000 which realized.....		1,900,000 00
For \$800,000.....		780,000 00
Balance yet unsold.		

COMMUNICATION FROM D. T. SULLIVAN, CHIEF ENGINEER OF THE
FIRE DEPARTMENT.

San Francisco, January 29, 1901.

To the Fire Committee, Honorable Board of Supervisors—

Gentlemen: In the matter of petition of the North Central Improvement Club for larger water mains for fire protection in the district bounded by Kearny and Market streets and the Bay, referred by your Honorable Body, I respectfully beg leave to report thereon as follows:

The mains in many portions of said district are not of sufficient size to furnish an adequate water supply in case of a large fire, and, in order to remedy this, new mains should be laid as follows:

- Post street, from Kearny to Market—12-inch in place of 6-inch.
- Sutter street, from Kearny to Montgomery—8-inch in place of 6-inch.
- Sutter street, from Montgomery to Sansome—12-inch in place of 6-inch.
- Bush street, from Kearny to Montgomery—8-inch in place of 6-inch.
- Pine street, from Kearny to Montgomery—8-inch in place of 6-inch.
- Pine street, from Montgomery to Battery—12-inch in place of 6-inch.
- Pine street, from Front to Davis—8-inch in place of 6-inch.
- Sacramento street, from Sansome to Market—12-inch in place of 6-inch.
- Commercial street, from Kearny to Sansome—8-inch in place of 4-inch.
- Commercial street, from Drumm to East—8-inch in place of 4-inch.
- Clay street, from Kearny to Sansome—12-inch in place of 4-inch.
- Washington street, from Kearny to Montgomery—8-inch in place of 6-inch.
- Washington street, from Montgomery to East—12-inch in place of 6, 8 and 4-inch.

Jackson street, from Battery to Drumm—8-inch in place of 6-inch.

Pacific street, from Front to Drumm—12-inch in place of 6-inch.

Broadway, from Front to Drumm—8-inch in place of 6-inch.

Vallejo street, from Sansome to Front—8-inch in place of 4-inch.
 Vallejo street, from Front to Davis—8-inch in place of 4-inch.
 Green street, from Sansome to Front—8-inch in place of 6-inch.
 Sansome street, from Broadway to Vallejo—12-inch.
 Sansome street, from Vallejo to Green—8-inch.
 Front street, from Market to Sacramento—12-inch in place of 6-inch.
 Front street, from Green to Filbert—8-inch in place of 6-inch.
 Davis street, from Jackson to Broadway—12-inch in place of 6-inch.
 Davis street, from Broadway to Vallejo—8-inch in place of 6-inch.
 Drumm street, from Market to Clay—12-inch in place of 6-inch.
 Drumm street, from Pacific to Broadway—8-inch.
 East street, from Market to Washington—8-inch.
 Market street, from California to East—8-inch in place of 6-inch.

Respectfully submitted,

D. T. SULLIVAN,
 Chief Engineer, S. F. F. D.

EXHIBIT No. 18.

ESTIMATE OF THE VALUE OF THE SPRING VALLEY WATER WORKS;
 COST OF THE PROPOSED CALAVERAS WATER WORKS;
 OPERATING EXPENSES FOR 1901;
 CAUSE OF THE DIFFERENCE IN THE COST OF WATER BETWEEN NEW
 YORK AND SAN FRANCISCO,
 AND CONCLUSIONS.
 BY H. SCHÜSSLER,
 Chief Engineer S. V. W. W.

To the Honorable Board of Supervisors
 Of the City and County of San Francisco—

Gentlemen: Having been requested by your Honorable Board to make an estimate of what I consider to be the value of the Spring Valley Water Works, I herewith submit the following revised figures. I have also attached thereto my estimates of the cost of developing and connecting with San Francisco the proposed Calaveras System; also my estimate of the operating expenses necessary for the fiscal year 1901-1902; and the cause of the difference in the cost of water between New York and San Francisco, and conclusions.

I estimate that the value of the property and works of the Spring Valley Water Works is what it is worth for the specific purpose for which it is now used and adaptable in the future, namely, supplying this city with water for domestic, municipal and other purposes, now and hereafter.

NECESSITY OF RESERVOIRS.

As the climatic conditions of our State are such that, owing to occasional two or three successive dry seasons, the streams largely decrease in volume, and, in many instances, dry up altogether, it has become an ESTABLISHED FACT, that in order to maintain a steady and constant supply of water either for irrigation or domestic purposes, no matter whether the season is wet or dry, it is absolutely necessary to store in lakes or reservoirs, whether natural or largely artificial, the surplus waters of the wet seasons in order to tide over the dry seasons and the effect of the so-called dry winters, which, experience teaches us, are bound to re-occur here from time to time.

The necessity of thus storing the surplus or waste waters of our California rivers and streams was shown with much emphasis by the Water-Storage Congress that was assembled in San Francisco a year or two ago.

It was then shown by ultra-competent men who had spent a lifetime of earnest study on this matter, that to make our State capable of supporting a large agricultural population commensurate with its marvelous soil and climatic resources, the first and last and most essential condition was to build large storage reservoirs in the watersheds of the many California rivers, and in them hold back and store the surplus and waste waters, with a view of supplying a steady flow of water through the succeeding dry season or seasons, and thus build up a commonwealth on this coast, the fertility and constant productiveness of whose resources would draw to our shores and nourish millions of industrious and contented people.

What holds good for a general irrigation scheme, as above outlined by the Waste-Water Storage Congress, also holds good, only in a greater degree, for supplying our municipality with water for domestic, municipal and other purposes.

Where people are crowded together in our California cities a constant, reliable and good water supply is still more essential than for the needs of an irrigation system, as outside of the domestic supply there exists an urgent necessity for flushing house and street sewers, for the suppression of fires, for manufacturing, shipping and other purposes.

It is this necessity of providing large storage facilities for surplus or waste waters, to be used to tide over the disastrous effects on the water supply of one or more successive dry winters, that the management of the Spring Valley Water Works foresaw more than three and one-half decades ago the absolute necessity of acquiring, as close to San Francisco as possible, the necessary water-rights, lands and reservoir sites needed to carry out such a proposed storage plan, which was the ONLY means of insuring a constant supply. As the city gradually grew, and the demand for water increased, the company not only gradually acquired the necessary additional water-rights and land, but it gradually and successively added to its works, thereby showing good judgment and proper economy. In 1865, when the city had about one hundred and twenty thousand inhabitants, when interest on money was from 15 to 20 per cent. per annum, when iron, cement, lumber and machinery cost fully twice its present price, if the company had THEN built works capable of supplying, say, FROM TWENTY-FIVE TO THIRTY MILLION GALLONS DAILY (which would have sufficed for three times the population of 1865), THIS would have been improper extravagance THEN, aside from being UNNECESSARY. It would have been entirely UNREMUNERATIVE and the managers of the works would have THEN been justly and properly criticised for useless waste of money—particularly, as in those days, when mining was on a down-grade, most people believed that the growth of San Francisco was seriously checked, and would be very slow for many decades to come.

GRADUAL GROWTH OF SUPPLY AND DECREASE OF PRICE OF WATER.

Prior to 1865, the water supply of San Francisco was furnished partly from the peninsula GRAVITATION system, consisting of reservoirs, tunnels, flumes and pipes belonging to the Spring Valley Water Works, and partly by water drawn by gravitation from Lobos Creek by a flume, pipe and tunnel line, and then pumped into a city reservoir system. From their respective city reservoirs, each company supplied its own independent city pipe system.

In 1865 the Spring Valley Water Works purchased the works of the San Francisco Water Works and simplified the management of the new works to such an extent that not only were the running expenses largely decreased, but the average rate or price of water delivered to the customers from that time forward was being constantly and gradually reduced, as the following table shows:

AVERAGE PRICE OR RATE IN ROUND FIGURES PAID IN SAN FRANCISCO PER 1000 GALLONS DELIVERED.

In 1865—average rate.....	51 cents per 1000 gallons
In 1866—average rate.....	44 cents per 1000 gallons
In 1867—average rate.....	42 cents per 1000 gallons
In 1868—average rate.....	38 cents per 1000 gallons
In 1869—average rate.....	37 cents per 1000 gallons
In 1870—average rate.....	37 cents per 1000 gallons
In 1880—average rate.....	28 cents per 1000 gallons
In 1891—average rate.....	23 cents per 1000 gallons
In 1900—average rate.....	21 cents per 1000 gallons

It should be borne in mind that although, as above shown, the price of water per thousand gallons has constantly and materially decreased from 1865 to 1900, STILL the city has so expanded since, during these thirty-five years, by densely populating the high hills, that where in 1865 seven-eighths of the water was supplied below the one-hundred-and-fifty-foot elevation and only one-eighth at the three-hundred-foot level, in 1900 the case is almost reversed, and although the city now annually consumes about nine thousand three hundred million gallons, or nearly eleven times the annual supply of 1865, about two-thirds of the present total supply goes to the upper levels from one hundred and fifty to four hundred feet, and some to six hundred feet, while only about one-third is consumed for the lower portion below one hundred and fifty feet.

IN SPITE of the fact that during the past three years, owing to the general drouth on the entire Pacific Coast and consequent scant water supply everywhere, from one-half to two-thirds of the entire consumption of San Francisco had to be pumped to considerable height and at great expense (without any extra remuneration, on account of the high lifts in this city), STILL the above table shows a gradual reduction in the price of water.

In order to further illustrate the GRADUAL and ECONOMICAL expansion of the Spring Valley Water Works, FULLY but proportionally keeping pace with the growth of the city and its population, the following table will show with the approximate increase in the number of the inhabitants, the increase in the number of millions of gallons annually supplied to San Francisco in the respective years:

	APPROXIMATE POPULATION.	ANNUAL CONSUMPTION IN MILLION GALLONS.
1865.....	120,000	864 million gallons
1875.....	190,000	4,266 million gallons
1885.....	270,000	6,223 million gallons
1895.....	325,000	7,264 million gallons
1900.....	350,000	9,295 million gallons

THE TOTAL AMOUNT OF WATER that the Spring Valley Water Works has supplied to San Francisco during the thirty-six years from 1865 to 1900, both inclusive, amounts to 187,485 MILLION GALLONS.

WISDOM OF ACQUIRING WATER RIGHTS AND PROPERTIES IN TIME.

This splendid result, of meeting the ever-growing demands for water GRADUALLY and SUCCESSIVELY, as the city grew, and in spite of the frequency of single and successive dry and unproductive rainy seasons, could NEVER have been accomplished if it had not been for the TIMELY acquisition of water-rights and lands and the construction of the magnificent storage reservoirs and, the development of other additional resources which the company had provided IN TIME, to meet just such emergencies. And AS SURE AS this city is bound to grow, calling upon whoever may be supplying it with water hereafter, whether it is a corporation or the municipality itself, or both, ADDITIONAL WATER FACILITIES HAVE TO BE PROVIDED, AT NO MATTER WHAT COST. If this company, guided by vast experience and great foresight, has acquired such additional water-rights, watersheds and reservoir sites and rights of way as are now and will become STILL MORE in the near future an ABSOLUTE and INDISPENSABLE NECESSITY to meet the growing wants of this city, which from this time forward will grow rapidly, IT (the water company) should not be BLAMED for such foresight, but, instead, get CREDIT for the same. Whether a corporation or the municipality supplies the water to this city, it is absolutely essential TO LOOK AHEAD and acquire the water-rights, lands, reservoir sites, etc., AHEAD OF THE TIME when they are absolutely needed, our experience having shown that once the fact is established that properties, as above described, will be needed in the reasonably near future (which means for a large and rapidly growing community like ours, within the next ten or twenty years), IT IS ALWAYS TRUE ECONOMICALLY to buy them as they are offered for sale from time to time, so as not to excite the seller and raise the price unnecessarily. Many of our large water-right and other properties have taken FROM TEN TO TWENTY YEARS TO COMPLETE THE ENTIRE PURCHASE.

EASTERN WATER PRICES COMPARED WITH THOSE OF SAN FRANCISCO.

Very often, in previous water-rate investigations, the comparatively lower water rates of Eastern cities compared with our city have been cited, entirely misleading the people, as the conditions in the East are vastly different from those on our coast.

In the East rainfall is more constant during the entire year. Most cities there have large lakes or rivers to draw from. Labor, coal, pipe and machinery THERE is much cheaper than on this coast. In most cases it is only a question of pumping with cheap fuel, machinery and labor. THEN, as in New York, the pressure to which the water is delivered runs only from about FORTY-FIVE FEET in the daytime to about SIXTY FEET AT NIGHT. All houses that rise above these levels have to pump their water either by hand, by steam or electrical machinery. This pumping expense is an extra burden or expense to the householder. But these facts are seldom if ever mentioned by those that extol the EASTERN LOWER WATER RATES in comparison with those of San Francisco. New York, Chicago and many of the large Eastern cities are comparatively LEVEL, and consequently easy to supply, while San Francisco is one of the most HILLY and UNEVEN cities in the United States, having within its borders densely populated hills covered with mostly wooden, highly combustible houses, the height of these hills above the bay where populated ranging from one hundred feet elevation to two hundred, three hundred and three hundred and seventy-five, and over five hundred feet. This peculiar topographical feature of our city requires a very com-

plicated and difficult pipe, reservoir and pumping system, so as to give all portions of the city supplied a good fire pressure, which, with plenty of water stored in the city reservoirs and handled by our efficient Fire Department, has many times saved this largely wooden and wind-exposed city from serious conflagration.

It should also be borne in mind in comparing EASTERN MUNICIPAL WATER RATES with those of San Francisco that in the East the water rates are generally paid into the city treasury the same as the taxes; that if, on account of extra repairs or new construction more millions are wanted, the necessary bonds are issued by the CITY, backed by its CREDIT, and as THE CITY IS COMPELLED BY LAW TO PROVIDE A SINKING FUND FOR THE REDEMPTION OF THE BONDS, and also compelled to pay the interest on the water bonds PROMPTLY when due, the CITY AS SUCH, and NOT the municipal water works alone, is liable for all the moneys due to the bondholders.

The Eastern water consumer may be getting comparatively cheap water (regardless of quality or pressure), but any annual deficit in the water funds, whether caused by running expenses or new construction or serious accidents or other causes, is borne by THE CITY AS A WHOLE, and that means THE TAXPAYER, while in San Francisco about seven-eighths of the entire burden rests on THE RATEPAYERS.

NECESSITY OF SINKING FUND FOR THE REDEMPTION OF BONDS.

In Eastern cities, where the municipality owns the works, as I said before, a sinking fund is annually provided, whether from property taxes and water sales combined, or from either, for the purpose of redeeming matured bonds that have been issued by the city for the purchase of lands, rights, properties, or for new construction.

It makes no difference there, whether with the growth of the city and its growing demands a large portion of the construction that was made with this bond money fell into disuse, or, having served its purpose and having become inadequate, or having been replaced by larger or better or more modern structures, ALL of the bonds issued for the WHOLE OF THE WORK, inclusive of the abandoned parts, have their interest paid and are redeemed when mature. New York City, with a portion of its costly old Croton aqueduct abandoned, gives a good illustration of such a case. Also the cost of the old and now abandoned or disused portions of the water-works of Philadelphia, Baltimore and many other Eastern cities are counted as portion of the cost of their water-works; the bonds have been redeemed with interest or are being redeemed as they mature.

This same course would have to be followed, if the municipality of San Francisco would purchase or construct water-works of its own. WHY, THEN, should the water-works of a private corporation be treated differently and more unfairly than the law prescribes for a municipal water-works?

This corporation has been for about forty years supplying this city with water, and, unless other water-works are built hereafter either by the city or some one else, this company will be called upon for some years to come to meet the ever-increasing demand for water in this city. Water-works under our climatic conditions, as well as on account of the high price of labor and materials, cost a great deal of money. As, for an increasing supply for the future, and an improved and extended distributing and reservoir system in this city, a great deal of money will be required, and as money is proverbially timid (especially as to water supply enterprises in CALIFORNIA, where the purchaser of water demands a supply at such price as the purchaser or his municipal representative fixes); it is difficult to sell either stock or bonds of this corporation at a FAIR PRICE, which anywhere near approaches the value of the property, on account of the insecurity of the interest to be paid on the same—particularly where SO FAR, the city authori-

ties have been constantly cutting the rates, and made no allowance whatever for a sinking fund for the redemption of the bonds.

If THIS had been done in the past, almost the entire bonded indebtedness of the company might now have been paid, which indebtedness now takes about \$586,000 annually for interest, or about ONE-THIRD OF THE TOTAL AMOUNT ANNUALLY COLLECTED FOR WATER SALES.

If, therefore, this SINKING FUND had been provided for by the city authorities IN THE PAST, the taxpayers would NOW be reaping the benefit by paying a water rate CONSIDERABLY REDUCED BELOW THE PRESENT RATE.

PROPER ECONOMY OF CONSTRUCTION OF THE ORIGINAL S. V. W. W.

As to the value of the WORKS—that is, the constructions that became necessary to gradually and systematically meet the growing demand of the city—I wish to say, that they were well built and adapted to the purpose; that, for instance, I consider it proper economy by my predecessor, Col. Von Schmidt, to have constructed in the early sixties a cheap tunnel and wooden flume and pipe line from Pilarcitos to San Francisco, instead of PREMATURELY building a very costly and large iron-pipe line THEN (when iron and labor was very much higher than in later years, and when interest on money was between fifteen and twenty per cent. per annum). The cast-iron pipes, 16-inch diameter, used in the above Von Schmidt aqueduct, were about 1870 taken to San Francisco and relaid in the streets and are now in service as main pipes. The old tunnel, about 1600 feet long, which connects Pilarcitos Reservoir with San Mateo Valley, has since been lined with brick-work, and is now and has ever since been in use. The lumber of the old flume was largely used for tops on new flumes and for the building of houses, barns, etc. In short, money that may have been LOST by the abandonment of the old Von Schmidt line, is MANY times made up by the many years' saving in high interest, effected by NOT constructing prematurely a large and costly iron high-pressure pipe line.

BASIS FOR ESTIMATING THE VALUE OF THE S. V. W. W.

My estimate of the value of the S. V. W. W. is based upon the value of the water-rights, reservoir sites, watersheds; lands, rights of way and works FOR THE SPECIAL PURPOSES FOR WHICH THEY ARE USED, and capable of being used, always fully considering our climatic conditions.

ACQUISITION AND CONSTRUCTION OF WATER WORKS.

The following are the essential elements, placed in their proper sequence, for the acquisition and construction of water works for a city like San Francisco:

FIRST and foremost, it is necessary to acquire an undisputed title to the PERPETUAL right to divert the waters from such streams as have been selected for the purpose.

SECOND, and next in importance to the above, comes the acquisition, on and in the watersheds tributary to such streams, of natural lakes, or, in their absence, of large valleys adapted for storage reservoir sites, in which reservoirs the waters of the rainy seasons must be stored in order to insure a STEADY AND PERMANENT supply, on account of our very variable and uncertain climatic conditions.

THIRD in importance is the acquisition of rights of way, on which to construct the conduit lines intended to convey the waters so purchased, husbanded and diverted, to the populous center, for domestic, manufacturing and municipal supply purposes.

FOURTH, the acquisition, within the city and county, and as near as possible to the separate districts to be supplied, of PROMINENT, LARGE LEVEL PLATEAUS at PROPER ELEVATIONS above the sea, on which plateaus to erect distributing reservoirs of sufficient capacity to CONSTANTLY give an ample supply and fire pressure, both for domestic and fire purposes.

FIFTH and last, the construction of the proper works for the storing, conveying and distributing of the waters so acquired.

DIFFICULTIES OF ACQUIRING WATER RIGHTS AND LANDS, AND VALUES OF SAME.

The first item, viz: the acquisition of water rights, is, BY FAR, the most important one of the five essentials above quoted; as WITHOUT IT, under our climatic and other conditions, NO WATER WORKS ARE PRACTICABLE.

When the city has determined to acquire municipal water works, it will find that the PUBLICITY which it gives to all its proposed plans will immensely increase the difficulties and cost of acquisition of this MOST VITAL ITEM, viz: the water rights, and, secondarily, of the reservoir sites.

The Spring Valley Water Works has had many sorry and costly experiences in this line, as the fact that your honorable body and your predecessors frequently required the company, in spite of its protest, to divulge in public its plans for the future, and also publicly give the price paid for rights and lands already acquired and to be acquired, and also their location.

This publicity has added untold difficulties to their acquisition and has also manifolded the cost.

As a consequence, we have found of later years, in many cases, that it is more economical and expeditious, in order to acquire the water rights, TO PURCHASE THE ENTIRE FARMS through which, or along which, the streams flowed, including all their improvements, RATHER than to go through a long, tedious, expensive and uncertain condemnation suit, where, in addition to the loss of priceless time, we had to pay very high prices for less facilities.

As regards reservoir sites and watersheds, we have had similar experiences to the above. Sometimes, when the tracts were to be bought, that were necessary for reservoir purposes, and the owners having become cognizant that the land was wanted for such purposes, they, in a number of instances, raised their prices, so that the company concluded to resort to the courts for determining the value. The result was that we were compelled to pay from \$1,000 to \$1,250 an acre THEN—that is, twelve years ago—it being shown that land adapted for water storage or reservoir purposes was worth \$1,250 per acre.

Regarding the rights of way for pipes and other conduits, although the pipe was buried underground, the price paid has frequently exceeded one dollar per running foot; while, where the same is on a trestle and above ground, two dollars or over has often been the price per foot. In fact, in several instances, the lots or tracts of land to be traversed by pipes on trestles had to be purchased ENTIRE at prices largely exceeding the cost of two dollars per running foot.

Regarding the value of the property of the City Reservoir System, at present and as it will be developed, the present storage within the city and county of nearly ONE HUNDRED MILLION GALLONS of water at all times, at HIGH ELEVATIONS is absolutely indispensable for a thorough fire protection of this largely combustible and wind-exposed city. By the constant storage within this city of abundant quantities of water, well distributed in nine separate city reservoirs, at good elevations, ready to be instantly and automatically drawn upon by the Fire Department, the fire protection is made very effective, and, at the same time, the gross rates of fire insurance paid in this city are REDUCED BY MILLIONS OF DOLLARS ANNUALLY.

A city reservoir, therefore, located at A HIGH and PROMINENT LOCATION, has the value of its site increased manifold over its value for any other purpose.

A block of land on Market street near Kearny may be excellently adapted for a dry-goods store or other commercial business, and be of IMMENSE VALUE for that purpose, while the same property would be almost VALUELESS for a high-level distributing reservoir, because the ground level is too low for the latter purpose; while, on the other hand, the same sized block on the top of Russian Hill, for instance, at an elevation of THREE HUNDRED FEET above tide, is of very great value FOR RESERVOIR PURPOSES (far greater than for residence purposes), but for the use of a large dry-goods store or similar enterprise this isolated summit near North Beach would be practically valueless.

In my following estimates of the value of the various city distributing reservoir sites, I have adopted the rule to estimate the value of the various reservoir sites in San Francisco at the low figure of the COST OF CONSTRUCTION of the reservoir. The fact that there only very few of such sites makes them, under the circumstances and for the purposes intended, almost priceless.

It is THE SPECIAL USE AND ADAPTABILITY for economical development for water-works purposes of the properties owned and controlled by the Spring Valley Water Works near the Bay of San Francisco that establishes their value at a point far in excess of a value for farming or other purposes.

Most of the water rights of the Spring Valley Water Works were purchased years ago, when the owners did not know their full value and before the feasibility of developing such a water supply from the respective streams was yet proven.

Since THEN, the COST and VALUE of water-rights has risen to such an extent, that if those same rights would have to be purchased AT PRESENT (where all of these matters have again and again been discussed in public meetings in the City Hall and in the Courts, and the people have learned their PRESENT and PROSPECTIVE value) many times the price paid by us in the past would have to be paid now.

CONDITION OF CONSTRUCTED WORKS.

I estimate the VALUE of the CONSTRUCTED WORKS of the Spring Valley Water Works (exclusive of lands and rights) EQUAL to what they have cost.

The extra quality of the iron employed in the large 44-inch Crystal Springs pipe, and in the 36-inch Alameda pipe is not generally manufactured nowadays in Eastern mills, and then only at an increased cost. The price of iron used in several of our large pipe lines has risen since these pipes were built, so that should there be any deterioration, although not observed, in the pipes constructed during the past twenty-five years, I consider it is offset by the increased value of the iron.

Some portions of the older pipe, that, largely on account of a greater supply being required, were partially or wholly replaced by larger and heavier pipes, have been and are being taken out and cleaned, re-dipped in asphaltum, and used, wherever practicable, in other places.

As regards our dams, reservoirs, masonry tunnels and other aqueducts and city pipe distributing system, they are NOW (on account of first-class construction and care of maintenance) practically as good as when they were put in, with this difference, that our concrete dams, tunnels and foundations have hardened and improved from year to year; while our city distributing pipe system, as laid in the streets, owing to the rise in the price of cast-iron of late years, and owing to over eighty miles of our city pipe system being covered with bituminous pavement, the value of our distributing system, complete in the ground, is thus further

largely enhanced by the extra cost of cutting and replacing this pavement in a first-class manner.

As the revenue of the S. V. W. W. from the water sales is derived mainly FROM RESIDENTS OF SAN FRANCISCO, the company has always adhered to the principle of patronizing the local machine shops, labor market and merchants, in preference to the East, and, if possible, of not importing anything from there that we can have made or procure here. It also gives us a much better chance to supervise the construction here, in all its details. Our local mechanics and machine shops are FULLY EQUAL TO THE BEST IN THE UNITED STATES, as is evidenced by the magnificent work they have turned out for our company and others on this coast.

As regards the value of our pumping plants, I have requested the various local machine shops, the Union, Risdon and Fulton—who built most of our pumping works—to critically examine not only the pumps built by them, but also those built by their rivals; their report to state if and how much deterioration they would find, and also what it would cost to construct the same pumping machinery at present.

I herewith give the reports of the three shops above mentioned:

Union Iron Works, San Francisco, Jan. 18, 1901.

Hermann F. A. Schussler, Chief Engr. Spring Valley Water Works,
126 Stockton street, San Francisco—

Dear Sir: We herewith enclose you the report of Mr. H. S. Markey Jr., our expert, on your pumping plants, and regret to state, that according to his report, there is not much chance for a repair bill.

In conclusion we beg to state, that we would not duplicate these engines at the present time for less than twenty-five per cent. additional on the price you paid at the time of purchase.

Very truly yours,

UNION IRON WORKS,
By H. T. SCOTT, President.

Union Iron Works, San Francisco, January 18, 1901.

Henry T. Scott, Esq., Pres. Union Iron Works, San Francisco—

Dear Sir: As directed by you, I visited on the fifteenth and sixteenth of this month, the pumping plants belonging to the Spring Valley Water Company, including the Black Point Station, the 17th St. Station, Lake Merced Station, Ocean View Station, Belmont Station, Crystal Springs Station, Pilarcitos and Millbrae Station.

I found the machinery in excellent condition, and that every care was being taken to preserve it so. The wearing and moving parts have been replaced, where much worn or broken, and I consider that the fixed parts are in practically as good condition as when they were built.

Respectfully yours,

HENRY S. MARKEY JR.

Risdon Iron and Locomotive Works, San Francisco, January 18, 1901.

Mr. Hermann Schussler, Chief Engineer Spring Valley Water Works, City—

Dear Sir: At your request, we sent representatives to examine the following pumping plants belonging to the Spring Valley Water Company, furnished by the following local firms: Union Iron Works, Fulton Iron Works, W. T. Garratt & Co., Dow Pump Works, Evans Pump Works, the Risdon Iron Works.

These plants are located at: Belmont, Crystal Springs, San Andreas Lake, Ocean View, Lake Merced, 17th st., this city, and at Black Point.

We consider these stations are to-day in first-class condition, due to the following reasons:

(1) The design is amply proportioned in the distribution of surface in the working parts;

(2) There is an exceptionally large factor of safety in all the parts subjected to strains;

(3) Your staff of engineers—in charge of the operation of these plants—are first-class men in their profession.

As to the deterioration of the pumping plants, this we estimate would be less than one per cent., at which conclusion we arrive from the present condition of the pumps and from your method of charging—to the Maintenance Account—the cost of the repairs that are made.

Regarding the cost of renewing these pumping stations, would state the stations that were installed by the Risdon Iron Works could not now be duplicated for less than thirty per cent. over their original cost. This is due to the increased cost of labor and material, and also the increase in work in our line at the present time.

Yours truly,

THE RISDON IRON AND LOCOMOTIVE WORKS,

By D. J. BASSETT.

Fulton Engineering and Ship Building Works,

San Francisco, January 18, 1901.

Hermann Schussler, Chief Eng., Spring Valley Water Works,

San Francisco, Cal.—

Dear Sir: At your request we instructed our Mr. Spiers Jr. to make an examination of the pump we built for you at Black Point, with the idea of giving you the amount of depreciation since the pump was first installed.

We beg to report that the pumps are in as good condition to-day as when they were first installed, and with the understanding that the expense of renewing the wearing parts is charged to maintenance, we would say that there is absolutely no depreciation on the plant.

We found that the pumps are kept up in the highest state of order and that they are run at an economical rate of speed, so as not to tax the strength of the material.

We might also state that our representative viewed the other pumps belonging to your company and found the same state of affairs to exist.

As regards the cost of duplicating the pump that we built for you at the present time, we beg to state that the conditions to-day are different from what they were when your pump was built, and the cost to-day would be fully 25 per cent. greater than what it was at that time.

We also have contract prices that were paid for the other pumps and the times at which they were built, and our judgment would lead us to believe that none of the other builders of pumps would take them for anyways near the figure they took them for at that time, especially the first pump installed on Clarendon Heights. We would ask for a duplicate of that pump fully 50 per cent. more than what you paid for same.

Hoping that we have given you all the information asked for, we beg to remain

Yours very truly,

FULTON ENG. & S. B. WORKS,

By JAS. SPIERS JR.

I.

ESTIMATES OF VALUE OF S. V. W. W.

In view of the above outlined fact, the following is my estimate of the value of the Spring Valley Water Works:

A. WATER RIGHTS OWNED AND CONTROLLED BY THE SPRING VALLEY WATER WORKS.

In order to get at the value of the water rights, or the right to divert the waters of the creeks and water courses now owned and controlled by the Spring Valley Water Works, BOTH money and water payments have been made to the former owners in order to purchase the rights heretofore owned by the riparian owners.

In order to settle for the riparian rights of San Mateo Creek from the Crystal Springs dam to the bay, the company paid to the riparian owners in cash and perpetual water supply, in excess of \$750,000 00. Past experience has shown that Crystal Springs storage system from its tributary watershed can yield an average of about 9,000,000 gallons daily.

For the purchase of the riparian rights of the water of Alameda Creek, from Niles diverting dam to salt water in the Bay of San Francisco, the Spring Valley Water Works paid to the Alameda Water Company, WHO OWNED THE KEY TO THE SITUATION THERE, about 75 per cent. of the \$1,000,000 which the Alameda Water Company received for all its rights, inclusive of about 1915 acres of land, located on Calaveras Creek, about fourteen miles above Niles.....	\$750,000 00
It further paid for additional water rights between Niles Dam and the bay in cash.....	506,674 62
And furthermore agreed to furnish to riparian owners, free of charge, perpetually, a very large supply of water, which has a value to S. V. W. W. of.....	293,000 00
Making a total paid for water rights on Alameda Creek, from Niles Dam to the Bay, in money and its equivalent in water.....	\$1,549,674 62

Taking into consideration the total amount of water drawn daily from Niles Dam during the past twelve years, which has not exceeded 8,000,000 gallons daily, the above figures show an investment (in order to obtain the riparian rights of Alameda Creek), of about \$200,000 for every million gallons of water drawn daily.

Bearing in mind that the above purchases of riparian rights were made with great care and economy, and mostly fully twelve years ago, and that the values of such rights have since been steadily rising, I estimate the PRESENT value of the riparian rights now owned by the Spring Valley Water Works in San Mateo and Alameda Counties, at fully \$150,000 for every ONE MILLION GALLONS daily average that can be drawn and developed from said streams, reservoirs or watersheds.

The water rights attaching to the water supply that the company owns and controls in San Francisco County, owing to their proximity to the city, their availability in case of accidents to other parts of the works, great conflagrations, war, etc., I estimate at 33 1-3 per cent. more valuable than those in San Mateo and Alameda Counties, or at \$200,000 for every one million gallons that can be developed or drawn DAILY.

The Spring Valley Water Works owns and controls many very valuable water rights which are not yet quite complete, and which to disclose now, in their incomplete state, would work great hardship in the acquisition of the balance and cause the company great and unavoidable additional outlay. Although such rights add very materially to the value and economical adaptability for future increase, I have omitted them from the present estimate.

As the Large Crystal Springs Reservoir was connected with the S. V. W. W. System in 1888, we have now had experience with the three peninsular reservoirs combined, during TWELVE consecutive years. The net water yield of these three reservoirs and their watersheds combined, OVER AND ABOVE THE EVAPORATION, during the entire above consecutive period of twelve years was 76,600 million gallons. As the westerly portion of the Old Locks Creek Line has not been in use for over four years (but which line is in contemplation of being reconstructed on a different and larger basis), we lost ON THIS ACCOUNT during this period about 2,000 million gallons of water, which would otherwise have swelled the total net yield in the twelve years to 78,600 million gallons, or in round numbers to 18 MILLION GALLONS DAILY AVERAGE.

This period of twelve years includes the very wet season of 1889-90, which had a rainfall on these watersheds similar to the previous wet years of 1861-62, 1867-68, 1871-72 and 1877-78.

It also includes one SINGLE very dry year and three successive poor years, the net water yield of which period fell considerably below the average. I wish right here to correct an error which was made during the present water-rate investigation in hurriedly computing the average net daily supply for the season 1899-1900 of the three peninsular reservoirs from their combined watersheds. Their average daily net water yield was then ERRONEOUSLY quoted at between six and seven million gallons daily, instead of which they yielded to the supply of San Francisco as a net result of the rainfall on their combined watersheds, during the season of 1899-1900, a total of 5,749 million gallons, or an average supply for the year OF 15¼ MILLION GALLONS DAILY.

The great variability of the rainy seasons, as well as their water yield as shown above by actual experience, again emphasizes the absolute necessity of providing storage-room for ALL OF THE WATER produced in the heaviest winters, in order to yield the best results for a daily average supply through succeeding periods of good and bad years.

At the end of the rainy season of 1896-97 (on April 1, 1897), which was the beginning of the succeeding LONG SPELL OF THREE SUCCEEDING DRY, OR LARGELY UNPRODUCTIVE, WINTERS, the Spring Valley Water Works had on hand in its storage reservoirs fully 25,500 million gallons, which was more than ONE THOUSAND DAYS' supply.

AT PRESENT, AFTER A PERIOD OF 1400 CONSECUTIVE DAYS (since April 1, 1897), there is STILL on hand in those reservoirs over 10,000 million gallons, proving conclusively THE PRICELESS VALUE AND ABSOLUTE NECESSITY OF THESE STORAGE RESERVOIRS.

The average net yield of the three peninsular reservoirs with their tributaries equals 18 million gallons daily.

Alameda Creek, as now developed and based upon additional rights acquired of late, and additional new construction, now yields TEN MILLION GALLONS daily.

Calaveras Reservoir System when completed is estimated to yield thirty million gallons daily.

The Searsville System, when completed and connected as a feeder with the Crystal Springs Reservoir, is estimated to yield into the same from SEVEN TO EIGHT MILLION GALLONS daily.

The two sources within the County of San Francisco, Lake Merced and Lobos Creek, when fully developed are estimated to yield, the former three million gallons daily and the latter two million gallons daily.

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RECAPITULATION OF ESTIMATED PAST AND FUTURE DAILY WATER YIELD, AND ESTIMATE OF VALUE OF WATER RIGHTS.

Three San Mateo Reservoirs.....	18 million gallons daily
Searsville	7 million gallons daily
Alameda Creek.....	10 million gallons daily
Calaveras Reservoir.....	30 million gallons daily
Total	65 million gallons daily

The water rights for which, at \$150,000, value for each one million gallons to be furnished daily, I estimate to be worth.....	\$9,750,000	
To which should be added for the water rights appertaining to Lake Merced.....	600,000	
Making a total estimate of.....		\$10,350,000
as the value of the water rights owned and controlled by the Spring Valley Water Works and exclusive of the Company's rights on Lobos Creek, and a number of other water rights in the country, which are not yet quite completed, and are not mentioned above.		

B.—RESERVOIR SITES AND WATERSHEDS OWNED BY SPRING VALLEY WATER WORKS.

Pilarcitos, San Andreas and Crystal Springs Reservoir sites and watersheds.....	18,740 acres	
Searsville	912 acres	
Calaveras Valley.....	5,156 acres	
Total	24,808 acres	
of which.....	3,950 acres	constitute the
		reservoir sites.
leaving, say.....	20,850 acres	of watershed.

The reservoir sites and their areas being:

Pilarcitos Reservoir.....	105 acres	
San Andreas.....	475 acres	
Crystal Springs.....	1,730 acres	
Searsville	340 acres	
Calaveras	1,300 acres	
Total	3,950 acres	
		(Exclusive of Lake Merced.)

Estimate of the PRESENT value of reservoir sites and contiguous watersheds:

20,850 acres of watershed, at \$100 per acre.....	\$2,085,000	
3,950 acres of reservoir sites, at \$1,500 per acre....	5,925,000	
Lake Merced Ranch, inclusive of Lake, 2,700 acres, more or less, at \$1,250 per acre.....	3,375,000	
Total estimated present value of above watersheds and reservoir sites.....	\$11,385,000	

Mem.—I do not wish to be understood that, in my opinion, the above-enumerated water rights and lands could NOW be PURCHASED at the above low figures, nor that the estimated forty-million gallons daily yield is the maximum that can be developed out of the Alameda Creek system.

The estimates do NOT include the rights and lands on Pescadero, San Gregorio and other creeks, as the acquisition is not yet quite complete.

C.—ESTIMATE OF THE VALUE OF THE RESERVOIR SITES OF THE CITY DISTRIBUTING SYSTEM.

The lands on which the city reservoirs are built and to be built, considering the purpose to which they are put and can be put, are almost priceless for the purpose for which they are used and can be used. Market Street block, for instance, when occasion demands it, can be used for an eight million gallon reservoir at one hundred and fifty feet elevation, although its use for a fifteen or twenty million gallon reservoir was destroyed by the city authorities cutting Ridley and Webster streets through it.

The value of the sites for the present and proposed city reservoirs, I estimate, as above stated, at the same figure which it has cost to construct the reservoir on the same, and also what it will cost for the large two hundred million gallon reservoir in contemplation near the House of Correction, and for the proposed Market-street eight million gallon reservoir.

A careful estimate places the cost of constructing the present nine city reservoirs, with total capacity of about ninety-three million gallons, at \$850,000 00, and I estimate the value of their SITES, not including the cost of the reservoirs, at.....	\$850,000
The contemplated two hundred million gallon reservoir, I estimate, will cost to construct (without the land) fully \$500,000. As this site is the only one of such magnitude and at the right elevation for domestic and fire purposes, commanding with great pressure the entire business and manufacturing portion of San Francisco, and CANNOT BE DUPLICATED IN THIS CITY, I estimate its value, for this special purpose, at.....	500,000
Reservoir site for proposed Market street eight million gallon reservoir, on block between Buchanan, Herman, Webster and Ridley streets..	150,000
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Making the total estimated value of all the DISTRIBUTING RESERVOIR SITES owned by the Spring Valley Water Works.....	\$1,500,000
The estimated cost of the CONSTRUCTION of the above NINE city reservoirs now in use, inclusive of gate and screen houses, tunnels, aeraters, keepers' dwellings, support-walls, sidewalks, fences and other appurtenances....	850,000
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Adding this amount to the above estimated value of all of the city reservoir sites, we have a total of.....	\$2,350,000

for the present city reservoir system, complete and inclusive of all distributing reservoir sites.

City distributing pipe system, exclusive of distributing reservoirs and pumps, consisting of THREE HUNDRED AND EIGHTY-TWO MILES OF CAST-IRON PIPE, laid under the pavements in the streets of San Francisco, of diameters varying from thirty inches down, value (including pipes, lead and other material T's, crosses, fittings, gates, labor of cutting pavement and ditches, laying pipes,, filling ditches, replacing pavement in first-class condition, transportation, but not including meters and small wrought-iron pipes.....	3,636,000
Eleven miles of heavy wrought-iron pipe, varying in diameter from 44-inch to 22-inch diameter, inclusive of gates, fittings and connections, materials, transportation, labor, pavements cut and replaced, tunnels, trestles and special structures, complete in the ground.....	550,000
Total estimate of city distributing pipe system, exclusive of reservoirs, sites and pumps.....	\$4,186,000

As one of the direct results of the repeated reductions (against our protest) of the water rates, particularly since the beginning of the year 1897, by which reductions the financial resources of the S. V. W. W. were SERIOUSLY INTERFERED WITH, also working to the detriment of the city and the Fire Department, I wish to state, that while we laid (in round numbers) in the streets of San Francisco in

1896	32 miles of pipe
We laid in—	
1897	16 miles of pipe
1898	15½ miles of pipe
1899	14 miles of pipe
1900 only.....	4 miles of pipe

ESTIMATE OF VALUE OF PUMPING PLANTS.

1.—Belmont Station complete.....	\$175,000
2.—Millbrae Station complete.....	265,000
3.—Crystal Springs Station complete.....	92,000
4.—Pilarcitos Station complete.....	25,000
5.—Ocean View pumping station complete.....	50,000
6.—Lake Merced pumping plant complete, with force pipe and San Andreas pipe connection, bridge, Ocean View tank, wharf, suction pipes and screens, etc.....	300,000
7.—Black Point pumping station, inclusive of brick-lined storage tunnel, wharf and real estate	200,000
8.—Clarendon Heights pumping plant, exclusive of real estate.....	75,000

WATER RATES.

Total estimate of above eight pumping stations, exclusive of real estate (except Black Point, Millbrae, Belmont).....		\$1,182,000
Pilarcitos dam, including waste weir.....	\$340,000	
Upper dam, prevents muddy water from entering main lake during storms.....	30,000	
Side flume.....	10,000	
Gate house.....	20,000	
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Total headworks Pilarcitos.....		\$400,000

PILARCITOS LINE.

Tunnel No. 1, bricked.....	\$30,000	
Tunnel No. 2, bricked.....	70,000	
Main flume on Pilarcitos conduit.....	10,000	
Pilarcitos pipe line, inclusive of rights of way, bridges, etc.....	410,000	
Ocean House flume.....	9,000	
Lake Honda tunnel.....	48,000	
	<hr/>	
Pilarcitos conduit complete to Lake Honda.....	\$577,000	
San Andreas Dam, including waste weir, outlet-shaft and gates.....	\$430,000	
San Andreas Tunnel.....	52,000	
Eleven miles of first San Andreas pipe line.....	230,000	
New San Andreas fore bay.....	15,000	
New 44-inch San Andreas pipe line.....	320,000	
	<hr/>	
Total		\$1,047,000
		<hr/>
Locks Creek old aqueduct, parts now in use being Tunnel No. 1, stone dam and flume.....	\$90,000	
New Locks Creek line, inclusive of Tunnel No. 2, one earth dam, with concrete waste weir and one concrete dam, \$206,000; also about 2,200 feet of 44-inch pipe and concrete outlet at San Andreas dam, \$24,000.....	230,000	
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Present Locks Creek lines.....		\$320,000

CRYSTAL SPRINGS.

Upper dam, with outlet tunnel and double concrete waste weir, separates upper from lower lake, thus maintaining different water levels when necessary, prevents muddy water from upper watershed from entering lower lake, and serves as county road for the inhabitants of Spanishtown, Pescadero, etc.....	\$265,000	
Crystal Springs lower dam.....	2,242,000	
Crystal Springs pipe line.....	1,347,000	
Twenty-two-hundred-foot tunnel, same line.....	44,000	
	<hr/>	
Total estimate of Crystal Springs plant.....		\$3,898,000

WATER RATES.

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Alameda pipe line, inclusive of submarine pipes and 18-inch blow-off pipes at Belmont.....	\$1,670,000	
Additional rights, not included in former estimates, works, etc., connected with Alameda Creek system—cost.....	1,309,000	
Alameda Creek works—total.....		\$2,979,000
Searsville dam and buildings.....	\$125,000	
Davis tunnel.....	32,000	
Flume connecting Crystal Springs force pipe with New Locks Creek line.....	20,000	
Total		\$177,000
Lake Merced Drainage System.....		\$177,000
Thirty-inch pipe of original San Andreas line, partly in ground and partly taken up, cleaned and dipped, also 44-inch new pipe and 22-inch blow-off pipes at Millbrae pump station.....	\$35,000	
Islais Creek bridge pipe and property.....	38,000	
Cast-iron pipe on hand in pipe yards in San Francisco, 2,050 tons at \$35.....	71,750	
300 tons fittings at \$60 per ton.....	18,000	
30 water-gates.....	1,000	
Pipe Yard lot, office, blacksmith's shop and stables	95,000	
Brannan street pipe yard and Market street pipe yards (outside of proposed reservoir site block).	50,000	
Office lot and building, fifty vara, corner Geary and Stockton streets.....	750,000	
Meters on San Francisco distributing pipe system..	145,000	
(Various properties in San Francisco, the future use of which is not contemplated, are omitted.)		
Total		\$1,203,750

RECAPITULATION OF ABOVE ESTIMATES OF THE VALUE OF SPRING VALLEY WATER WORKS.

Water rights.....	\$10,350,000	
Storage reservoir sites and watersheds.....	11,385,000	
Distributing reservoir sites and present distributing reservoirs in San Francisco.....	2,350,000	
Distributing pipe system in San Francisco.....	4,186,000	
Eight pumping stations in city and country.....	1,182,000	
Pilarcitos headworks and dam.....	400,000	
Pilarcitos conduit to Lake Honda reservoir.....	577,000	
San Andreas dam and pipe line.....	1,047,000	
Locks Creek No. 1 and No. 2 aqueducts.....	320,000	
Crystal Springs dams and pipe line.....	3,898,000	
Alameda pipe line and additional rights and works in Alameda Creek.....	2,979,000	
Searsville dam, etc.....	177,000	
Lake Merced drainage system.....	177,000	

Office lot and buildings in San Francisco and other properties.....	1,203,750
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Total value of Spring Valley Water Works.	\$40,231,750

This total does not include the assessed value of the franchise, which is nearly \$5,400,000, and on which the Spring Valley Water Works paid taxes last year amounting to about \$87,000.

It has been considered by some of the municipal authorities of San Francisco, that the face value of the stock and bond issue of the Spring Valley Water Works should be taken as the value of the works; but it must be remembered that, even when these are at par in the public market, they represent ONLY the public estimate of value, when and after they have been assailed year after year by incessant attacks upon and reductions of the company's revenue far below the just income warranted by the actual values of the properties acquired for and employed in the public service.

From the careful and conservative estimates above made of what the plant is worth in reality, it can readily be determined what prices the stocks and bonds would bring in the market if rates commensurate with the VALUES were allowed.

The public estimate, based on the present premises, is neither a safe nor a just guide, nor is the COST of the properties which makes no allowance for enhanced value from any cause.

Could it be assumed that if the actual value had DEPRECIATED, say, fifty per cent. BELOW COST, that such members as may now favor COST as the basis, would THEN favor it?

If NOT, then the rule is radically wrong, for it will not work both ways.

II.

COST OF THE PROPOSED CALAVERAS WATER WORKS.

The following is my estimate of what it will cost for the acquisition of the necessary water rights, lands and rights of way, and for the construction of the works necessary to store and convey a daily supply of THIRTY MILLION GALLONS OF WATER, from Calaveras Valley, via Crystal Springs Reservoir, to San Francisco City and County:

ADDITIONAL LANDS AND WATER RIGHTS, to be acquired.....	\$250,000
CALAVERAS DAM, 350,000 cubic yards, at \$10....	3,500,000
RIGHT OF WAY FOR TUNNEL NO. 1.....	12,000
11,700 FEET, TUNNEL NO. 1, capacity one hundred millions gallons daily at \$50 per foot.....	585,000
120,000 LINEAR FEET, A1 AMERICAN IRON PIPE (NOT STEEL), 46-INCH clear diameter, capacity thirty million gallons per 24 hours, being 65,000 feet ½-inch iron, 15,000 feet 7-16-inch iron, 12,500 feet ¾-inch iron, 12,500 feet 5-16-inch iron, 15,000 feet ¼-inch iron, thoroughly coated with asphaltum, laid and connected complete in ditch and on trestle, including rivets, fittings, etc.....	2,390,000

60,000 LINEAR FEET OF FOUR-PILE TRESTLE, including stringers, bolts, covering, paint, etc., at \$7.....	420,000	
RIGHT OF WAY FOR 60,000 LINEAR FEET OF PIPE underground at \$1.....	60,000	
RIGHT OF WAY FOR 60,000 LINEAR FEET OF TRESTLE AND PIPE, above ground, at \$2....	120,000	
RIGHT OF WAY FOR FOUR MILES CANAL....	20,000	
EXCAVATING FOUR MILES CANAL (in the waters from Searsville dam will also be conveyed to Crystal Springs Reservoir), DAILY CAPACITY TWO HUNDRED AND FIFTY MILLION GALLONS; 300,000 cubic yards at 25 cents.....	75,000	
CONCRETING FOUR MILES CANAL, six inches thick	95,000	
RIGHT OF WAY FOR TUNNEL NO. 2.....	10,000	
7,000 FEET TUNNEL NO. 2 OF TWO HUNDRED AND FIFTY MILLION GALLONS CAPACITY PER 24 HOURS at \$60 per foot (steep grade)..	420,000	
SEVENTEEN MILES OF A1 AMERICAN IRON 56-INCH CLEAR DIAMETER PIPE from Crystal Springs Reservoir to proposed reservoir and distributing station on Lake Merced Ranch CAPACITY THIRTY MILLION GALLONS PER 24 HOURS, iron 5-16-inch thick, pipe laid complete in ditch, inclusive of all materials and labor, bridges, trestles, rights of way, etc.....	1,750,000	
INCIDENTALS, TEN PER CENT.....	970,000	
Total		\$10,677,000

III.

OPERATING EXPENSES FOR 1901.

The following table gives a compiled list of the annual operating expenses of the past four years from 1897 to 1900, both inclusive, in which they are segregated under thirty-six different heads. As there will be a largely increased supply from Alameda Creek in 1901, which is pumped at Belmont, and as other pumping plants may also be called upon to somewhat increase the amount of water pumped over the amount delivered by them in 1900, I respectfully call the attention of your Honorable Body to allow in the proposed water-rate budget for 1901, under operating expenses, about twenty-six thousand dollars additional, over and above the operating expenses of 1900, which were four hundred and twenty-three thousand six hundred and nine and fifty-two hundredths (\$423,609.52) dollars. In my estimate to the Spring Valley Water Works I have placed the operating expenses for 1901 at \$450,000, this figure having been nearly reached in 1899, and exceeded in 1898 on account of extra pumping expenses.

I estimate that the other items of the operating expenses (outside of pumping), by proper economy, may be kept at about the same figure as last year (unforeseen accidents excepted).

OPERATING EXPENSES.

No.	DURING THE YEAR.....	1897.	1898.	1899.	1900.
1	Lake Merced Pumps.....	\$18,571 83	\$36,139 15	\$31,407 93	\$25,486 06
2	Clarendon Heights Pumps.....	12,851 41	13,274 73	13,216 19	14,648 16
3	Belmont Pumps.....	12,425 19	31,447 53	31,133 36	35,147 42
4	Ocean View Pumps.....	722 40	724 80	983 71	797 30
5	Black Point Pumps.....	20,870 86	24,918 57	22,379 59	23,564 62
6	Pilarcitos Pumps.....	6,206 45	17,744 34	2,230 72	5,472 17
7	Crystal Springs Pumps.....		28,393 49	2,755 79	173 16
8	Millbrae Pumps.....		4,344 15	27,223 68	2,964 57
9	Crystal Springs Reservoir.....	8,276 14	6,745 91	12,249 18	18,369 51
10	San Andres Reservoir.....	7,735 13	7,340 77	11,454 47	7,859 74
11	Pilarcitos Reservoir.....	4,844 57	6,431 83	5,162 37	3,404 82
12	Portola Reservoir.....	766 73	786 75	808 94	792 45
13	City Reservoirs.....	21,538 97	17,606 97	19,371 05	16,739 66
14	Potrero Heights Reservoir.....		358 56	307 80	.....
15	Crystal Springs Pipe Line.....			1,323 78	1,272 52
16	San Andres Pipe Line.....			2,202 36	3,250 97
17	Locks Creek Line.....	4,809 90	11,530 46	12,062 99	8 588 39
....	Bald Hill Pipe Line.....	11,430 31	3,970 64	.....	.....
18	Alameda Pipe Line.....	7,216 28	7,543 75	7,416 86	7,433 65
19	Main Repairs.....	44,251 04	34,987 04	41,843 51	40,590 54
20	Pilarcitos Pipe Line.....			5,324 43	5,857 63
21	Legal Expense.....	23,395 45	17,530 34	17,889 17	19,878 54
22	Meter Expense.....	23,079 27	22,411 72	22,847 23	23,969 32
23	Office Expense.....	10,795 33	15,598 15	9 738 41	9,057 78
24	General Expense.....	17,309 00	13,377 85	13,713 81	13,041 88
25	Pescadero Expense.....	983 30	869 00	918 60	1,068 05
26	Lobos Creek.....	2,110 00	1,560 00	1,460 00	1,230 02
27	City Stables.....	6,009 20	6,535 91	6,967 41	5,122 31
28	San Mateo Stable.....	997 64	537 96	821 75	683 35
29	Pipe Yard.....	4,938 05	3,905 89	3,663 14	3,707 46
30	Land Account.....	5,705 25	6,951 65	7,487 00	7,696 55
31	Salaries.....	40,474 96	40,399 96	40,074 96	41,049 99
32	Bookkeeping Department.....	18,561 00	15,968 00	16,232 71	19,375 05
33	Engineer's Department.....	13,557 80	13,872 44	14,375 05	18,513 75

OPERATING EXPENSES—CONTINUED.

DURING THE YEAR.....	1897.	1898.	1899.	1900.
34 Inspector's Department.....	\$8,303 10	\$10,824 00	\$9,756 98	\$10,023 75
35 Collection Department.....	27,358 30	26,962 36	24,668 84	20,842 17
36 Telephone Department.....	2,269 41	7,156 13	3,335 80	5,936 41
Total.....	\$388,364 27	\$458,750 80	\$444,864 59	\$423,609 52

Estimated operating expenses for the year 1901—\$450,000.

YEAR.....	1897.	1898.	1899.	1900.
Amount of water in millions of gallons pumped annually.....	2,991	7,584	6,890	4,954

In order to show to your Honorable Body that, in spite of the large increase in the population of San Francisco, and consequent increase in the amount of water supplied, since the year 1890, the operating expenses of the Spring Valley Water Works HAVE NOT INCREASED; I take the liberty to present to you the following exhibit, which also shows the comparative difference or increase in population and water consumption between the years 1890 and 1900.

It also shows the operating expenses of the Spring Valley Water Works in these two years compared with three of the municipal departments of San Francisco.

YEAR.	Population	Water applied during the year in million gallons....	Operating Expenses of Spring Valley Water Works....	Approximate Total Annual Operating Expenses of the S. F. Police, Fire and School Departments compared.
1890.....	300,000	7,457	\$432,912 90	\$2,000,000
1900.....	350,000	9,295	423,609 52	2,600,000
Increase in per cents	16	24	00	30

The above table shows that, although the population in this decade INCREASED SIXTEEN PER CENT. and the water consumption INCREASED TWENTY-FOUR PER CENT., STILL the operating expenses of the Spring Valley Water Works DID NOT INCREASE, although, in the year 1900, there were pumped FOURTEEN HUNDRED MILLION GALLONS MORE than in 1890, thus entailing great additional expense.

From the above showing your Honorable Body will see that EXTREME CARE AND ECONOMY have been practiced by the Spring Valley Water Works in order to achieve this remarkable result in its operating expenses.

IV.

CAUSES OF THE DIFFERENCE IN THE COST OF WATER BETWEEN NEW YORK AND SAN FRANCISCO, AND CONCLUSIONS.

The question came up during the present Water Rate Investigation, what were the reasons, that while water is delivered in New York at a cost of \$29 per million gallons, why it costs \$210 per million gallons in San Francisco?

I do not admit the correctness of the above figure of \$29 per million gallons for New York, because I know it is TOO LOW.

THE PRESENT COST OF THE WATER WORKS OF NEW YORK, at the end of the year 1900, partly owing to new construction, and partly probably on account of the consolidation of GREATER NEW YORK, is placed at \$110,000,000.

AT THE END OF 1896 the total cost of the old and new Croton Works was \$78,000,000, the total annual income from water sales \$3,800,000, the operating expenses \$824,000; the daily consumption was estimated at 200 million gallons, or 73,000 million gallons annually, which places the cost per million gallons delivered in New York during 1896 at nearly \$52.

Comparing the cost of the New York water works at the end of the year 1896, of \$78,000,000, with the present cost of \$110,000,000, it SHOWS AN INCREASE OF \$32,000,000 during the last four years.

As the question propounded demanded a CATEGORICAL and IMMEDIATE answer, I hereby submit to your Honorable Body MY ANSWER IN WRITING, based upon such FACTS relating to 1900 as I have at hand; and for the following calculations I have taken the figures in round numbers.

In order to ascertain from an official source the PRESENT daily consumption, annual running expenses, total annual revenue from water rates and meters, and total population of Greater New York for 1900, I wired the above inquiry to the Hon. Alphonse Fteley, for many years Chief Engineer of the Croton Water Works of New York. To-day (February 4) I received the following two telegrams in response to the above inquiry:

New York, February 4, 1901.

Hermann Schussler, Spring Valley Office,
San Francisco, Cal.—

Sick at home, 14 West 131st street. Figures not at hand. I send messenger to George Birdsall, Chief Engineer water works, Park Row Building, and ask him to wire answer to your telegram.

7:30 A. M.

A. FTELEY.

New York, February 4, 1901.

Hermann Schussler, Spring Valley Office,
San Francisco, Cal.—

Daily consumption, four hundred million gallons. Running expenses, two million four hundred thousand. Gross revenue, six million six hundred thousand. Population, three million five hundred thousand, all round figures.

1:16 P. M.

A. FTELEY.

The following table shows the increase in DAILY CONSUMPTION, TOTAL COST OF WATER WORKS, GROSS REVENUE for water rates and meters, INTEREST and SINKING fund, etc., and OPERATING expenses, between NEW YORK CITY IN 1896, and GREATER NEW YORK IN 1900:

	NEW YORK CITY IN 1896.	GREATER NEW YORK IN 1900.	INCREASE IN PER CENT.
Estimated daily consumption.	200 million gallons...	400 million gallons...	100 per cent.
Total cost.....	\$78,000,000	\$110,000,000	41 per cent.
Revenue from water rates and meters.....	3,800,000	6,600,000	73 per cent.
Payments for interest, sinking fund, etc.....	2,976,000	4,200,000	41 per cent.
Operating expenses	824,000	2,400,000	per cent.

I. FOR NEW YORK.

1900.

- A. Population of New York..... 3,500,000
- B. Water consumed daily in New York about.... 400 million gallons
- C. Annual consumption..... 146,000 million gallons
- D. Daily per capita consumption in New York.... 114 gallons
- E. Average elevation to which water is supplied
above high tide about..... 100 feet
- F. Cost of water works of New York..... \$110,000,000
- G. Annual revenue from water rates and meters.. 6,600,000
- H. Annual operating expenses..... 2,400,000
or \$16 44 per million gallons delivered.

I. Cost per million gallons delivered:

..... \$6,600,000
 _____ equals \$45 20
 146,000

instead of \$29, as the above question implied.

II. FOR SAN FRANCISCO.

1900.

II.

- A. Population of San Francisco..... 350,000
- B. Water consumed daily in San Francisco..... 25½ million gallons
- C. Annual consumption..... 9,295 million gallons
- D. Daily per capita consumption in San Francisco 73 gallons
- E. Average elevation above tide to which water is
supplied
- F. Cost of Spring Valley Water Works:
 Although the cost of the Spring Valley Water
 Works exceeds the par value of stocks and
 bonds, I have in the following calculation as-

sumed the costs of the works at PAR VALUE OF STOCKS AND BONDS ISSUED, or a total of:

Stock	\$14,000,000
Bonds	12,775,000

Total

\$26,775,000

G. Annual revenue from water sales:

Water rates and meters.....	\$1,563,857 40
Municipality	225,977 39
Shipping	94,917 55

Total

\$1,884,752 34

H. The annual operating expenses of the Spring Valley Water Works for 1900 were.....

\$423,609 52

Of which \$107,000 was for PUMPING 4,954 million gallons (out of the total annual supply of 9,295 million gallons), or 53 and 3-10ths per cent of the total, which leaves the operating expenses, after deducting the above pumping expenses, at about

\$316,000 00

or

\$34 00

per million gallons delivered.

The extra cost of pumping the above 4,954 million gallons, or 53 and 3-10ths per cent of the total consumption, being \$107,000, we have an EXTRA COST of this quantity of \$21 50 per million gallons PUMPED.

The \$107,000 annual extra cost of pumping 53 and 3-10ths per cent of the total consumption, IF DIVIDED BY THE TOTAL CONSUMPTION, adds

\$107,000 00

9,295

equal \$11 50 to each million gals.

This makes the total operating expenses: \$45 50 per million gallons delivered.

I. Cost per million gallons delivered. This cost is made up by the following three items, viz:

- (1) Operating cost.
- (2) Interest cost.
- (3) Tax cost.

(1) The OPERATING COST, as shown under H, is \$423,609 52 for the year, or \$45 50 per million gallons delivered.

(2) The INTEREST COST IS AS FOLLOWS:

Annual interest paid by Spring Valley Water Works on par value of stock and bonds:

The Spring Valley Water Works has \$14,000,000 of stock, on which it pays five per cent. per annum, and a bonded indebtedness of \$12,775,000, on which it pays partly six per cent. and partly four per cent. interest, being on:

\$4,975,000, at 6 per cent, equals.....	\$298,500 annually at present.
and \$7,800,000, at 4 per cent, equals.....	\$312,000 annually at present.

Total

\$610,500

During the year 1900, the bond issues being somewhat less than at this date, the total interest actually paid on the bonds was only..... \$586,500
 Adding to this the interest on \$14,000,000 of stock, at five per cent..... \$700,000 annually at present.
 We have to pay a total annual interest account on bonds and stock of..... \$1,286,500
 To this must be added about \$30,000 additional interest, mostly for floating debt, making the interest account in round figures..... \$1,316,000
 Which makes the INTEREST COST per million gallons delivered
 \$1,316,000 divided by 9,295 equals \$141 58

(3) TAX COST—

In 1900 the Spring Valley Water Works paid State and County taxes on its properties and franchise to the amount of..... \$226,660 02
 Making the TAX COST per million gallons delivered \$24 38

RECAPITULATION OF THE ABOVE COST PER MILLION GALLONS FOR 1900, COMPARING NEW YORK WITH SAN FRANCISCO.

	NEW YORK.	SAN FRANCISCO.	Increased cost per million gallons, caused by changed conditions in San Francisco.
Operating cost.....	\$16 44	\$45 50	\$29 06
Interest and sinking fund cost .	28 76	141 58 (Interest cost alone,	112 82
Tax cost		24 38	24 38
Total cost per million gallons delivered.....	\$45 20 (Including operating, interest and sinking fund, but no city tax.)	\$211 46 (Including operating, interest and tax cost, but no sinking fund.)	\$166 26 Total increase in cost per million gallons in New York if San Francisco conditions prevailed there.
While furnishing a daily per capita consumption of	114 gallons	73 gallons	

The cost per million gallons delivered in New York being \$45 20 on a basis of a per capita consumption of 114 gallons daily; if the per capita consumption were reduced to that of San Francisco, viz: 73 gallons per day, the cost per million gallons delivered in New York would increase from \$45 20 to:

$$\frac{\$45.20 \times 114}{73} = \$70.58$$

At the rapid rate with which the daily consumption in New York has been increasing of late, the authorities there are now face to face with the problem of either increasing their water works and supply at an enormous additional outlay (over and above the \$110,000,000 already expended), or, WHICH IS THE MOST FEASIBLE AND ECONOMICAL THING TO DO—to reduce their present daily per capita consumption to between 70 and 80 gallons, like San Francisco, thereby RAISING the cost per million gallons in New York to about \$70, as shown above, as the present financial obligations HAVE TO BE MET, and the annual water revenue of \$6,600,000 MUST be produced, EVEN FROM A REDUCED WATER CONSUMPTION.

If the daily CAPACITY of the S. V. W. W. of, say, 30 million gallons were DOUBLED to 60 million gallons by adding to them the Calaveras Works complete, the total cost of the S. V. W. W. (also including a corresponding increase in the capacity and extent of the San Francisco City Distributing Reservoir and Pipe System) would then be about \$45,000,000.

The cost per million gallons delivered THEN would be about as follows:

\$45,000,000, at 5 per cent interest.....	\$2,250,000
Operating expenses (estimated).....	600,000
Taxes (estimated).....	400,000
	\$3,250,000
Total annual cost.....	\$3,250,000

This would be for the total annual supply delivered of about 22,000 million gallons:

\$3,250,000 divided by 22,000 equals \$147 70

per million gallons delivered in San Francisco, instead of the present cost of \$211 46.

If the capacity of the S. V. W. W. were gradually TREBLED or QUADRUPLED thereafter (for which it is eminently fitted), the cost per million gallons in San Francisco would be constantly and systematically DECREASED as the daily consumption INCREASED.

No allowance whatever has been made in the above estimate for the fact that, owing to the low level at which the water arrives in New York, giving a net pressure above the street levels on Manhattan Island of only about forty-five feet in the day-time and sixty at night, the owners of thousands of buildings are put to the annoyance, and often considerable extra cost, for lifting to the tops of their buildings by steam, electric or hand power the water supply that WILL NOT FLOW THERE on account of the very SLACK pressure in the mains; while in San Francisco, in spite of the thousands of houses being built on the many hills, ranging from one hundred to five hundred feet in height above the bay, A FIRST-CLASS PRESSURE is constantly maintained OVER THE ENTIRE CITY for domestic and fire purposes—thus saving the householder of San Francisco ENTIRELY from the extra burden, annoyance and expense (OVER AND ABOVE THE WATER RATES) that the householder of New York City is often put to, although THAT city averages only about fifty feet above the sea-level, and is VERY FLAT.

NATURAL DAILY AVERAGE FLOW OF CROTON RIVER.

Table copied from Croton report of 1895; record from 1870 to 1894, both inclusive:

1870.....	352 million gallons	1883.....	264 million gallons
1871.....	347 million gallons	1884.....	415 million gallons
1872.....	313 million gallons	1885.....	319 million gallons
1873.....	454 million gallons	1886.....	367 million gallons
1874.....	410 million gallons	1887.....	461 million gallons

1875.....	454 million gallons	1888.....	616 million gallons
1876.....	406 million gallons	1889.....	552 million gallons
1877.....	362 million gallons	1890.....	454 million gallons
1878.....	480 million gallons	1891.....	419 million gallons
1879.....	375 million gallons	1892.....	290 million gallons
1880.....	250 million gallons	1893.....	510 million gallons
1881.....	332 million gallons	1894.....	375 million gallons
1882.....	416 million gallons		

Average flow from 1870 to 1894, both inclusive, 400 million gallons daily, which is equal to the present consumption of New York.

THE CONDITIONS CONNECTED WITH THE WATER SUPPLY OF NEW YORK AND SAN FRANCISCO ARE VASTLY DIFFERENT, making the cost per million gallons delivered in San Francisco now as well as hereafter MUCH HIGHER than in New York. In other words, if the same climatic conditions as exist on the Pacific Coast, with its VARIABLE and SCANT rainfall and FREQUENT SUCCESSIONS OF DRY WINTERS (requiring fully THREE YEARS' RESERVOIR STORAGE HERE) existed in New York, three years' storage would also be necessary THERE. At present, for New York, storage for less than HALF A YEAR is sufficient, as the Croton river furnishes by its NATURAL FLOW an average of four hundred million gallons daily WITHOUT storage reservoirs. (See above table.) Any discrepancy below the 400 million gallons daily can easily be, and is being provided for by proposed reservoir capacity of less than half a year's supply. (New York now consumes 146,000 million gallons annually.) IF OUR CLIMATIC CONDITIONS existed THERE, with no summer rains whatever and with the Croton river bed practically dry for seven months in the year (as is the case with most of our California streams in the summer and fall), the present cost of water in New York would be greatly increased.

If, therefore, New York were compelled by such climatic conditions as exist on this coast here to provide storage for fully three years ahead, a total storage capacity of about 440,000 million gallons of water would be required. The value of the three peninsular storage reservoirs, water rights and tributary water sheds of the S. V. W. W., including the cost of head works, dams, etc., is in round numbers \$400 for each million gallons storage capacity.

The same conditions as here, if applied to New York, would bring the above required reservoir capacity of 440,000 million gallons to \$176,000,000, which sum would represent the value and cost of such ADDITIONAL storage facilities and privileges.

If New York had to purchase the RESERVOIR SITES and WATER AND RIPARIAN RIGHTS clear down to salt water, at such figures as we are compelled to pay here, for San Francisco:

If thereafter the many large, COSTLY MASONRY DAMS and appurtenances would have to be constructed to hold this enormous amount of water:

If LABOR, IRON, CEMENT and other NECESSARY MATERIALS would cost the same price there as they do in San Francisco:

If the water were delivered to an average of TWO HUNDRED AND SEVENTY-FIVE FEET ELEVATION above tide, as in San Francisco, or nearly three times the elevation as now delivered in New York:

If FIFTY-THREE PER CENT of the annual water consumption would have to be pumped, as is the case in San Francisco:

If the daily consumption of New York was as small as that of San Francisco, instead of NEARLY SIXTEEN TIMES AS LARGE:

If COAL AND WAGES AND MACHINERY were at the same price there as they are here; and last, but not least:

IF THE RATE OF INTEREST (to be paid on the present cost of the New York City Water Works and on the ADDITIONAL ENORMOUS COST of the then necessary immense storage reservoirs, lands, and rights), were increased from the THREE PER CENT PER ANNUM RATE to FIVE PER CENT PER ANNUM, which we have to pay in San Francisco:

THEN

THE COST PER MILLION GALLONS THEN DELIVERED IN NEW YORK CITY, UNDER ALL THESE CONDITIONS, CHANGED SO AS TO EQUAL THOSE IN SAN FRANCISCO AND ON THIS COAST, WOULD BE EQUAL TO THE PRESENT COST OF A MILLION GALLONS DELIVERED IN SAN FRANCISCO.

As the cost of the S. V. W. W. in the above calculations is assumed at a figure BELOW THE REAL COST, and FAR BELOW their real value, and as these works are well and economically constructed, the conclusion from the above showing is: THAT IF ALL OUR CONDITIONS had existed and did now exist in New York, the cost per million gallons of water, delivered THERE, would EQUAL the cost of the same in San Francisco.

THE WATER WORKS OF GREATER NEW YORK have cost, in round figures, \$110,000,000, on the basis of lower Eastern prices for labor and materials; low rates of interest guaranteed by the municipality; freedom from taxes, and very favorable climatic and other conditions, as above illustrated. I estimate that about \$25,000,000 of the above \$110,000,000 would represent the cost of the present headworks, lands, rights and dams, leaving the remainder of \$85,000,000 to represent the cost of all the old and new conduits and the city distributing reservoir and pipe systems.

IF THE LATTER WORKS (EXCLUSIVE OF THE ABOVE-MENTIONED HEADWORKS, ETC.) had been constructed in California, or if they had been constructed for GREATER NEW YORK, but under the above San Francisco conditions, the cost would have increased fully 25 per cent. Instead of, say, \$85,000,000, the cost would have been fully.....	\$106,250,000
As shown above, under San Francisco conditions, the cost of acquiring lands and rights, and of building storage reservoirs to hold three years' supply, or 440,000 million gallons, would be.....	176,000,000
Making a total cost of.....	\$282,250,000

SUBJECT TO ALL OF THE ABOVE ENUMERATED SAN FRANCISCO CONDITIONS, the annual cost of providing a water supply of 400 million gallons daily, or 146,000 million gallons per annum, would be \$282,250,000 at 5 per cent. INTEREST PER ANNUM.....	\$14,112,500
OPERATING EXPENSES, as in San Francisco, being \$45 50 per million gallons delivered, or for 146,000 million gallons annually.....	6,643,000
Annual allowance for sinking fund and deterioration, placed at the LOW FIGURE of 2¼ per cent.; being 1¼ per cent. for the former and 1 per cent. for the latter.....	6,350,625

WATER RATES.

TAX COST, as in San Francisco, being \$24 38
per million gallons delivered. or for 146,000
gallons annually..... 3,559,480

Total annual cost for 400 million gallons daily, or
146,000 million gallons annually delivered in
Greater New York UNDER CONDITIONS
PREVAILING IN AND NEAR SAN FRAN-
CISCO 30,665,605

Or \$210 per million gallons delivered.

Should the City of San Francisco purchase the necessary lands and rights, and construct municipal water works of its own of a capacity of 30 million gallons daily and expend, inclusive of a first-class distributing reservoir, pipe and pump system in San Francisco, say \$30,000,000, the annual cost to the city would be about as follows:

Interest, 4 per cent. on \$30,000,00.....	\$1,200,000
Sinking fund for deterioration and redemption of bonds, estimated at only.....	400,000
Running expenses, including pumping, estimated at	500,000
Taxes to State and counties outside of San Fran- cisco, estimated at.....	250,000
Total annual cost.....	\$2,350,000

Dividing this annual cost by the total amount of water supplied, of 11,000 million gallons annually, the cost per million gallons, supplied to San Francisco BY THE CITY'S OWN MUNICIPAL WATER WORKS would be \$213 60 for each million gallons, or about the same as it is at present; PROVIDED, HOWEVER, that there is sale for all this additional supply, as otherwise the cost per million gallons would be increased.

The above estimated cost of \$30,000,000 for municipal water works, will NOT procure works possessing THE SAME FACTOR OF SAFETY AS THE S. V. W. W., nor THE SAME FACILITIES FOR FUTURE ECONOMICAL INCREASE OF CAPACITY, when the time comes to DOUBLE, TREBLE or QUADRUPLE the same.

THE DATA ON THE FOLLOWING PAGE, RELATING TO THE PAST FIVE YEARS, WILL SHOW TO YOUR HONORABLE BODY THE NECESSITY OF INCREASING THE WATER RATES FOR THE COMING FISCAL YEAR OVER THOSE OF THE PRESENT.

Although, since the beginning of 1896, the capital invested by the S. V. W. W. in new construction has been increased by fully \$4,000,000, on which additional sum interest is being paid; and although our annual taxes since 1896 have been increased by \$99,370 53, and (largely on account of pumping fully 1,300 million gallons more in 1900 than in 1896) our annual operating expenses have increased by \$29,597 44; THE TWO LATTER ITEMS ALONE, amounting to \$128,967 97, EXCEED THE INCREASE OF THE TOTAL REVENUE FROM WATER SALES between 1896, when it was \$1,767,070 32, and 1900, when it amounted to \$1,884,752 34.

TABLE SHOWING REVENUE FROM WATER SALES,

TAXES, OPERATING EXPENSES, STOCK AND BONDS OF THE SPRING VALLEY WATER WORKS, AND WATER CONSUMPTION, DURING PAST FIVE YEARS.

Year	Revenue from Private Ratepayers.	Revenue from the City.	Revenue from Shipping.	Total Revenue from Water Sales.	City, County and State Taxes Paid.	Operating Expenses.	Total Stock and Bonds of Spring Valley Water Works at end of each year.	Annual Consumption in Millions of Gallons.
1896	\$1,553,152 59	\$213,917 73	.....	\$1,767,070 32	\$127,289 49	\$394,012 08	\$22,775,000	7,778
1897	1,499,063 48	223,087 07	\$47,948 70	1,775,120 25	102,932 05	388,264 27	23,275,000	8,677
1898	1,490,921 55	245,165 50	51,523 95	1,787,611 00	131,282 24	458,750 80	25,275,000	8,487
1899	1,544,911 62	240,878 77	68,208 25	1,853,998 64	196,011 36	444,864 59	25,975,000	9,129
1900	1,563,857 40	225,977 39	94,917 55	1,884,752 34	226,690 02	423,609 52	26,775,000	9,295

THIS INCREASE during the above five years being \$117,682 02.

This shows that the S. V. W. W. paid out \$11,285 95 MORE, for additional taxes and operating expenses, THAN THE ENTIRE INCREASE IN THE REVENUE FROM WATER SALES.

OUTSIDE OF THIS, the interest on the above additional \$4,000,000 had to be met, as well as an increase for several years in the operating expenses.

To meet this large extra expense, FOR WHICH NO PROVISION HAD BEEN MADE IN FIXING THE RATES (in spite of our repeated protest), the S. V. W. W. was compelled not only to apply its entire private income from rents and other sources, amounting for these five years to \$183,248 45, but also to reduce the rate of interest to stockholders from 6 per cent. to 5 per cent. per annum, in addition to making them lose the interest for several months.

In fact, as a result of last year's water-rate reduction, the stockholders of the S. V. W. W. will not receive any interest for the month of March, 1901, thereby contributing an additional sum of fully \$58,000 towards meeting the above large extra expenditures.

IN CONCLUSION, I wish to state to your Honorable Body that, IN ORDER TO MAINTAIN THE EFFICIENCY OF THE WORKS, and meet the operating expenses, the interest on stock and bonds, interest on the cost of proposed new construction during the ensuing year, I estimate that the S. V. W. W. requires a revenue from water sales (EXCLUSIVE OF TAXES) of \$1,790,500, divided as follows:

Operating expenses.....	\$450,000
Coupons on outstanding bonds (being \$4,975,000 at 6 per cent. and \$7,800,000 at 4 per cent.).....	610,500
Interest on stock (being \$14,000,000 at 5 per cent.).....	700,000
Additional interest.....	30,000
(On bonds and floating debt, for proposed new construction during the ensuing year.)	
<hr/>	
Total amount required.....	\$1,790,500

(TO WHICH SHOULD BE ADDED: TAXES).

NOTE.—In the above estimate I omitted the taxes, as THAT is an uncertain quantity. In the budget made up in February, 1900, for the revenue of the S. V. W. W., it was assumed that the taxes would be about the same as in 1899, viz: \$196,000—AND THE RATES WERE FIXED ACCORDINGLY.

INSTEAD of this amount, the taxes for the following year were over \$226,000, or an EXCESS OF \$30,000 over the above estimate.

Whatever will be the total amount of taxes for the ensuing year, SHOULD BE ADDED TO THE ABOVE SUM OF \$1,790,500, after DEDUCTING from the same the S. V. W. W. annual rents, which are estimated at about \$44,000.

Respectfully yours,

H. SCHUSSLER,

Chief Engineer Spring Valley Water Works.

San Francisco, February 5, 1901.

EXHIBIT No. 13.

REVIEW OF THE CITY ENGINEER'S REPORT ON THE VALUE OF THE
SPRING VALLEY WATER WORKS.

To the Honorable Board of Supervisors
Of the City and County of San Francisco—

Gentlemen: I have heretofore shown to your Honorable Board, AND I NOW REITERATE, that the Spring Valley Water Works, during the coming fiscal year 1901-1902, requires \$1,790,500, exclusive of taxes, for interest to bond and stock holders and on floating debt for new construction and for operating expenses.

The annual interest to be paid to our bond and stock holders amounts to \$1,310,500, which includes the agreed interest on the first, second and third mortgage bonds and five per cent. interest to the stockholders, many having purchased our stock upon the promise of being paid five per cent. interest.

If stock or bonds of the Spring Valley Water Works had to be sold at times below par, it was not the fault of the Spring Valley Water Works, as IT has done everything in its power to maintain the value of its properties, stock and bonds, as well as its credit, but such depreciation has been largely due to the action of the various successive city authorities in trying to reduce the price of water below what it costs to acquire, develop, deliver and maintain. In a number of instances this was attempted or accomplished because promises to that effect had been made in platforms or to voters prior to the election.

The next item required and asked for is a sum of \$30,000 for additional interest on floating debt during the coming fiscal year for necessary purchases of lands, rights, and for new construction, such as the proposed two large new submarine pipes across the bay, and a considerable extension and enlargement of the city pipe distributing system, to meet the urgent requests of the San Francisco Fire Department.

The final item is for operating expenses, which, by dint of the strictest economy and careful management, was kept down last year to \$423,609 52. but which amount will probably be increased to \$450,000, as we shall have to do considerable additional pumping during 1901. This latter figure has also been concurred in, as I understand, by your City Engineer.

These three items together, viz:

Interest to bond and stock holders.....	\$1,310,500
Interest on floating debt.....	30,000
Operating expenses.....	450,000

Amount to a total of.....\$1,790,500
exclusive of taxes.

Last year the Spring Valley Water Works paid in taxes, for franchise and all properties in San Francisco and bay counties, the total sum of \$226,660 02.

The water ordinance, passed to print by your Honorable Body on February 28th last, says that you "have ALLOWED FOR TAXES \$196,000." (See Appendix, Exhibit A.)

You allowed this very same amount last year, and still the taxes that the Spring Valley Water Works had to pay were fully \$30,000 higher than the above amount allowed by you, and it took almost the entire year's rent of the office building, corner of Stockton and Geary streets, to make up the deficit in taxes thus created. It would, therefore, be necessary that instead of using the word "ALLOWED" in your ordinance that you should GUARANTEE that the total taxes to be paid by the Spring Valley Water Works shall not exceed the sum of

\$196,000 during the coming fiscal year, in order to avoid the repetition of a similar or greater deficit in the taxes.

The report of your Water Committee states that it has determined the value of the Spring Valley Water Works, used in supplying San Francisco with water, at \$22,939,722.

That the Committee arrived at this value by deducting from the value FIXED by the City Engineer, viz.: \$24,667,800, the sum of \$1,978,078. This latter sum consists of the values put by the City Engineer upon property that is claimed is not actually in use for the water supply.

On the above \$22,939,722 valuation, the Committee's report allows five per cent. interest, or \$1,146,986 10, for the fiscal year; it allows \$425,000 for operating expenses, \$196,000 for taxes, making a total of \$1,767,986 10. From this sum the Committee deducts five per cent., or \$78,000, for estimated increase from new business, making a grand total of \$1,689,986 00 revenue, to which the report says the company is entitled and shall receive for the next fiscal year.

Placing the requirements of the Spring Valley Water Works side by side with the sums allowed by said Water Committee, and, with the exception of taxes, we have—

1. S. V. W. W. REQUIREMENTS.

2. WATER COMMITTEE ALLOWANCE.

Interest on bonds, stock and floating debt.....	\$1,340,500		\$1,689,986
Operating expenses.....	450,000	Less amount allowed for taxes.....	196,000
Total required.....	\$1,790,500		\$1,493,986
outside of taxes.			

The difference, therefore, between the requirements of the Spring Valley Water Works and the amount allowed by the Water Committee for the coming fiscal year (neither of them including taxes) amounts to \$296,514, which sum represents the LOSS that will be sustained by the Spring Valley Water Works, provided the reduction in the water rates is made, as recommended by the Committee.

Before discussing the merits of the valuation of the Spring Valley Water Works, made by the City Engineer in his report, which valuation, with the subsequent arbitrary reduction made by your Committee or Board, seems to form the principal basis for the rates passed to print, I wish to review the history, during past years, of the city's obligations and payments for water for municipal purposes, such as hydrants, public buildings, schools and parks. I also wish to show how the Spring Valley Water Works was induced by the city authorities to expend large sums of money, reaching nearly two million dollars, since July 1, 1883, for the purpose of enlarging, and, in many cases, paralleling the city pipe system, at the urgent request of the Fire Department and the city authorities, and with the distinct understanding (before the Spring Valley Water Works entered into these large expenditures) that they should be duly compensated for any such additional outlay.

In addition to the cost of water furnished to public buildings, schools and parks, in order to also reimburse the Spring Valley Water Works for water used, OR READY TO BE USED, by the Fire Department, and for flushing sewers, and for INTEREST on the large additional investment of money made necessary by considerably enlarging and paralleling the city pipe system to meet the Fire Department's request for a better fire service, better fire pressure and increased fire hydrant system, and, at the same time, somewhat decreasing the water rates to the private consumers, the city authorities, after due conference with the Spring

Valley Water Works (and having been compelled by law to pay the Spring Valley Water Works for such public service), agreed to establish a regular monthly hydrant rate, to be paid by the city to the Spring Valley Water Works for every hydrant IN USE OR READY FOR USE.

The hydrant rate, established at that time to take effect July 1, 1883, was \$2 50 per month per hydrant, and was maintained until July 1, 1895.

The payments made annually by the city authorities to the Spring Valley Water Works from that time until 1894, inclusive, and which payments included with the hydrant rates all other water for municipal purposes, were as follows:

1883	\$34,240 40
1884	82,858 89
1885	81,938 29
1886	64,173 89
1887	76,797 53
1888	72,065 49
1889	42,775 30
1890	103,335 92
1891	88,565 66
1892	85,988 13
1893	61,228 15
1894	96,846 33

During this period of twelve years, viz: from 1883 to 1894, both inclusive, the Spring Valley Water Works had increased, enlarged and partly paralleled its city distributing pipe system to the amount of sixty-two miles of large pipe, at a cost in round figures of \$1,390,000. Of this total amount, in the neighborhood of \$925,000 were expended for the betterment of the fire service, and to provide the hydrants that were being connected with this new fire-pipe system with a free and sufficient supply of water for fire purposes.

During the spring of 1895, the city authorities and the Fire Department proposed to the Spring Valley Water Works to make a large addition to the city pipe system for fire purposes, not only lengthening it, but, principally, increasing the sizes of the main pipes, particularly around Market street, in the large board-house district north of Market street and in the North Beach region.

Since the beginning of the year 1891, the gross income from domestic rate-payers had remained almost stationary at about \$1,550,000 per annum, the daily water consumption remaining at about nineteen and a half million gallons for the four years from 1891 to 1894, both inclusive.

In order to induce the Spring Valley Water Works to largely extend and enlarge and parallel its city pipe system for a still better and more extensive hydrant system, and the city being desirous to try and keep the income of the Spring Valley Water Works from private rate-payers where it had been since 1891, viz: between \$1,500,000 and \$1,600,000, the city authorities increased the hydrant rate from \$2 50 per month to \$5 per month, stating that they would order new hydrants set at the rate of about five hundred per annum and pay us for all hydrants connected with the pipe system at the above new rate of five dollars per month per hydrant.

By this promise, the Spring Valley Water Works was persuaded to lay during 1895 nearly fourteen miles of fire-pipe, from eight inches diameter up to twenty-two inches, and the city erected five hundred and thirty-one new hydrants during that year.

During the year 1895, the big fire south of Market street emphasized the necessity of more hydrants and larger mains, especially in that region, and as a consequence of the fact that the city not only had kept faith in paying at the five-dollar rate for the hydrants, and, furthermore, in consequence of the urgent re-

quest of the Fire Department for more hydrants and larger mains, and upon the assurance of the city authorities early in the year 1896, that about five hundred new hydrants would be set annually until the total number had reached at least five thousand, and, upon the further assurance on their part that the monthly hydrant rate of five dollars would be maintained right along, the Spring Valley Water Works ordered the necessary pipes from the East, and, during the year 1896, laid in the streets of San Francisco twenty-seven and three-fourths miles of fire-pipes, of diameters varying from eight inches up to twenty-four inches. During the same year, four hundred and ninety-two new hydrants were placed on the distributing pipe system and paid for by the city at the rate of five dollars per month.

In view of the full understanding between the city and the Spring Valley Water Works as regards the monthly or annual contribution on the part of the city at the ratio per hydrant thus established, the Spring Valley Water Works went on (being constantly urged by the city authorities and the Fire Department) to extend, enlarge and parallel its pipe system, mostly for fire purposes, so that during the six years commencing on January 1, 1895, and ending December 31, 1900, the Spring Valley Water Works extended and enlarged its pipe system in the streets of San Francisco ninety-eight and one-half miles, of which length eighty-five miles varied from eight inches to thirty inches in diameter.

Of the total cost of these eighty-five miles of main pipe, complete in the ground, with crosses, tees, all fittings, gates, etc., and with pavements restored in first-class order, \$1,030,000 was expended for the betterment of the fire system.

Adding this sum to the amount of \$925,000, expended for the same purpose from 1883 to 1894, both inclusive, we have a total of \$1,955,000 expended for and at the urgent and continued request of the city authorities and the Fire Department.

Since the beginning of the year 1897, the number of hydrants annually set by request of the city authorities suddenly decreased to about one-half of the number set during each of the two preceding years, until finally, during the year 1900, the setting of new hydrants had been almost entirely discontinued, as will be seen by the following table:

New hydrants set in 1895.....	531
New hydrants set in 1896.....	492
New hydrants set in 1897.....	210
New hydrants set in 1898.....	290
New hydrants set in 1899.....	198
New hydrants set in 1900.....	28

During these six years the income from domestic consumers and from the city for hydrants, public buildings, schools and parks was as follows:

YEAR.	REVENUE FROM DOMESTIC CONSUMERS.	REVENUE FROM CITY AND COUNTY
1895	\$1,550,688 67	\$137,235 73
1896	1,553,152 59	213,917 73
1897	1,439,093 48	228,087 07
1898	1,480,921 55	245,165 50
1899	1,544,911 62	240,878 77
1900	1,563,857 40	225,977 39

Meanwhile the daily average consumption rose from about twenty million gallons in 1895 to about twenty-five and one-half million gallons in 1900.

The above table shows that the cost per thousand gallons of water furnished to the domestic consumers during these six years has been considerably decreased, the total annual income from domestic consumers being practically the same in 1900 as it was in 1895, although the number of rate-payers increased over four thousand during that period, while the average daily consumption also largely increased.

The water rates were reduced several times during this period of six years, thereby keeping the income from our principal customers, viz: the domestic consumers, at about the same figure of \$1,550,000 annually, and the Spring Valley Water Works expended during these six years \$1,030,000 for the city fire protection exclusively, in addition to the \$925,000 spent for the same purpose during the twelve years prior to 1895. As long as the total necessary annual income was sufficient to meet the requirements of the Spring Valley Water Works, it made no difference to that company whether the rates of the domestic consumer were reduced, the city having agreed to furnish the balance of the necessary annual income by making the taxpayers (who were largely benefited by a much improved fire protection and a lower fire insurance rate) pay such balance.

During these six years, from 1895 to 1900, both inclusive, the Spring Valley Water Works expended over \$4,600,000 for new construction, made necessary by the increasing water consumption in San Francisco, and by an increasing population, and last, but not least, by the ever-increasing demand by the authorities and the Fire Department for more and larger pipes in the streets of San Francisco, for the betterment of the fire protection—the cost of the latter, as above stated, \$1,030,000, being included in the total cost of new construction of \$4,600,000.

During the year 1900, the revenue of the Spring Valley Water Works from all sources was, in round figures:

From rate-payers.....	\$1,563,850
From City and County.....	225,980
From shipping.....	94,920
From rents and other sources.....	41,950
	\$1,926,700
Total revenue.....	\$1,926,700

During the same year, the expenditures were, in round figures:

Interest paid to bondholders.....	\$586,500
Five per cent, interest paid to stockholders.....	700,000
Interest on floating debt.....	30,000
Operating expenses.....	423,600
City and County and State taxes.....	226,600
	\$1,966,700
Total expenditures.....	\$1,966,700

The revenue of the year 1900, being the result of six months' rates under the schedule adopted in 1899 and six months under the reduced rate adopted in February, 1900, shows that it did not produce by about \$40,000 the necessary revenue required for the year 1900.

As I stated in my report to your Honorable Body, dated February 5, 1901, and as I repeated in the beginning of this communication, the Spring Valley Water Works will require for the year 1901, AND OVER AND ABOVE TAXES, the sum of \$1,790,500.

The report of your Water Committee recommends that the TOTAL INCOME of the Spring Valley Water Works should be only \$1,689,986 10. After deducting

from this sum the amount you ALLOW for taxes, \$196,000, a balance of \$1,493,986 would be left. Deducting this allowance from the sum required by the Spring Valley Water Works, exclusive of taxes, viz.: \$1,790,500, A DEFICIT OF \$296,514 would be the RESULT.

The Water Committee in its report assumes that the increase from new business will be \$78,000, and has deducted this amount BEFOREHAND from the total of \$1,767,986 10, to which sum the Spring Valley Water Works would be entitled, according to the report, if there should be no increase from new business.

As I have stated in my communication to the Fire Commissioners (of which I sent you a copy), there would be no pipe-laying possible if your proposed ordinance should stand. From present indications, there is also a great likelihood that the revenue from shipping will be considerably less than during the past year.

It is therefore entirely premature and unsafe for you to assume that such large increase from new business will take place under such discouraging conditions; and, to say the least, even if you were ABSOLUTELY SURE of such a large increase, or even only a fraction thereof, you should certainly not deduct a positive figure beforehand that is not at all likely to materialize, but, instead, let the Spring Valley Water Works have the benefit of any natural growth of its business, should it occur, as the Spring Valley Water Works, for all these years past, has had to ASSUME ALL THE RISKS, and is therefore certainly entitled to any benefits that the growth of its business would bring.

Your proposed severe reduction of the Spring Valley Water Works' revenue comes with very bad grace just now, where, induced by the many assurances of fair treatment as to revenue on the part of the city authorities since 1883, the company has since the beginning of that year expended on new construction account in country and city a sum exceeding \$14,700,000.

The total taxes that the Spring Valley Water Works will have to pay have been variously estimated between \$226,000 (the taxes for last year) and \$250,000 or \$260,000. (See Appendix, Exhibit A.) Whatever sum they may amount to must be added to the above sum required by the Spring Valley Water Works of \$1,790,500.

We talk from experience, as the taxes for last year were ALLOWED by your Honorable Body at \$196,000 before they had been determined by the respective Assessors; and afterwards, when it was too late to remedy, they were fixed at over \$226,000, which difference or loss of about \$30,000 the Spring Valley Water Works had to stand.

The ordinance passed to print is based originally on a valuation of \$24,667,800, made by your City Engineer, which valuation is and can be proven to be TOO LOW by many millions of dollars.

In his report to the Board of Public Works of March 1, 1901 (see Appendix, Exhibit G), the City Engineer refers to the haste with which much of his valuation of the Spring Valley Water Works was made, which fact, he says, should be taken into consideration.

This sum you reduce arbitrarily to \$22,939,722, on which you propose to allow interest at five per cent., or \$1,146,986 10.

On February 28, 1901, at 11:50 A. M., I had delivered a written protest to your Honorable Board, in which I distinctly stated that the City Engineer's estimate for delivering Sierra Nevada water to San Francisco was TOO LOW. I also said in this protest that "There are also in said report of the City Engineer several important items that are largely undervalued and some omissions." "As all these things will assuredly increase the valuation, I respectfully ask your Honorable Board to be heard on the subject before the conclusion of your investigation."

Upon my urgent request, made to members of the Board just prior to a MEETING in the Committee room, which lasted from about 8:30 P. M. to 11:45 P. M. of that day, and from which meeting I was excluded, I had been promised that before the Board or Committee came to any definite conclusion as to the

value of the Spring Valley Water Works, or to the fixing of the proposed water rates for the coming fiscal year of 1901-1902, that I should have a full hearing for the side of the Spring Valley Works.

I was promised by the Chairman of the Water Committee, as well as by other members of the Board, that if I would wait in the ante-room until half-past nine o'clock P. M. that I would be given ample opportunity to see that the Spring Valley Water Works' side of this vital question was properly represented.

I waited patiently in the ante-room, where I was seen by the various members of the Board as they passed in and out of the committee-room, where a secret meeting was being held, but there was no admittance for me. BUT INSTEAD OF CALLING ME, the City Engineer, who in his report had valued all the properties and rights of the Spring Valley Water Works at \$24,667,800—a figure far below the COST and still more below the ACTUAL VALUE—was called into the committee-room. The City Engineer remained in the SECRET MEETING for a long time, probably giving HIS version of the matter under consideration; suffice it to say, that NEITHER I NOR ANY OF THE REPRESENTATIVES OF THE SPRING VALLEY WATER WORKS were admitted to said meeting, neither at half-past nine, THAT BEING THE OFFICIAL TIME TO WHICH THE AFTER-NOON MEETING OF THE BOARD OF SUPERVISORS WAS ADJOURNED, nor at any time thereafter; but instead, we had to wait patiently in the ante-room until about 11:45 P. M. At that time, the members of the Board or Committee entered the Supervisors' chambers, and, after occupying the next five or ten minutes with reading and acting upon a report on gas and electric light and power rates—THEN the report of the Water Committee was RAPIDLY READ, and the ordinance recommended by the Water Committee was just as rapidly adopted, or passed to print, as the clock struck twelve o'clock, midnight, and the first of March began—thus giving NOBODY WHOMSOEVER a single chance, neither during the secret meeting in the committee-room nor during the few minutes in the open Board-room, to protest. Whether the water rates recommended and passed to print on that evening had been prepared beforehand and were thus taken into the secret meeting, or whether they were the result of discussions during the secret meeting, in the presence of the City Engineer, but WITHOUT THE PRESENCE of a representative of the Spring Valley Water Works, we do not know. BUT ONE THING IS CERTAIN: the Spring Valley Water Works had absolutely NO HEARING in the matter, although it had been repeatedly promised that it should be heard.

As I indicated in my communication to your Honorable Board of February 28, 1901, my time had been very limited to give the report of your City Engineer on his valuation of the Spring Valley Water Works (dated February 23, 1901), much attention, but I stated that I found the value of the Spring Valley Water Works' water rights and other important items largely undervalued, and that some omissions are made.

I find in said City Engineer's report, page 42, that in his estimates for iron pipe he assumes three and one-fourth cents a pound as the price of iron delivered here, while our last quotation, based on iron that meets our very rigid requirements of tensile strength—not only lengthwise, but also crosswise of the grain—the high elastic limit, reduction of area, bending cold and scarfing cold, both without cracking, etc., will cost delivered in San Francisco from four and three-fourths cents to five cents per pound.

The City Engineer, on page 42 (11th and 12th lines) of his report, states that "the cost estimate of the pipe lines is based on iron at three and one-fourth cents per pound in San Francisco."

He does not state whether this low price forms the basis of his estimates of the proposed Sierra Nevada pipe lines only, or also of his estimates of the cost or value of the large wrought-iron pipes of the Spring Valley Water Works in San Mateo, Alameda and San Francisco Counties. Judging from the low estimate his

report puts on cost or value of these latter pipe lines (it would appear that he has not only assumed a figure based upon a too low cost of iron as well as of mechanical and other labor, asphaltum coating, transportation, handling, ditching, filling, bridges, trestles, etc., but also that in all probability he has made no allowance, or much too low an allowance, for the cost of rights of way. The Spring Valley Water Works (where its conduits went through private property) had to purchase the rights of way either for cash or for part cash and part perpetual water supply, or both, but always at a high figure.

I do not think that the City Engineer has made a proper estimate of the costs of rights of way, especially in the counties around the Bay of San Francisco. They have largely increased in value during late years, and those acquired by the Spring Valley Water Works during the past two years have run from seventy-five cents per foot of pipe to over two dollars per foot. Where we had to pay for rights of way, in addition to cash, by giving a perpetual water supply, as on the Crystal Springs forty-four-inch pipe line, the cost of the right of way comes much higher than if bought for cash ONLY, at so much a foot. On this line we had to agree, in consideration of the right of way, to furnish perpetually two hundred and thirty-eight million gallons annually at a very low price, far below its cost and value. This loss capitalized and added to the cash paid amounted to a very large sum of money, as shown in my report.

The cross-grain test for tensile strength on the four and three-fourths or five-cent iron averages within five per cent of the longitudinal test, while the cross-grain test on the three and one-fourth cent iron adopted by the City Engineer is likely to fall from twenty-seven to thirty per cent below the longitudinal grain test. Having tested and tried various grades of iron for pipe purposes, we have found that the best is the cheapest, as is evidenced by the splendid service of our large wrought-iron pipes in the country.

Although the City Engineer, in his above report, in relation to the Sierra Nevada scheme, gives no detail as to his estimate of thickness of metal, size of rivets, proportion of seams, whether butt or strap rivets, as such heavy pipes should be (decreasing friction and increasing flow of water), or ordinarily lap-riveted: whether the mountain ditch, forty to fifty miles long, is open, exposed to the sun's rays in the hot canyon, rendering the water unfit for drinking, and constantly subject to inflow of dirt and impurities during the rainy season, or whether it is protected by concrete lining and arch.

He says nothing about the cost of the proposed stone dam for the big storage reservoir on the river, nor about the cost of the electrical power stations in the eastern foothills of the San Joaquin Valley, nor the electrically driven pumping station on the west side of that valley, near where the thirty million gallons daily have to be pumped by this pumping plant to six hundred and fifty feet elevation above tide through the proposed Livermore Pass tunnel.

On page 122 of the Testimony of 1900, Colonel Mendel admits that he would not consider a single-pipe line from the Sierra Nevada safe; that it should be a double line, to supply the water in case of a break in the other.

It goes without saying that a pipe line of a daily capacity of thirty million gallons, if doubled, would almost double the cost of the single line, one pipe representing the CAPACITY to the conduit, while the second one parallels it as a safety factor of the thirty-million gallon conduit.

In his report to the Board of Public Works, of March 1, 1901 (see Appendix, Exhibit G), the City Engineer calls his estimate on the cost of the Sierra Nevada scheme PRELIMINARY FIGURES.

When it becomes necessary to increase by doubling the supply over the thirty-million gallons daily capacity, it would then be necessary to lay a third pipe line, the first and second representing sixty million gallons daily capacity, and the third line being the safety pipe.

Assuming, for argument's sake, that the estimate in the City Engineer's report

of \$20,260,000 (on page 41) represented the cost of the works with a double pipe line from the Sierra Nevada to the city limits, IT IS NOT FAIR to say, on the same page, that the investment per million gallons of daily capacity is \$487,000, and the cost of each million gallons delivered is \$69 57, as the City Engineer has divided the assumed total cost of \$20,260,000 by SIXTY, instead of its real safe capacity of THIRTY MILLION GALLONS DAILY. This would bring the cost per million gallons (if his total estimate were correct) from \$487,000 to \$975,333 cost per million gallons.

The following will show the actual cost of construction of water works equal to the construction of the Spring Valley Water Works in proportions, quality of materials and workmanship, if carried out on the lines as outlined in said City Engineer's report on page 38, inclusive of a reservoir and distributing system in San Francisco, but exclusive of cost of lands for Tuolumne River reservoir, electric power and pump station purposes and of water and riparian rights.

The proposed Stanislaus or Tuolumne River project to consist of the following works:

1. One stone or concrete dam forming a large storage reservoir on river.
2. Thirty-seven miles of concrete lined and covered canal of one hundred million gallons daily capacity.
3. Four miles of tunnels, same capacity, and lined the same.
4. Three miles of double twenty-five inch pipe A1 American wrought iron, AS ABOVE SPECIFIED (steep gradient) across four deep gulches on line of canal.
5. Thirteen and one-half miles of triple thirty-six inch pipe, same iron, from outlet or western end of above concrete canal (at 1,550 feet elevation) to electric power station at east side of San Joaquin Valley (elevation 550 feet above tide).
6. Electric power station complete of 4,500 horse-power, with thirty-three per cent additional relay power. Total, 6,000 horse-power.
7. Forty-seven miles of double forty-eight inch clear diameter pipe, same iron, butt and strap riveted, inside flattened rivet heads, across San Joaquin Valley.
8. Forty-seven miles of double pole line, complete.
9. Reservoir near pumping station, thirty million gallons capacity.
10. Electrically driven pumping station, complete, at west side of San Joaquin Valley, at 250 feet elevation, allowing for friction in force pipes, losses in transmission and pumps, and including thirty-three per cent relays. 5,000 horse-power.
11. Eight miles of triple thirty-inch clear diameter, butt and strap riveted force pipe, same iron.
12. One mile of concrete-lined tunnel under Livermore Pass, capacity one hundred million gallons daily.
13. Seventy miles of double forty-eight inch (clear diameter) pipe, same iron, butt and strap riveted, inside rivet heads flattened, through Livermore, Sunol and Santa Clara Valley around south end of Bay of San Francisco, thence through San Mateo County to the limits of San Francisco, where it terminates at two hundred feet elevation above tide.
14. Trestle across salt marsh around head of bay.
15. Receiving reservoir in San Francisco at two hundred feet elevation, containing three days' supply or ninety million gallons.
16. Steam pumping plant in San Francisco, drawing water from above receiving reservoir, capable of pumping twenty per cent of the water to three hundred feet elevation, friction included, above tide, and forty per cent. to four hundred feet, station being double, having two complete plants of six million gallons daily capacity each, and two of twelve million gallons daily each; also small duplicate plants for six hundred foot level.
17. Five city reservoirs, scattered through San Francisco, into which the pumps mentioned under No. 16 will deliver their water; two reservoirs at about three hundred feet elevation; two at about four hundred feet, and one at six hundred feet elevation above tide.

18. Complete city pipe distributing system, three hundred and ninety-three miles in length, complete in the ground, and pavements restored with the best of material and workmanship.

Cost complete of above work, INCLUSIVE of rights of way and property for city reservoirs and city pumping plant, and ten per cent for engineering and incidental expenses, but exclusive of lands for main reservoir on Stanislaus or Tuolumne River, lands at the power and pumping stations in the San Joaquin Valley, and also EXCLUSIVE OF ALL WATER RIGHTS AND RIPARIAN RIGHTS on the respective rivers.

Total\$38,044,160

ANNUAL OPERATING EXPENSES OF THE ABOVE-OUTLINED TUOLUMNE RIVER WATER WORKS, DELIVERING TO AND DISTRIBUTING IN SAN FRANCISCO THIRTY MILLION GALLONS DAILY.

Twenty-six (26) watch and patrolmen on dam, water shed, canal pipe and pole lines, per annum	\$20,880 00
Twenty (20) horses for same.....	3,000 00
Wages at main power station, East Side, and at pumping station, West Side, per annum.....	16,200 00
Cost of pumping eighteen million gallons daily in San Francisco into the five proposed distributing reservoirs, inclusive of wages, fuel, etc., per annum.....	65,700 00
Other annual running expenses:	
Main city pipe, repairs.....	\$40,000 00
City reservoirs.....	16,000 00
Legal expenses.....	20,000 00
Office expenses.....	9,000 00
General expenses.....	13,000 00
City stables.....	6,000 00
Pipe yard.....	4,000 00
Salaries and bookkeeping.....	60,000 00
Engineer's Department.....	20,000 00
Collection Department.....	20,000 00
Inspector's Department.....	10,000 00
Telephone Department.....	5,000 00
 Total annual running expense.....	 \$328,780 00

ANNUAL COST OF SUPPLYING TO AND DISTRIBUTING IN SAN FRANCISCO THIRTY MILLION GALLONS DAILY, OR, IN ROUND NUMBERS, ELEVEN THOUSAND MILLION GALLONS ANNUALLY, FROM THE PROPOSED TUOLUMNE RIVER WATER WORKS. THE COST OF ALL NECESSARY LANDS OUTSIDE OF SAN FRANCISCO, AND THE COST OF WATER AND RIPARIAN RIGHTS ON THE RIVER, ARE NOT INCLUDED IN THE ESTIMATE, AND NO SINKING FUND FOR THE REDEMPTION OF THE BONDS IS PROVIDED FOR.

\$38,000,000 at four per cent. interest..... \$1,520,000 00
 State and county taxes in counties outside of San Francisco, are estimated as follows:

The works in these counties (outside of the lands and water rights) will cost \$32,000,000. If they

are taxed at only one-half their cost, or \$16,000,000, at \$1 60 per \$100.....	256,000 00
Wear and tear on the two San Joaquin Valley Electrical Power and Pumping Stations, being eight per cent annually (except on buildings, relaying plant and pumps), averaging four and one-half per cent on entire cost of both plants..	51,750 00
Deterioration on double pole line across San Joaquin Valley, six per cent per annum.....	14,100 00
There being, in round figures, outside of the two San Joaquin Valley Power and Pumping Stations and pole lines (the deterioration of which is provided for above) a total amount of \$30,000,000, of construction, such as bridges, long trestles, long iron pipe lines and the boilers and moving portions of the San Francisco Pumping Plant, for which a deterioration fund should be provided:	
Estimated annual contribution to this fund.....	300,000 00
Annual operating expenses, as detailed above.....	328,780 00
<hr/>	
Total annual cost of supplying from the Tuolumne River, as above specified, 30 million gallons daily, or 11,000 million gallons annually, to and distributing the same in San Francisco.....	\$2,470,630 00
Or \$224 60 per million gallons so supplied and distributed.	

If there should not be a ready sale at the time the works are completed for all of this water, then the cost per million gallons would be increased.

If all of the water thus brought from the Tuolumne River could be sold, from the moment the works were completed, the price or cost would then be 22.46 cents per thousand gallons delivered, while the average price received by the Spring Valley Water Works during the year 1900 was 20 and 3-10ths cents per one thousand gallons, the COST during that year having been 21 and 1-10th cents per thousand gallons.

One of the MAIN POINTS that the City Engineer endeavors to make in his report is: that by his proposed Stanislaus or Tuolumne River scheme he can deliver water to the limits of San Francisco for TEN CENTS per one thousand gallons.

He does not say how much additional it would cost to pump it into a San Francisco reservoir system, then to distribute it through a distributing pipe system, sell the water, collect the money, keep in repair and maintain the entire works, and defend them against law suits and other attacks.

However, one thing is certain: that if these works are constructed with the same conscientious care as the Spring Valley Water Works have been, and of the same safe proportions, excellent materials and the best of workmanship, and if all of the water finds ready sale in San Francisco,—

THEN, as I have shown above, the cost per thousand gallons, distributed in San Francisco, will be FULLY UP TO THE COST OF THE WATER of the Spring Valley Water Works.

COST AND VALUE OF WATER RIGHTS OF THE SPRING VALLEY WATER WORKS AS AT PRESENT DEVELOPED.

The City Engineer's POINT, in regard to the cost of ten cents per one thousand gallons, which point he uses principally to DEPRECIATE AND REDUCE the

VALUE and COST of the water rights of the Spring Valley Water Works,—this point NOW FALLS ENTIRELY TO THE GROUND, and leaves the values of those water rights exactly where they were before, viz.: that they are worth AT LEAST WHAT THEY HAVE COST THE SPRING VALLEY WATER WORKS.

- A. Referring to my report to your Honorable Board of February 5th, 1901, I show, that the Spring Valley Water Works, for obtaining the WATER RIGHTS ALONE of San Mateo Creek from Crystal Springs Reservoir down to the Bay of San Francisco, had to pay in cash and a large perpetual water supply guaranteed and delivered to the owners of such water rights, a sum exceeding..... \$750,000 00
- B. That the Spring Valley Water Works paid for the water and riparian rights of Alameda Creek from Niles Dam down to the Bay of San Francisco, in round numbers..... 1,550,000 00
about four-fifths of this sum being cash, the balance for large perpetual water supply delivered to the houses and on to the lands of many of the owners of such water and riparian rights.
- C. Besides this sum, there was paid, in cash, to the Alameda Water Co., \$250,000 for water rights ABOVE Niles Dam, also including 1,915 acres in and on the water shed of Calaveras Valley. About four-fifths of this tract was in the water shed and one-fifth in the proposed reservoir site. As all these lands were worth about \$60 an acre for farming purposes, the value of the above tract of land was about \$115,000, while the balance of..... 135,000 00
would represent the purchase of riparian and water rights, mainly between Niles Dam and Sunol Valley.
- D. On page 28 of my report of February 5, 1901, I quote: "Additional rights, not included in former estimates, works, etc., connected with Alameda Creek system, cost"..... 1,309,000 00
(In the City Engineer's report this item is given in the middle of page 53.)
- E. Item A gives the cost of the water rights on San Mateo Creek ONLY, from Crystal Springs Reservoir down to the Bay of San Francisco. That sum of \$750,000 relates only to the water rights that had to be acquired before the Crystal Springs system could be utilized. This system produces an average supply of about nine million gallons daily.
- As PILARCITOS and SAN ANDREAS reservoirs average about the same supply as Crystal Springs, viz.: about nine million gallons daily, the water and riparian rights appertaining to these two reservoirs and their respective streams have the same value as those belong-

ing to the Crystal Springs Reservoir, or.....	750,000 00
F. The Spring Valley Water Works also purchased valuable water rights on San Francisquito Creek, on which Portola Reservoir is located. This reservoir and watershed can be connected either with Crystal Springs Reservoir or at short notice, with Belmont Pumps, where the water would arrive with enough pressure so that pumping would be unnecessary. When this system, when fully developed by the raising of the Portola Dam, can furnish about seven millions daily, aside from the water to which the Manzanita Water Company is entitled, it will, under the circumstances, be a low estimate to place the water rights owned on this creek by the Spring Valley Water Works in their present half-developed state, at	300,000 00
Total	\$4,794,000 00
G. The sum total of the cost and value of the water rights of the Spring Valley Water Works (outside of Lake Merced, Lobos Creek, Pescadero and San Gregorio Creeks), of the creeks as at present developed, having a furnishing capacity of about thirty-one million gallons daily is.....	\$4,794,000 00

In the above daily supply of thirty-one million gallons, the four San Mateo County Reservoirs, in their present state, are placed at twenty-one million gallons, while Alameda Creek furnished ten million gallons daily.

The above sum of \$4,794,000 represents the cost and value of the water rights of the Spring Valley Water Works AS AT PRESENT DEVELOPED AND IN USE (which sum includes, as stated, the new works on Alameda Creek, but which does not include the large additional value of the water rights of Alameda, Calaveras and San Francisquito Creeks, as they are ready to be easily and rapidly developed into giving a large additional supply, as proposed, and shown on page 22 of my report of February 5, 1901).

In my report to your Honorable Board of February 5, 1901, on page 22, I placed the VALUE of the WATER RIGHTS of the S. V. W. W. at \$150,000 for each million gallons to be furnished daily; my above independent estimate agrees very closely with that value, particularly when considering that a number of years have elapsed since the bulk of these water rights were purchased, and that they have ever since been increasing in value.

Instead of \$150,000 per million gallons, to be furnished daily, the City Engineer, in his report of February 23, 1901, on page 58, places the total value of all the water rights of the S. V. W. W. as follows:

San Mateo System, 18,000,000 gallons per day, at \$40,000 per million gallons.....	\$720,000 00
Upper Locks Creek Line, 1,500,000 gallons per day, not now in use, but conveniently located, at \$20,000 per million gallons.....	30,000 00
Portola Reservoir, say 6,000,000 gallons per day, at one-quarter value of water in the San Mateo System	60,000 00

Calaveras and Alameda Creeks, included in cost of works of the Alameda Creek System.....
 Lake Merced, included in the real estate appraisalment

H. Total \$810,000 00

This valuation of \$810,000 shows a deficiency of nearly \$1,000,000 below the cost and value of the San Mateo county water rights alone.

Regarding the City Engineer's ESTIMATE of the cost or value of the water rights on Alameda Creek, he allows on page 53, only:

"New Alameda Creek Works above Niles, at cost, as reported by the S. V. W. W., including properties in Sunol Valley, and water rights, rights of way, etc., recently acquired between Niles and San Francisco Bay"..... \$1,309,000 00

Now, in the first place, these rights are NOT located between Niles and San Francisco Bay, OR BELOW NILES, but are ABOVE Niles.

In the second place, the City Engineer allows only for the properties, rights and works acquired and constructed during the past three years.

Under the head of "Water Rights," on page 58, as above quoted, he entirely omits (whether intentionally or not) all mention of about \$1,685,000 having been paid for water rights on said Alameda Creek and tributaries, prior and in addition to the above figure allowed by him of \$1,309,000 (see my report of February 5, 1901, at bottom of page 28).

Adding his omission for water rights on ALAMEDA CREEK of \$1,685,000 (as I show above, under B and C), to the discrepancy in his estimates of the water rights for the San Mateo System of \$990,000, being the sum of items A, E and F. amounting to \$1,800,000, less the above total (H), for San Mateo County water rights, allowed by the City Engineer of \$810,000, there is a total omission here, for water rights alone, in the City Engineer's report, of \$2,675,000, OF WHICH HE MAKES NO MENTION.

In lieu of the sum (G) of \$4,794,00 (being the value of the water rights of the Spring Valley Water Works as at present developed) the report of the City Engineer gives the following estimates:

On page 53:

"New Alameda Creek Works above Niles, at cost as reported by the Spring Valley Water Works, including properties in Sunol Valley and water rights, rights of way, etc., recently acquired between Niles and San Francisco Bay." (This should read "above Niles")..... \$1,309,000 00

On page 58:

"Water rights—
 San Mateo System, 18 million gallons per day at \$40,000 per million gallons..... 720,000 00
 Upper Locks Creek Line, 1,500,000 gallons per day, not now in use, but conveniently located, at \$20,000 per million gallons..... 30,000 00
 Portola Reservoir, say 6,000,000 gallons per day, at one-quarter value of water in San Mateo System 60,000 00
 Calaveras and Alameda Creeks, included in cost

of works of the Alameda Creek System.....
 Lake Merced, included in the real estate appraisement

Total \$2,119,000 00

Deducting this amount (estimated by the City Engineer to be the value of ALL of the Spring Valley Water Works' water rights, including the new works on Alameda Creek) from the cost and ACTUAL VALUE OF THE SAME of \$4,794,000, there is a SHORTAGE OF \$2,675,000, which must be added to the City Engineer's total valuation of the Spring Valley Water Works (on page 59 of his report) in addition to a number of other undervaluations, shortages and omissions.

LAND VALUES.

In the City Engineer's report, in estimating the value of land for reservoir purposes—that is, land which is located in valleys or basins, within the watershed properties owned or controlled by the Spring Valley Water Works, and below the proposed practical high-water mark—the City Engineer (page 57) adopts the following scale of values:

A. RESERVOIR SITES.

1. The lands in the Pilarcitos, San Andreas and Crystal Springs reservoir sites, up to the high-water mark as now used, being 1,880 acres: \$1,250 per acre.
2. Land in said basin, above the present but below the contemplated high-water mark (being 430 acres at Crystal Springs), at \$625 per acre.
3. Land at Portola Reservoir site, 340 acres, at \$625 per acre.
4. Land in Calaveras Reservoir site, 1,300 acres, at \$300 per acre.

In my report to your Honorable Board of February 5, 1901 (page 23), relating to the value of reservoir sites, I showed that the Spring Valley Water Works had 3,950 acres of land in such sites, viz:

In Pilarcitos Reservoir.....	105 acres
San Andreas Reservoir.....	475 acres
Crystal Springs.....	1,730 acres
Searsville (or Portola).....	340 acres
Calaveras	1,300 acres

Total 3,950 acres
 exclusive of Lake Merced.

I valued these sites at \$1,500 per acre. This does not mean that they could NOW be bought at such a price, where the attention of owners of such lands has been called to their GREAT VALUE for RESERVOIR PURPOSES by the many public investigations held by your Honorable Board and your predecessors, and by several condemnation proceedings that were instituted to determine just such values. In purchasing tracts of land in the Crystal Springs Reservoir site, we paid \$1,250 per acre about twelve years ago, and this value, owing to the scarcity of such sites, has been rising ever since, so that if I only add \$250 per acre for increase in value during this period of twelve years, you will admit that, making allowance for interest and taxes since that time, \$1,500 is not an over-valuation.

As an additional evidence of the value of the land, Mr. Grunsky, your present City Engineer, testified, NOT FOR THE SPRING VALLEY WATER WORKS, BUT AGAINST THE COMPANY, in the spring of 1892, that the land within the Crystal Springs reservoir site, as far back as 1887, "WAS WORTH FOR RESERVOIR PURPOSES \$1,250 PER ACRE."

In his report to your Honorable Body, Mr. Grunsky values the reservoir sites, as far as now in use in San Mateo County, at \$1,250 per acre; but that portion of the lands of the Crystal Springs and Portola Reservoirs and of the proposed Calaveras Reservoir which is not NOW, or NOT YET, in use, he values the former two tracts at \$625 per acre and the latter at \$300 per acre.

In his testimony in the Drinkhouse case, where the Spring Valley Water Works tried to condemn a tract of land in the Crystal Springs Reservoir site and below the high-water line of the proposed reservoir, called the three-hundred feet level (above tide), Mr. Grunsky, now your City Engineer, acting as a witness for the defendant, and not for the Spring Valley Water Works, testified as shown in the transcript of testimony, that FOR RESERVOIR PURPOSES THE LAND BELOW THE THREE-HUNDRED FEET LEVEL, HAVING BEEN SELECTED BY COMPETENT ENGINEERS AS THE DESIRABLE SITE FOR A RESERVOIR THERE, HAD AN ADDITIONAL VALUE FOR RESERVOIR PURPOSES.

Question: "Do you think that the purchase by the Spring Valley Water Works of this land up to that extent, furnishing a reservoir capacity of twenty-eight billion gallons, was justified in 1887?"

Answer: "It was, yes, sir, because it is a part of the ultimate scheme, and they would hardly be justified in commencing the construction of a smaller reservoir."

"Q. Well, if you don't need the capacity, most of it, for 33 1-3 years, it looks a long way into the future, doesn't it?"

"A. It does; but it is necessary to do so when you are dealing with problems of this character."

Again, according to the same transcript, the following testimony was evolved:

"Q. You have taken into consideration the cost of construction of this dam?"

"A. I have, yes, sir.

"Q. And the cost of its maintenance?"

"A. Yes, sir.

"Q. And the cost of a pipe line or conduit to San Francisco?"

"A. Yes, sir.

"Q. And the cost of distributing reservoirs there?"

"A. As I stated, the basis of the estimate was the water delivered at San Francisco, giving that a defined value, so I did not take that into consideration.

"Q. So that if this dam had been less expensive—

"A. The value of the reservoir site would have been greater.

"Q. And if the cost of constructing this dam had been much greater, that would have lessened the value of the land in it necessarily?"

"A. Yes, sir.

"Q. Now, what did you allow for the construction of that dam?"

"A. For the construction of the dam, the pipe line and maintenance I allowed \$4,500,000.

"Q. And taking all the land in that reservoir below that 300-foot line as worth \$1,250 an acre, you would have a valuation of the land itself of about two million two hundred and twenty-five thousand dollars, have you not?"

"A. Yes, sir.

"Q. And that makes a sum total of how much?"

"A. Of about six million seven hundred thousand dollars, I think it was.

"Q. Nearly seven million dollars?"

"A. Nearly seven million dollars as the value of the whole reservoir site in connection with the completed dam and completed pipe system.

"Q. So that you think that amount of money could be invested for the purchase of this reservoir site and in this water system which would yield a return justifying that expenditure?"

"A. Yes, sir.

"Q. And what return do you allow; how much per cent.?"

"A. Six per cent. was the basis of my estimate."

The substance of Mr. Grunsky's above testimony and the deductions therefrom are as follows:

1. "The land contained within the present and contemplated high-water marks of the three San Mateo County reservoirs was worth, in 1887, at the rate of \$1,250 per acre."

This places the value of the three San Mateo County reservoir sites, having a combined area of 2310 acres, at \$2,887,500.

2. "As Mr. Grunsky also testified that in problems of this character it is necessary to look far ahead into the future—even to the extent of a third of a century"—it appears that neither the Portola nor the Calaveras reservoir sites and properties were bought any too soon. They consequently are also worth the same amount of \$1,250 per acre, both having been **JUDICIOUSLY SELECTED** by the **SAME ENGINEER** that selected the Crystal Springs reservoir site and can be added to the Spring Valley Water Works active supply system at short notice, when required.

Where Mr. Grunsky's report to your Honorable Body places the value of the Portola reservoir site of 340 acres at only \$625 per acre, and the site of the Calaveras reservoir of 1,300 acres at only \$300 per acre, his testimony above quoted would place them both at \$1,250 per acre; or, for the joint acreage of the two, of 1,640 acres, at \$1,250, it places their value at \$2,050,000.

The valuation of \$1,500 per acre, adopted in my report to your Honorable Body, having been made nine years later than this valuation of Mr. Grunsky's of \$1,250 per acre, I think that the Spring Valley Water Works is entitled to this slight advance in value of \$250 per acre as a compensation for the great foresight and courage displayed in acquiring these very valuable properties in time.

As Mr. Grunsky's testimony is positive as to the necessity of looking even a third of a century ahead, when dealing with problems of this character, it is evident that you were not justified in throwing out in the report of your Water Committee property which, even at the low valuation made by your City Engineer in his report, amounts to considerably over a million dollars, but which, according to Mr. Grunsky's testimony, still further swells this amount by a large sum.

As regards the water sheds of the Spring Valley Water Works, amounting to 20,850 acres in San Mateo, Alameda and Santa Clara Counties, I have estimated the value in my report at \$100 per acre. We have frequently been compelled to pay this price, as it was found absolutely essential to own at least such portions of the water shed as lie adjacent to and in the vicinity of the reservoirs.

My estimate of the value of the water shed is \$2,085,000, while that of the City Engineer, at \$60 per acre, is \$1,251,000.

Placing the values according to Mr. Grunsky's above testimony of 1892 side by side with those contained in his late report of the valuation of the Spring Valley Water Works, you will find the following comparative results:

**TESTIMONY AGAINST S. V. W. W.
AND VALUES DEDUCED THERE-
FROM AS ABOVE, ETC., 1892.**

Three San Mateo County
reservoir sites, viz.: Pilar-
citos, San Andreas, Crystal
Springs—2,310 acres at \$1,-
250 \$2,887,500

**REPORT ON THE VALUE OF THE
SPRING VALLEY WATER WORKS,
FEBRUARY, 1901.**

(Page 57.)

Lands in Pilarcitos, San An-
dreas, and Crystal Springs
Reservoir—1,880 acres, at
\$1,250 \$2,350,000
Land in Crystal Springs Res-
ervoir site above present
water surface—430 acres at

WATER RATES.

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Portola and Calaveras reservoirs, 1,640 acres at \$1,250.. 2,050,000	\$625 268,750 Land in Portola Reservoir site—340 acres at \$625..... 212,500 Lands in Calaveras Reservoir site—1,300 acres at \$300..... 390,000 (Page 51.) Crystal Springs system complete, including pipe line and 10 per cent for incidental and engineering expenses 2,642,000 Adding to this for completion of dam and reservoir up to 300-foot level..... 400,000 Also adding City Engineer's valuation of 20,850 acres of watershed at \$60 per acre.. 1,251,000
Crystal Springs dam (completed), pipe line and maintenance (during construction?) 4,500,000	
Adding to this the City Engineer's present low valuation of the 20,850 acres of watershed, at \$60 per acre.. 1,251,000	
Making a total of these items of .....\$10,688,500	Making a total of these items of \$7,514,250

Deducting the total value of the above items in the City Engineer's late report, or \$7,514,250, from the value established for the same items by his testimony in the Drinkhouse case in 1892, also including his present estimate of value of watershed, or \$10,688,500; the difference of \$3,174,250 must be added to the total valuation in said report of the Spring Valley Water Works of \$24,667,800 on account of these items alone.

Outside of the above, several omissions have been made in said report, to which I shall call your attention hereafter.

I shall also show the under-valuations in the cost of the works below the ACTUAL COST OF CONSTRUCTION, which we can prove by the company's books, vouchers and witnesses, and particularly the large under-valuations, far below their cost and value of the water and riparian rights of the Spring Valley Water Works.

UNDERVALUATIONS AND OMISSIONS OF VARIOUS WORKS AND PROPERTIES OF THE SPRING VALLEY WATER WORKS.

It is impossible for me in the limited time to mention all of the undervaluations and omissions made in the City Engineer's report. I have, therefore, for the present, selected the most prominent ones, reserving the right hereafter to enumerate those that I have omitted herein.

COST AND VALUES AS SHOWN IN MY REPORT OF FEBRUARY 5, 1901.

Page		
24—	Sites of present nine city reservoirs	\$850,000
24—	House of Correction reservoir site.....	500,000
25—	Market street reservoir site.....	150,000
25—	Construction of present nine city reservoirs.....	850,000

COST AND VALUES ESTIMATED BY CITY ENGINEER IN HIS REPORT OF FEBRUARY 23, 1901.

Page		
57—	City reservoir sites, including Market street...	\$654,000
53 and 54 —	Construction of nine city reservoirs.....	661,200
58—	Miscellaneous city real estate, including the office	

WATER RATES.

29—Pipe yards at Bryant, Brannan and Market streets	145,000
29—Office lot and building....	750,000
Total	<u>\$3,245,000</u>
25 and 26—City distributing pipe system complete....	\$4,186,000
29—Meters	145,000
Total	<u>\$4,331,000</u>

lot and building.....	955,000
Total	<u>\$2,270,200</u>
1.—UNDERVALUATION	<u>\$974,800</u>
Page	
55—Distributing pipe system.	\$4,033,585
Meters	159,720
Total.....	<u>\$4,193,305</u>
2.—UNDERVALUATION	\$137,695

The following four items vary greatly in detail; but, in the aggregate, they approximate very closely (therefore, discrepancy omitted for the present):

H. SCHUSSLER'S REPORT.

Page	
27—Pilarcitos headworks.....	\$400,000
27—Pilarcitos conduit.....	577,000
27—San Andreas dam, Davis tunnel, and San Andreas conduit	1,079,000
28—Locks Creek lines in use.	320,000
Total	<u>\$2,376,000</u>

28—Crystal Springs upper dam, including outlet tunnel and concrete waste wehr.....	265,000
Crystal Springs lower dam complete up to present level.....	2,242,000
Crystal Springs pipe lines, inclusive of rights of way, tunnels, etc.....	1,391,000
Total	<u>\$3,898,000</u>

CITY ENGINEER'S REPORT.

Page	
49—Pilarcitos headworks..	\$295,130 00
49—Pilarcitos conduit.....	559,760 00
50—San Andreas dam, Da- vis tunnel, and San Andreas conduit.....	1,153,680 00
51—Locks Creek lines in use	363,244 20
Total	<u>\$2,371,814 20</u>

50—Crystal Springs upper dam omitted.	
Crystal Springs lower dam complete up to present level	\$1,632,400
Buildings, etc.....	11,330
Crystal Springs main pipe, tunnels, etc.....	998,690
Total	<u>\$2,642,420</u>
3—OMISSION AND UNDER- VALUATION	\$1,255,580

Summing up these three groups only, of undervaluations and omission, we have:

For No. 1.....	\$974,800 00
For No. 2.....	137,695 00
For No. 3.....	1,255,580 00
Total	<u>\$2,368,075 00</u>

RECAPITULATION OF PRINCIPAL UNDERVALUATIONS AND OMISSIONS IN CONNECTION WITH THE PROPERTIES, WORKS AND RIGHTS OF THE SPRING VALLEY WATER WORKS, MADE IN CITY ENGINEER'S REPORT OF FEBRUARY 23, 1901.

Undervaluation of water rights, as at present developed	\$2,675,000 00
Undervaluation of reservoir sites of the Spring Valley Water Works (the watersheds are also undervalued, but that is not taken into account at present).....	3,174,250 00
Undervaluations and omissions of the constructions itemized under Nos. 1, 2 and 3.....	2,368,075 00
	<hr/>
Total of above three items.....	\$8,217,325 00

The City Engineer's report (on page 59) places the total value of the Spring Valley Water Works, rights, properties and works at.....	\$24,667,800 00
Adding to this sum the above-enumerated undervaluations and omissions of.....	8,217,325 00
	<hr/>

The total amounts to..... \$32,885,125 00

A number of undervaluations and omissions I have not enumerated in the foregoing cost and value of the construction. These and the three most prominent items of WATER RIGHTS, RESERVOIR SITES and WATERSHEDS, if placed at their REAL present value (which I quoted in my report of February 5th, 1901, on pages 22 and 23), would easily bring the value of the Spring Valley Water Works' rights, properties and works to over \$40,000,000, as shown in my report, on page 30. In my report of February 5, 1901, the water rights FOR ALL THE WATER that the Spring Valley Water Works has the undisputed right to develop on its properties, and can easily develop in a comparatively short space of time and at a reasonable cost, are included.

The reservoir sites are quoted in my report at \$1,500 per acre, a price that is very reasonable, now after many of the problems of reservoiring of water under our peculiar climatic conditions have been solved, and from ten to twelve years or over have elapsed since lands for reservoir sites were valued at \$1,250 per acre, and have been constantly rising in value since—particularly since separate parcels of land have been united into large basins. The proximity of San Jose, Santa Clara, Haywards, San Leandro, Alameda and Oakland lends additional value to Alameda Creek and Calaveras Reservoir site.

I quote the watershed lands adjacent and tributary to the reservoirs and reservoir sites of the Spring Valley Water Works at \$100 per acre, where the City Engineer's report quotes them at \$60 per acre, or thereabouts.

We have found the watershed land adjacent to our reservoirs and sites so essential for the purpose of keeping off pollution, that we would not part with any of these lands at the price of \$100 per acre.

You will easily see, as I said above, that if these real values were allowed on the water rights and lands, the total value of the Spring Valley Water Works would exceed \$40,000,000.

As I have mentioned before, it is possible, or probable, that the City Engineer arrived at his low valuation of the large pipe lines, both for the Tuolumne scheme and the Spring Valley Water Works, by basing his calculation on a low grade of iron, on low bids for the mechanical work connected with the manufacturing and

laying of the pipes in the ditch, as well as the asphaltum coating, ditching, transportation, rights of way, etc.

That he probably arrived at the low valuation of our magnificent concrete dam and appurtenances at Crystal Springs, for the reason that he did not take into consideration, for instance, that the entire foundation of the dam was cut out of the solid rock by picks, chisels and hammers; that no powder was used in the lower half of the enormous excavation, in order not to open new seams in the rock below and around the ends of the dam—thus the expense of preparing the foundation was considerably increased; that the large plant for making the concrete, with large and expensive trestle, and with sand bins, had to be erected at very great expense; that many hundreds of thousands of feet of lumber were used and destroyed; that quarries had to be opened at distant points and roads built to the same; that many miles of roads had to be built around the reservoir above high-water mark, to replace the county roads within the reservoir site; that all the sand had to be transported from North Beach, in San Francisco, as well as all the cement from aboard ship in San Francisco: that numerous houses and barns had to be built to house and feed the force of about one thousand men and hundreds of horses; that the old Crystal Springs pumping plant and pipes had to be removed from the reservoir site, as well as many other houses, barns, fences, thousands of trees and stumps, and the entire reservoir site cleared of brush, roots, etc., and finally that the entire work was built by days' work, and not by contract, which made the work dearer, but much better.

But the main reason for the City Engineer's low valuation of the Crystal Springs main dam, no doubt, lies in his undervaluation of the magnificent quality of concrete used in the construction of the same.

All the rock was carefully selected at the quarry, throwing out everything not of best and hardest grade. It was hauled in wagons to the crushers, and again selected over. It was then crushed, thoroughly washed and mixed with the proper proportions of sand and the best of cement, quickly brought into the proper place on the dam and thoroughly rammed. The concrete being placed in separate large alternate blocks on the dam added largely to the expense, but the bonding together of the whole, allowing each block to set for itself, was such a vast improvement over building the dam in horizontal layers, as a monolith, that I know the extra money was well spent. In order to have a comparison between the concrete of the Crystal Springs dam and the concrete work done during the past year in and for the city on bituminous streets and under the supervision of the City Engineer, or the Board of Public Works, or both, I had several streets opened within the last few weeks, and, although I found the concrete better than in former years, still it was a LONG WAY from being equal to the concrete in the Crystal Springs dam. In short, the kind of concrete which I found in the streets would not have been tolerated by me either in the Crystal Springs dam or in any other part of the Spring Valley Water Works where concrete is used.

The same holds good in regard to the brickwork used in the gate tower, shaft and various inlet tunnels. It would not do to base the estimate of the cost of that magnificent brickwork, which required considerably over a million of selected, hard-burned brick, carefully laid in rich cement mortar, upon the class of brickwork which I have frequently seen used in the San Francisco sewers.

If that class of work, therefore, forms the basis for the City Engineer's estimate on the cost of the Crystal Springs Dam, it largely explains the great discrepancy between his ESTIMATED COST and the REAL COST of the dam and appurtenances—all of which cost is subject to proof through the books and vouchers of the Spring Valley Water Works.

In conclusion, I wish to say, that when I was first informed by the members of the Board of Public Works that the City Engineer had valued all the rights, properties and works of the Spring Valley Water Works at only \$24,667,800, I tried to get from them the reason of this very low valuation, which was many

millions of dollars below the cost of the works, and still more below their value. I also asked them why they had approved that valuation, where they either knew or should know that the works were worth many millions of dollars above this valuation.

The explanation given to me by these two gentlemen was that the city was bound to own its own water works in the near future; that before the city entered into active negotiations for the acquisition of a Sierra Nevada scheme, the Spring Valley Water Works would do well to follow up the plan suggested by it of leaving the value of the works to arbitration between the city and the company, with the possibility in view of the city's purchasing the same. They suggested that the value put on the Spring Valley Water Works in my report of February 5, 1901, of over \$40,000,000 appeared rather high; that the valuation of \$24,667,800 placed upon the Spring Valley Water Works by the City Engineer was correspondingly low; that they considered it the first preliminary step on the part of the city towards a possible arbitration; that they considered the real value of the works to lie somewhere between these two extremes; that with this view in mind, they had approved of the City Engineer's report.

This explanation satisfied me that the city authorities would deal fairly with the Spring Valley Water Works, not only in connection with the pending establishment of water rates for the coming fiscal year, but also in case they should conclude to open negotiations with a view to a possible purchase of our works by arbitration, or otherwise.

My astonishment can be imagined when I heard that the approval of the report by the Board of Public Works had been entirely misconstrued in this: that instead of your Honorable Board accepting this valuation as the first step towards approaching the real value of the works, you were led to believe that the City Engineer's figure was too high, and that his valuation should be still more reduced.

As I have related above, the representatives of the Spring Valley Water Works were debarred from appearing before you on the evening of February 28, 1901. You did not hear the Spring Valley Water Works' side of the case, which had not yet been closed, and the result was, that not only was the low valuation in the City Engineer's report arbitrarily reduced by nearly two million dollars more, but, by your ordinance, you also propose to arbitrarily reduce our income from the city for hydrants, established a number of years ago, as above related, BY A MUTUAL UNDERSTANDING BETWEEN THE CITY AUTHORITIES AND THE SPRING VALEY WATER WORKS, AT \$60 PER HYDRANT PER ANNUM, amounting at the present time to about \$222,000 a year.

The Spring Valley Water Works has more than fulfilled its part of this bargain since the beginning of the new hydrant rate in 1895, inasmuch as it has, on account of this understanding, expended fully one million dollars in its city pipe system since the beginning of 1895, solely for the purposes of the Fire Department. On this money the Spring Valley Water Works NOW PAYS INTEREST, as also on fully \$3,500,000 more, spent since that time on other new construction.

Your proposal, therefore, of arbitrarily reducing the long-established monthly hydrant rate, which now yields about \$222,000 a year, ALL OF WHICH AND MORE is ABSOLUTELY NEEDED to meet the requirements and obligations of the Spring Valley Water Works, to a flat rate of \$80,000 per annum, I believe would have been construed by your Honorable Board as a breach of faith, had you been properly informed of all the circumstances and conditions that brought about the present situation of the hydrant question.

Respectfully yours,

H. SCHUSSLER,
Chief Engineer S. V. W. W.

San Francisco, March 11, 1901.

COMMUNICATION.

To the Honorable Board of Supervisors
Of the City and County of San Francisco—

Gentlemen: During your meeting on the afternoon of Monday, March 11, 1901, in discussing the question of fixing water rates for the coming fiscal year of 1901-1902, it appeared that some of the members of your Honorable Board were under the impression that my testimony (in reference to the presentation of which I had asked your permission in a special communication, filed with the clerk of your Honorable Board at 11:50 A. M., February 28, 1901), HAD BEEN CLOSED AT YOUR AFTERNOON SESSION, and PRIOR to your passing to print the pending water rate order, at about midnight of February 28, 1901.

For your reference, I have attached hereto a copy of a part of my above communication of February 28, 1901, from which I here quote the following three closing paragraphs:

"I shall be prepared to show to your Honorable Board at your meeting this afternoon that water supplied from the above Sierra Nevada source, under LESS SAFE conditions than the S. V. W. supply, but under the SAME conditions as to elevation, pressure, etc., as the Spring Valley, WILL COST FULLY AS MUCH as the present cost of water delivered to consumers, viz: 21 CENTS PER 1,000 GALLONS.

"There are also in said report of the City Engineer several important items that are largely undervalued and some omissions.

"As all these things will assuredly increase the valuation, I respectfully ask your Honorable Board to be heard on the subject before the conclusion of your investigation."

It is possible that those members of your Honorable Board who thought that my testimony was CLOSED or COMPLETED during your afternoon session of February 28, 1901, were partly guided by the minutes of that afternoon's meeting, an extract of which here follows:

"In order to give H. F. A. Schussler, Chief Engineer of the Spring Valley Water Works, an opportunity to present testimony in rebuttal of certain statements contained in the appraisalment of the properties of the Spring Valley Water Works made by the City Engineer, as requested in his (Schussler's) communication filed February 28, 1901,

"Supervisor Brandenstein moved that Mr. Schussler take the stand and conclude his testimony, which

"Motion was carried.

"H. F. A. Schussler testified at length relative to the subject matter of said report, concluding at 6 o'clock.

"At the conclusion of his statement, Mr. Schussler was questioned by City Engineer Grunsky relative to the cost of distributing water in San Francisco."

The only mistake I find in the above minutes of that afternoon's meeting is, that in the second last paragraph above quoted, and between the words "CONCLUDING" and "AT SIX O'CLOCK" the words "HIS TESTIMONY IN RELATION TO THE PROPOSED MUNICIPAL SUPPLY FROM THE SIERRA NEVADA" should have been inserted.

I now refer you to the official shorthand report of your afternoon meeting.

Having practically finished what I had to say in relation to the proposed Sierra Nevada supply, the remaining short period before your adjournment was entirely taken up by cross-questioning by the Mayor, the City Engineer, Supervisors Reed, Brandenstein and Tobin. On the important matters of UNDERVALUATIONS and OMISSIONS in the City Engineer's report of February 23, 1901, relating to the Spring Valley Water Works, I was NOT heard during the afternoon session of February 28, 1901, ALTHOUGH in my above communication

of February 28, 1901, filed at 11:50 A. M., I had asked your Honorable Body to be heard on those matters as well.

My testimony was cut off, before being finished, by the motion of Supervisor Brandenstein to "adjourn till half-past nine o'clock to-night," which motion was duly seconded and carried.

My testimony NOT having been finished I naturally expected to be called during the evening session of your Board, which had been adjourned till half-past nine o'clock the same evening.

Not having been called before your Honorable Board during the remainder of that day, or prior to the passage to print of your proposed water-rate ordinance, A VERY IMPORTANT and VITAL portion of my testimony was excluded.

Respectfully yours,

H. SCHUSSLER,

Chief Engineer of the Spring Valley Water Works.

San Francisco, March 15, 1901.

APPENDIX.

EXHIBIT A.

COMMUNICATION FROM THE ASSESSOR NOTIFYING THE BOARD OF SUPERVISORS THAT THE SPRING VALLEY WATER WORKS ASSESSMENT FOR THE YEAR 1901 WILL APPROXIMATE \$11,600,000.

Office of the City and County Assessor,
City Hall, San Francisco, Feb. 27, 1901.

To the Honorable Board of Supervisors,
City and County of San Francisco—

Gentlemen: I have been requested to inform your Honorable Board what the assessment of the Spring Valley Water Company would be in this city and county for the coming year. If the assessment of the company's property in the three counties outside of San Francisco in which it pays taxes remains about the same as last year, the assessment including that of the franchise will approximate \$11,600,000.

Yours very respectfully,

WASHINGTON DODGE,

Assessor City and County, San Francisco.

EXHIBIT B.

To the Honorable Board of Supervisors
Of the City and County of San Francisco—

Gentlemen: My time has been very limited to examine the report of the City Engineer on the value of the S. V. W. W. I find, however, that the valuation of the water rights of the S. V. W. W. is based principally on the cost and annual expense of a municipal water supply to be derived from either the Stanislaus or the Tuolumne River; the result of which appears to be in said report, that water from there can be delivered to the city limits of San Francisco at 200 FEET ele-

vation above tide at a cost of about 10 CENTS per 1,000 gallons, while the S. V. W. W. delivered water to the consumers in any part of the city for 21 CENTS per 1,000 gallons.

The above figure of 10 CENTS per 1,000 gallons in the City Engineer's report DOES NOT INCLUDE the cost of city reservoirs, pipe and pumping system equal in efficiency and capacity of that of the S. V. W. W.: nor does it include the general operating expense in the city, nor does it state that the S. V. W. W. delivers water in the city to elevations as high as 600 feet instead of 200 feet as proposed in the Sierra Nevada scheme; nor does it state that only about 40 per cent. of the 30 million gallons of the Sierra Nevada scheme can be used by gravitation in San Francisco, while the remaining 60 per cent. has to be pumped in San Francisco, being about six million gallons daily pumped to the 300-foot level, and about twelve million gallons daily to the neighborhood of the 400-foot level; nor mentioning the 600-foot lift.

I shall be prepared to show to your Honorable Board at your meeting this afternoon that water supplied from the above Sierra Nevada source, under LESS SAFE conditions than the S. V. W. W. supply, but under the SAME conditions as to elevation, pressure, etc., as the Spring Valley, WILL COST FULLY AS MUCH as the present cost of water delivered to consumers, viz: 21 CENTS PER 1,000 GALLONS.

There are also in said report of the City Engineer several important items that are largely undervalued and some omissions.

As all these things will assuredly increase the valuation, I respectfully ask your Honorable Board to be heard on the subject before the conclusion of your investigation.

Respectfully yours,

H. SCHUSSLER,
Chief Engineer S. V. W. W.

February 28, 1901, 11 A. M.
Filed 11:50 A. M.

EXHIBIT C.

Spring Valley Water Works, 126 Stockton street,
San Francisco, Cal., March 4, 1901.

To the Honorable Board of Supervisors
Of the City and County of San Francisco—

Gentlemen: I take the liberty of sending to your Honorable Body a copy of a communication sent this day to the Board of Fire Commissioners of San Francisco in relation to the proposed extension of the hydrant and pipe system, as recommended by the Chief Engineer of the San Francisco Fire Department in his report of February 18, 1901.

Respectfully yours,

H. SCHUSSLER,
Chief Engineer Spring Valley Water Works.

San Francisco, March 4, 1901.

To the President and Members of the
Board of Fire Commissioners of San Francisco—

Gentlemen: Somewhat over a week ago the Spring Valley Water Works received a copy of a report of February 18, 1901, sent to your Honorable Board by D. T. Sullivan, Esq., Chief Engineer of the San Francisco Fire Department, in

which report he recommends the setting of four hundred and ninety-eight new fire hydrants which, according to his report, would necessitate the laying of one hundred and eighteen thousand two hundred and twenty (118,220) feet of eight-inch pipe, sixty-six thousand four hundred and thirty (66,430) feet of twelve-inch pipe and five thousand nine hundred and ten (5,910) feet of either twenty-four inch or twenty-two inch pipe, or a combination of those two sizes.

In the districts for which the above pipe enlargement is recommended the distributing pipe system now in use has a length of one hundred and twenty-four thousand nine hundred (124,900) feet; these pipes being from eight inches down in diameter (although ample for domestic supply), would have to be either removed or abandoned or paralleled by the proposed new pipe system, causing an outlay for new construction of between four hundred thousand and five hundred thousand dollars.

The ordinance, as passed to print by the Board of Supervisors, offers to the water company a contingent increase of twenty thousand dollars over the eighty thousand dollars allowed for hydrants in said proposed ordinance (which is a reduction on the present hydrant rate alone of more than one hundred and forty thousand dollars annually); PROVIDED, HOWEVER, that the Spring Valley Water Works will spend two hundred and fifty thousand dollars during the coming fiscal year in laying additional pipes for fire protection on the general lines indicated in your recommendation.

Therefore, in reference to your communication, we beg to say that the Spring Valley Water Works positively declines this proposition, not only because the general allowances are entirely inadequate, but also as an approval by the Spring Valley Water Works of the above contingent offer might be construed as an acceptance of the ordinance, which the company declines.

Yours respectfully,

SPRING VALLEY WATER WORKS,

By H. SCHUSSLER, Chief Engineer.

EXHIBIT D.

Office of the Clerk of Board of Supervisors,
City Hall, San Francisco, March 5, 1901.

H. F. A. Schussler, Esq., Chief Engineer,
Spring Valley Water Works, San Francisco—

Dear Sir: Enclosed please find copies of Reports of Water Committee in re-fixing water rates for the fiscal year ending June 30, 1902, as per your request.
Yours very respectfully,

JOHN A. RUSSELL, Clerk.

By P. H. McKENNA, Assistant Clerk.

CERTIFIED COPY OF SUBSTITUTE REPORT OF THE COMMITTEE ON
WATER RATES. FILED MARCH 4, 1901.

To the Honorable Board of Supervisors
Of the City and County of San Francisco—

Gentlemen: The Committee on Water Rates reports as follows: That in reviewing the testimony taken before the Board of Supervisors, we have determined

the value of the Spring Valley Water Works used in supplying the city and county and the inhabitants thereof with water at \$22,939,722. We arrived at this value by deducting from the value fixed by the City Engineer, viz: \$24,667,800, the sum of \$1,978,078. This latter sum consists of the values put by the City Engineer upon property not actually in use for the water supply, as follows:

City property.....	\$1,056,718
Searsville property.....	471,750
Calaveras property.....	621,360
Off franchise, so-called.....	50,000

On the value so fixed, viz: \$22,939,722, 5 per cent. is allowed, which amounts to \$1,146,986 10. We have allowed for operating expenses \$425,000, taxes \$196,000, making a total of \$1,767,986 10, from which was deducted 5 per cent. estimated increase from new business, \$78,000, making a grand total of \$1,689,986 10, revenue to which the company is entitled and shall receive for the next fiscal year.

The amount we estimated it will receive for the next fiscal year ending June 30, 1901, is \$1,829,499. Deduct \$1,689,986, as above, leaves \$139,513.

This represents a saving due principally to the fixing of the valuation of the company's property at a sum approximately \$2,000,000 less than last year, when we had before us no means of scientifically determining values.

The report of City Engineer Grunsky, approved by the Board of Public Works, puts us in possession of reliable data upon which we can base our judgment.

This \$139,513 is the difference between the revenue which the present schedule, provided by the Water Order adopted last year, will yield and the revenue which we recommend that the company be allowed for the next fiscal year under the changed conditions.

It is our duty to give the ratepayers or the city, or both, the benefit of this saving. If we allow the present general rates to stand, we can give the municipality the whole benefit of it; on the other hand, if we reduce the general rates by \$139,513, the city's bills will remain as formerly. In any event, the taxpayers will get the benefit of the reduction, which amounts to approximately 8 per cent.

We recommend that the whole amount, viz: \$139,513, be taken from the city's hydrant bills, which will amount this fiscal year to \$222,180, calculated on a basis of 3,703 hydrants at \$60 each per year. Heretofore the method of allowing the company so much for each hydrant has added to the tax-rate enormously, and it is now proposed to reduce it. This will enable the Board to have more available funds for street and other improvements within the dollar limit. In the last analysis, ratepayers and taxpayers are the same, as burdens are adjusted in rents; so by reducing the city's bills for water and putting the savings in improvements, all citizens are benefited.

We recommend that a flat or lump sum be allowed for hydrants. For so much money, we will then have all the hydrants needed without restriction, as formerly, when the number was governed by the appropriation for such purpose at a rate of \$60 per hydrant. As the city has always paid for making and setting hydrants, it involves no additional expense on that account.

How much can we allow for hydrants? For the current fiscal year the company will, as we have seen, receive \$222,180, but we have to effect a reduction under the present schedule by \$139,513. Let us take it from that, and we have \$82,667, which we can allow as a lump sum for hydrants, provided we re-enact the present general rates.

We recommend the lump sum for hydrants be \$80,000, and in case the company agrees in writing to increase the size of its mains according to the report of the Chief Engineer of the Fire Department, and to expend thereon during the next

fiscal year \$250,000, that \$20,000 more be provided and paid on account of hydrants, making the whole sum for hydrants \$100,000.

We recommend the adoption of the schedule which we herewith submit.

JOHN CONNOR,

A. COMTE JR.,

THOMAS JENNINGS,

Committee on Water Rates.

[Endorsed: "Substitute Report of the Committee on Water Rates in the matter of fixing and determining water rates for the fiscal year ending June 30, 1902, being a substitute as and for the Report. Filed on February 28, 1901. Filed March 4, 1901. Read and adopted as the action of the Board on the matters herein contained."]

State of California,

City and County of San Francisco—ss.

I, Jno. A. Russell, Clerk of the Board of Supervisors of the City and County of San Francisco, do hereby certify that the foregoing is a full, true and correct copy of the Substitute Report of the Committee on Water Rates, filed March 4, 1901, in the matter of fixing and determining Water Rates for the Fiscal Year ending June 30, 1902, being a substitute as and for the Report filed on February 28, 1901, as appears on file and of record in this office.

In witness whereof, I have hereunto set my hand this 5th day of March, 1901.

JNO. A. RUSSELL, Clerk.

By P. H. McKENNA, Assistant Clerk.

EXHIBIT E.

Office of the Clerk of Board of Supervisors,
City Hall, San Francisco, March 5, 1901.

H. F. A. Schussler, Esq., Chief Engineer of the

S. V. W. W., San Francisco—

Dear Sir: You are hereby respectfully notified that your communication relative to the extension of the hydrant and pipe line systems, filed in this office March 4, 1901, has been referred to the Judiciary Committee of this Board, which meets on Friday, March 8, 1901, at 4 o'clock, when the matter will be taken up.

You are also respectfully notified that subsequent to the reference of the above communication, the opinion of the City Attorney was requested as to whether or not the Board of Supervisors has the power to compel the Spring Valley Water Works to lay water mains of sufficient size and adequate to furnish ample fire protection to the inhabitants of the City and County of San Francisco.

Very respectfully,

JNO. A. RUSSELL, Clerk.

By JOHN E. BEHAN, Assistant Clerk.

EXHIBIT F.

STATEMENT SHOWING EFFECT OF REDUCTION OF RATES BY ORDINANCE OF FEBRUARY 28, 1900.

The reduction made in water rates for the fiscal year 1900-1901 was intended

to be a 10 per cent. cut in the rates of "private consumers," from whom the Spring Valley Water Works received \$1,546,939 02 during the year 1900.

In order to show that the rates of private consumers were reduced (as was intended by the Board of Supervisors) not less than 10 per cent., it may be stated that

For the fiscal year 1898-99 private consumers paid	\$1,515,151 54
And for 1899-1900 private consumers paid.....	1,587,391 48
	<hr/>
Showing an increase for fiscal year of.....	\$72,239 94
from the rates of "private consumers."	

Our receipts from private consumers for 1900-01 are as follows:

For July, 1900.....	\$126,885 25	
For August, 1900.....	123,930 40	
For September, 1900.....	121,813 19	
For October, 1900.....	130,113 62	
For November, 1900.....	126,266 22	
For December, 1900.....	128,781 88	
	<hr/>	\$757,790 56
For January, 1901.....	125,329 28	
For February, 1901.....	122,583 12	
For March, 1901, estimated.....	122,500 00	
For April, 1901, estimated.....	122,500 00	
For May, 1901, estimated.....	123,000 00	
For June, 1901, estimated.....	124,087 60	
	<hr/>	\$1,497,790 56
For fiscal year 1899-1900.....		1,587,391 48
		<hr/>
Showing a decrease for the fiscal year of.....		\$89,600 92
To which add increase for previous fiscal year....		72,239 94
		<hr/>
Which shows the total reduction to be.....		\$161,840 86
by reason of the cut made in the rates to private consumers.		

In this estimate it is assumed that if there had been no reduction made in the rates of private consumers, the increase for 1900-1901 would have been as much as it was for the previous fiscal year, and that by reason of the reduction we not only lost all of such increase, but that we also sustained a further loss of \$89,600 92.

GEORGE E. BOOKER,
Chief Clerk S. V. W. W.

March 14, 1901.

EXHIBIT G.

San Francisco, Cal., March 1, 1901.

To the Honorable, the Board of Public Works
Of the City and County of San Francisco—

[The first portion of the City Engineer's report contains matter pertaining to

street and other work. In reference to the water investigation, he closes his report as follows:]

* * * During the month of February the work of appraising the properties of the Spring Valley Water Works, including water rights and lands, was pushed to a conclusion. Much of this work had to be done in great haste, which fact should be taken into consideration, if at any time it becomes necessary to review the basis of results.

This office could not in the absence of the Chief Engineer of the Spring Valley Water Works be placed in possession of data necessary to the inquiry. He was abroad until late in December, and after his return was not at our disposal for some weeks, nor even then, except for short periods of time.

Assistants Sanford, Thompson and Meyer, also Mr. Stut, were all actively at work verifying statements as to properties of the Water Company and estimating quantities. Mr. Schadde acted as land appraiser for properties in and near the city. Our combined efforts resulted in the making of the appraisalment which was submitted on February 26th.

The preliminary figures relating to the estimated cost of bringing water into the city from other sources are noted in the appraisalment.

The office force at work on the water supply investigation is being cut down. So far as practicable, the information now collected is being prepared for the preliminary report on the available sources of supply.

Some special investigations and additional examinations remain to be made this spring.

Analyses of waters supplied by the Spring Valley Water Works have been continued as usual, but there will hereafter be fewer samples taken, as it is anticipated that changes, particularly at the sources of supply, will be much more gradual in spring and summer than they were at the beginning of the wet season.

Very respectfully,

(Signed)

C. E. GRUNSKY,
City Engineer.

EXHIBIT No. 20.

APPRAISEMENT OF THE PROPERTIES OF THE SPRING VALLEY WATER WORKS FOR THE BOARD OF PUBLIC WORKS BY C. E. GRUNSKY, CITY ENGINEER.

February 26, 1901.

To the Honorable the Board of Supervisors
Of the City and County of San Francisco—

Sirs: The Board of Public Works, while maintaining supervision of the subject matter of valuation of the properties of the Spring Valley Water Works, required of the Board by Resolutions Nos. 649 and 1138, current series, of the Board of Supervisors, has entrusted the appraisal to the City Engineer, whose report thereupon is herewith transmitted.

This Board adopts the conclusions of this report, as the best solution of this important duty, obtainable under existing circumstances, the investigation of Sierra and other supplies, being incomplete, and the time available for preparation of the appraisal being limited.

The investigation of Sierra problems has enabled the City Engineer to assume as a highly probable conclusion, that the cost of water to the City, derived from one or more of these sources, will not exceed ten (10) cents per thousand gallons, delivered at City limits at an altitude of two hundred (200) feet.

This conclusion indicates that the properties of the Spring Valley Water Works, now in use outside of the city, have value in excess of cost, namely—franchise and water right values.

Very respectfully,

G. H. MENDELL, President.

San Francisco, February 23, 1901.

To the Honorable the Board of Public Works
Of the City and County of San Francisco—

Gentlemen: In compliance with your direction, an appraisal has been made of the properties of the Spring Valley Water Works. The results of this work are herein presented.

It was necessary, in making this appraisal, to estimate the cost of bringing in an equivalent supply from other sources, in order to lay some foundation for the valuation of the water rights and franchise of the Water Company and to aid in placing a value upon lands held for purposes of developing and storing water.

As this report deals with the valuation of the Spring Valley Water Works properties, and is not intended as an exhaustive report upon the system, it will not be necessary to enter at this time upon an exhaustive and detailed description and discussion of the several sources of supply.

There could not be made, in the few months available for investigation, any conclusive study of the yield of water by the properties owned and controlled by the Spring Valley Water Works. Their business is, however, an established one, and the needs of the City have been fully met in the past, so that the service rendered in the past is ample evidence of the capacity of the works to yield water. The demonstration of the proportional yield of the several sources of supply is for the time being of much less importance than it would be if the question of the establishment of new works or the extension of the system were under consideration.

The Water Company has kept systematic records of its operations, and these

disclose amounts of water delivered from each source of supply into the City each day. In the case of storage reservoirs, the total amount on hand is also noted for each day. Tables of reservoir capacities are based upon actual surveys, some of which have been of a most elaborate character. So far as can at this time be determined, these records of capacity of water stored and of water delivered are entitled to the fullest credence.

Conclusions which, on the basis of these records, have been reached by the Water Company as to the capacity of their works, may therefore be for the present accepted as conclusive.

In some instances, as when water is pumped at Lake Merced from the lake by way of the aerator just beyond the county line into the Pilarcitos and San Andres pipe lines, or in the case of water from Alameda Creek, which all passes through the pumps at Belmont, the quantity delivered is at once deduced from the pump record. The rest of the water is measured over weirs.

Concerning the aggregate annual yield of water claimed for the gravel bed in Sunol Valley, it is too early in this history of this source of supply to accept any conclusion as final. These works were put into service last September, and have yet to make their record of actual delivery.

PILARCITOS RESERVOIR AND PIPE LINE.

Pilarcitos Reservoir is located on a creek of the same name, in San Mateo County, about midway between the bay and ocean, and about twelve (12) miles south of the southern boundary of San Francisco.

The reservoir is formed by an earth dam about 90 feet high, 730 feet long on the crest, which is located just below the junction of two long narrow valleys.

The water surface of the reservoir, when full, is at elevation 682 feet above City Base. The outlet pipe is at elevation 640 feet. The water surface of the reservoir, when the same is full, has an area of about 105 acres.

The quantity of water in the reservoir at stages from the height of the outflow pipe, noted at five-foot intervals up to a full reservoir, is as follows:

PILARCITOS RESERVOIR.

CONTENTS.

GAUGE, FEET.	ELVATION,	CONTENTS,
	FEET.	GALLONS.
0.....	640	.....
7.....	647	92,417,000
12.....	652	170,525,000
17.....	657	264,029,000
22.....	662	369,841,000
27.....	667	489,674,000
32.....	672	625,096,000
37.....	677	775,510,000
42.....	682	940,248,000
48.....	688	Top of dam

(Elevations are referred to City Base.)

There are 3.8 square miles of watershed above Pilarcitos Dam directly tributary to the reservoir. By an intercepting flume and small feeders 1.4 square miles more of hillside area are made partially tributary to this reservoir.

Storm waters in excess of the reservoir capacity flow past the dam, through three large iron gates into a brick tunnel over a waste weir down a chute of brick and timber into the creek below the dam.

The water for the conduit leading to the City flows through a brick-lined tunnel 1,550 feet long into the San Mateo Valley; thence across the same in a flume, combined with a measuring tank and a waste gate, into another tunnel 3,420 feet long, also brick-lined, which terminates in San Andres Valley about a mile below the San Andres Dam. The Pilarcitos water then flows through 750 feet of 44-inch pipe, through 2,147 feet of old wooden flume to a regulating tank, from which the main pipe line to the City takes its water.

This pipe is cast-iron 24 inches in diameter for 776 feet; thence 22-inch wrought-iron 2,394 feet; thence wrought-iron pipe 30 inches in diameter 64,000 feet to the western slope of San Miguel Mountain, near Ingleside, where this pipe discharges into a flume. This flume has a length of 5,236 feet, terminating at Corbett Road. The water flows in a 30-inch wrought-iron pipe 939 feet from the end of this flume to the tunnel 2,820 feet long, which terminates at the screen-house near Lake Honda, at an elevation of 395 feet. At the screen-house the water is passed through cloth screens before entering the City pipes at Lake Honda.

The upper dam enumerated among the properties of the Water Company now in use, was completed in 1865. It was submerged when the main lower dam was built in 1868-69, and is therefore to be considered as having gone out of service. Being a structure which would not be considered as of any manner of use if the whole works were to be reconstructed to-day, it should not be taken into consideration in appraising the value of the system, except in this, that by reason of its construction it deferred the time when the main dam became necessary, and thereby kept down interest account, and at the same time must be considered to have facilitated the acquisition of the lands below it in the present reservoir site, which would undoubtedly cost more if the company had at once committed itself to the larger project.

SAN ANDRES RESERVOIR AND PIPE LINE.

San Andres Reservoir is located on a branch of San Mateo Creek, northeasterly from Pilarcitos Reservoir, also in San Mateo County, and about 10 miles south from the south line of San Francisco.

The water surface of the reservoir, when full, is at an elevation of 435.6 feet above City Base. Its outlet pipe is at elevation of 371.6 feet.

The area of the reservoir, at the height of the dam, is 475 acres. It is formed by an earth dam 90 feet high, 990 feet long on the crest. The watershed above the dam has an area of 4.1 square miles. To this area one square mile has been added by the construction of the Davis Tunnel, which intercepts the water of San Mateo Creek and turns it through the ridge from San Mateo Creek Valley into a little hillside gulch dropping into San Andres Reservoir.

By the construction of the Locks Creek line, consisting of flumes, pipes, tunnels and other structures, which were built for the interception of water from the ocean slopes of the mountain ridges, and from Locks Creek, Aponollo Creek, Pilarcitos Creek below Pilarcitos Dam, and from San Mateo Creek below the Davis Tunnel, the area from which water reaches the reservoir is still further increased by about 3.4 square miles, which are, however, to be considered as only partially tributary. When the run-off from this area exceeds conduit capacity, or when the conduit is out of order, not all the run-off from this area reaches the reservoir. That part of the Locks Creek line above Aponollo Creek is at present

out of service, and the repair of the works above this creek would practically mean reconstruction. They could not, therefore, be included in the appraisal as having any value.

The contents of the reservoir at stages from the height of the outflow to a full reservoir noted for five-foot intervals are as follows:

SAN ANDRES RESERVOIR.

CONTENTS.

GAUGE, FEET.	ELEVATION, FEET.	CONTENTS, GALLONS.
19.....	371.6	.....
24.....	376.6	125,856,000
29.....	381.6	304,215,000
34.....	386.6	531,439,000
39.....	391.6	805,843,000
44.....	396.6	1,131,991,000
49.....	401.6	1,523,095,000
54.....	406.6	1,984,687,000
59.....	411.6	2,508,619,000
64.....	416.6	3,088,845,000
69.....	421.6	3,718,642,000
74.....	426.6	4,393,860,000
79.....	431.6	5,115,120,000
83.....	435.6	5,723,507,000
85.6.....	442.0	Top of dam

(Elevations are noted with reference to City Base.)

Water which reaches San Andres Reservoir in excess of its capacity for storage, passes through a large brick tunnel under control of four heavy iron gates, into a timber chute leading into the creek below the dam. It flows in this creek southerly to the Crystal Springs Reservoir.

The water taken from the San Andres Reservoir for delivery in San Francisco enters a tunnel 2,820 feet long, which pierces the ridge upon the eastern side of the reservoir. It flows through a measuring box into a screen-house where it is passed through cloth screens and then enters a 44-inch pipe 28,849 feet long, which is for the most part laid along the County road. This 44-inch pipe is of recent construction. It has replaced a portion of the original 30-inch pipe. From its termination a 30-inch pipe carries the water by way of Colma and around the western slope of Daly's Hill into the City and to the Aerator at College Hill Reservoir, over which it is dropped into the reservoir and there enters the City distributing system. Where the creek is crossed between Baden and Colma the old pipe was replaced with new 37-inch wrought-iron, which is supported on a pile trestle.

The 30-inch pipe which was replaced by the 44-inch pipe is practically all still in the ground and in the absence of any information as to its condition, must be considered as abandoned and without value. It is questionable whether any considerable portion of it will ever be taken up. No allowance could therefore be made for this pipe in this appraisalment. The 37-inch pipe above referred to has a length of 1,400 feet and the 30-inch pipe an aggregate length of 40,185 feet.

CRYSTAL SPRINGS RESERVOIR AND PIPE LINE.

Crystal Springs is the main reservoir for the collection and storage of peninsula waters. It lies in a depression between two of the Coast Range ridges about four (4) miles west of San Mateo. Canada Raymundo from the south and San Andres Valley from the north here unite, forming a large basin whose outlet is the San Mateo Creek.

The reservoir as it now exists was formed by the construction of a massive concrete dam. This was constructed in the years 1887 to 1892. It is proposed to raise this in height at some future time when increased storage facilities in this locality become desirable.

As early as 1878, long before the rights and lands whose acquisition had to precede the construction of the concrete dam could be acquired, the southernmost portion of this reservoir site was converted into a reservoir by the construction of the upper or original Crystal Springs Dam. This was a structure of earth which impounded about 3,000,000,000 gallons of water. Its crest is nearly at the height of the present top of the concrete dam, an interconnection between basins above and below being established by tunnel and pipe. This connection is kept under control, so that the dam serves in a measure to improve the quality of the stored water. The County road from San Mateo to Spanish Town and Pescadero passes over its crest; it therefore serves in lieu of a bridge.

Bridging of the reservoir or other expensive road correction would have been necessary if the dam had not been available for use as a roadway at the time of the construction of the concrete dam.

When the concrete dam is finally raised, the upper dam can be made to serve as foundation for bridge piers.

The dam would not, however, now be constructed as an essential feature of the main or Lower Crystal Springs Reservoir and it is not one of the properties which should be included as of full original value in appraising the value of the Water Company's properties.

The dam did serve, however, to defer the date at which the Water Company found itself compelled to construct the concrete dam. It made it possible to extend negotiations for lands in the main reservoir site over a period in excess of ten years and thereby enabled the Company to purchase very much of this land at less than its value for reservoir purposes.

In considering the cost of the reservoir site, the cost of the construction of this upper dam and all its appurtenances may well therefore be considered as a part of the aggregate cost of lands and water rights.

The watershed tributary to Crystal Springs Reservoir has an area of 22.5 square miles, of which 14 are tributary to the upper reservoir. These areas do not include one square mile of area cut off by the Davis Tunnel and thereby made tributary to San Andres Reservoir.

The water surface area at the present height of the concrete dam is about 1,300 acres and when the dam is raised to the full height proposed, it will flood an area of about 1,730 acres.

The present top of the concrete dam, which has a maximum height of 145 feet and a crest length of 600 feet, is at elevation 280 feet above City Base. The outlet pipe is at elevation 166 feet.

The contents of the Crystal Springs Reservoir are shown in the following table:

CONTENTS OF CRYSTAL SPRINGS RESERVOIR.

GAUGE.	ELEVATION.	LOWER CRYSTAL SPRINGS.	UPPER CRYSTAL SPRINGS.	CRYSTAL SPRINGS TOTAL.
Feet.	Feet.	Gallons.	Gallons.	Total Gallons.
0.....	166			
1.....	167	13,092,000		
7.....	173	117,132,000		
12.....	178	238,608,000		
17.....	183	392,976,000		
22.....	188	581,700,000		
27.....	193	805,104,000		
32.....	198	1,063,368,000		
37.....	203	1,357,176,000		
42.....	208	1,686,619,000		
47.....	213	2,046,045,000	123,536,000	2,169,581,000
52.....	218	2,445,533,000	299,861,000	2,745,394,000
57.....	223	2,888,668,000	518,938,000	3,407,606,000
62.....	228	3,376,245,000	799,174,000	4,175,419,000
67.....	233	3,904,396,000	1,145,710,000	5,050,106,000
72.....	238	4,474,583,000	1,557,086,000	6,031,669,000
77.....	243	5,088,272,000	2,031,834,000	7,120,106,000
82.....	248	5,747,597,000	2,567,822,000	8,315,419,000
87.....	253	6,454,497,000	3,163,634,000	9,618,131,000
92.....	258	7,202,811,000	3,829,670,000	11,032,481,000
97.....	263			12,567,169,000
102.....	268			14,240,869,000
107.....	273			16,070,756,000
112.....	278			18,067,631,000
114.....	280	Present top of dam		18,913,631,000

(Elevations are noted with reference to City Base.)

The water from this reservoir is admitted direct into a 44-inch wrought-iron pipe which brings it to the City. The elevation of the reservoir is not sufficient to force the water over the summit near Colma. The pipe therefore follows a bay shore route, crossing a long stretch of swampy ground near Baden and lying upon hilly and otherwise difficult ground at Sierra Point, one spur of which is pierced by tunnel 300 feet long. North of Visitacion Valley the water enters another tunnel 2,145 feet long and is carried thence by another stretch of pipe to the screen-

house at University Mound Reservoir. The aggregate length of 44-inch pipe from Crystal Spring Reservoir to the University Mound Reservoir is 87,066 feet.

Before entering the distributing reservoir, the water flows through cloth screens.

LOCKS CREEK AQUEDUCT.

The works which are comprehended under this designation have already been referred to as feeders of San Andres Reservoir.

In the enumeration of properties claimed to be now in use the Spring Valley Water Works have included some which are at present out of service and in such a condition that their repair is practically out of the question, and as the bringing of the water into the San Mateo storage system will probably be effected by interception at lower levels than in the past, the reconstruction of these works on present lines is not likely. These parts of the works have not, therefore, been noted as having a present value. The lower and principal part of the works, known as Locks Creek line, is below the stone dam on Pilarcitos Creek. At this point about a mile below Pilarcitos Reservoir, a dam about 35 feet high of granite and brick checks the flow of the creek and turns it into a flume 5 feet wide about three-quarters of a mile long. This flume connects with the flume from Aponolio and Locks creeks at a tunnel which takes its waters through a ridge into San Mateo Valley. This tunnel is brick lined, and has a length of 3,200 feet. From its eastern end the water which it has brought from the ocean slope of the hills flows in a 36-inch by 60-inch flume about two (2) miles in a northeasterly direction and finally crosses San Mateo Valley to a tunnel through the ridge between San Mateo and San Andres Valleys. At the San Mateo end of this tunnel the flume is joined by another flume from the north which adds San Mateo Creek water, diverted by a concrete dam from that creek. The drainage area of San Mateo Creek below the Davis Tunnel and above the concrete dam is about 1.5 square miles. The waste water from the Pilarcitos line may also take this course into San Andres Reservoir.

Just above the point where the Pilarcitos water crosses San Mateo Creek in a flume, an earth dam has been built across the creek to form a settling pond, serving a good purpose, as some of the watershed above this point is still in use for pasturage.

The tunnel which takes the waters of the Locks Creek line from San Mateo into San Andres Valley has a length of 3,530 feet. It discharges into a flume a little over one-half mile long and from this water flows through a 44-inch pipe across San Andres Valley to the flume along the western slopes of the hills upon the east side of this valley. This flume has a northerly course into San Andres Reservoir.

Upon the easterly side of the San Andres Valley the Locks Creek flume is joined by a flume from the Crystal Springs pumping station. This is in service only when it is necessary to supplement the work ordinarily done by the pumps at Millbrae, as it serves the same purpose of adding to the supply at the level of the San Andres Reservoir.

Of the structures on the Locks Creek line, enumerated in the inventory, the following are out of service and are not included in the appraisement:

Fifteen thousand one hundred and fifty (15,150) feet of redwood flume, 16 inches by 32 inches, and portions of the eleven thousand nine hundred (11,900) feet of twenty-two (22) inch wrought-iron pipe.

This portion of the line has also been excluded from Mr. Schussler's valuation.

YIELD OF THE SAN MATEO RESERVOIR SYSTEM.

Based upon the climatic conditions which prevail upon the San Francisco peninsula and in the bay counties generally, Col. G. H. Mendell in 1876 reached the

conclusion that when depending upon stored water in these localities as a source of supply, it would not be safe to provide less storage capacity than a three years' supply (900 days.) He was forced to this conclusion by finding that occasionally two winters in succession were of the character usually designated as "dry" with rainfall only about one-half of the normal and with practically no run-off reaching the natural watercourses, making the time that might elapse from the commencement of the dry period—with a full reservoir—until it could be replenished by the rainfall of a third winter nearly three years.

Experience since that time with the San Mateo Reservoirs has fully confirmed this view. These reservoirs are so located that the watershed tributary to them is small when compared with their storage capacities: 0.55 square miles per 100,000,000 gallons of the storage capacity of the Pilarcitos Reservoir; .072 square miles directly and .077 square miles indirectly per 100,000,000 gallons storage capacity of the San Andres Reservoir, and .118 square miles per 100,000,000 gallons storage capacity of the Crystal Springs Reservoir, at the present height of the dam.

Water reaching Pilarcitos Reservoir in excess of its capacity is sent into San Andres Reservoir.

The overflow from San Andres Reservoir flows into Crystal Springs Reservoir.

The combined yield of these reservoirs to the City has according to the records of the Water Company since 1889 average 19,000,000 gallons per day.

With the entire Locks Creek line in continuous service, this yield would have been 19,500,000 gallons per day. The Locks Creek line has in part been out of service for four years. Its reconstruction is proposed. The water rights it commands have not been abandoned and they have been included as having value.

Being now supplemented with a large supply of water from a living source, Alameda Creek, the opportunity for consuming the stored supply in the reservoirs has been improved, and there is every reason to believe that their normal output will remain at the figure above noted.

During the past season, the combined quantity stored in these reservoirs fell to a minimum, about November 15, of 8,677,000,000 gallons. It is quite probable that this winter will again prove unproductive of water for the reservoirs and that for a time at least the draft upon the reservoirs must be kept far below the normal. Under these circumstances, Alameda Creek and Lake Merced will be drawn upon to the greatest extent possible and the increased amount of pumping will swell the operating expenses.

The fact that these reservoirs still hold a fair amount of water after three years of scant rainfall, demonstrates the value of storage capacity. None of that provided is to be considered superfluous.

SUNOL VALLEY, ALAMEDA CREEK AND ALAMEDA PIPE LINE.

Since 1887 Alameda Creek has been made to contribute to the water supply of San Francisco. The foundation was laid for the bringing in of this water when in 1875 the Spring Valley Water Works bought the rights and properties of the Alameda Water Company, which purchase included the water rights of the old Vallejo Mill at Niles as well as 1,915 acres of land on Calaveras Creek, being the first purchase toward the acquisition of the Calaveras Reservoir site.

The diversion of water from Alameda Creek was, until September of this year, effected at a point about two and one-half miles above Niles, where a stone overflow dam or weir turned the creek water into a brick-covered conduit 2,700 feet long. On the line of this conduit is a masonry screen and settling tank, at which a waste gate permits a discharge of surplus water back into the creek.

From the termination of the brick aqueduct the water was carried by flume 3,131 feet, and then entered a pipe. The water was passed through a second screen house at Niles, and thence by pipe across the creek and by way of Center-ville and Newark to Dumbarton Point and across San Francisco Bay in two sub-

marine 16-inch pipes to Ravenswood, where these pipes are reunited. Thence by pipe to Belmont, where the water is put under pressure by pumps and delivered at Burlingame into the 44-inch main from Crystal Springs.

The Alameda pipe line has a diameter of 36 inches. Where it crosses salt-marsh lands, it is supported on a trestle, and where at the approach of the marsh it lies in heavy alkali soil, it is enclosed in a wooden box.

At Niles it is carried over Alameda Creek by a three-span iron bridge 400 feet long.

For a number of years the Spring Valley Water Works has been gradually acquiring additional rights to water from Alameda Creek in order to increase the supply from this source. The rights thus secured have enabled the Company to perfect its arrangements for carrying a much greater quantity of water across the bay in the pipe already in service, and by taking advantage of the natural gravel filter in the Sunol Valley to take water into this pipe at all seasons of the year.

The pipe capacity was increased by raising the intake of the pipe. Water from the upper Alameda Creek Works enters the pipe at an elevation about 80 feet higher than the original intake. This added pressure has made it possible to deliver through the pipe for the pumps at Belmont about 10,000,000 gallons of water per day, while before the construction of the new works, the pipe capacity was only about 7,000,000 gallons per day.

The new works for the collection of water at Sunol consist in the main of an open filter gallery or deep cut into the gravel bed plank covered and sides well timbered and lagged with planking so placed that open joints admit the water from the gravel freely. This gallery is about one-half mile long and terminates at the upper end of a concrete subsurface aqueduct into whose sides many short pipes are built to permit the inflow of the water from the gravel. This subsurface aqueduct is about 3,000 feet long and is connected at its lower end with a gallery leading across Alameda Creek from north to south through the body of a concrete bedrock dam or weir, by means of which water levels in the creek and in the Sunol Valley gravels are largely controlled.

From this point water is carried in concrete-lined tunnels and flumes about five (5) miles to the regulating tank and screen house near Niles. The first tunnel leading from the dam has a length of over 7,000 feet. The aggregate length of tunnels on this line is about 16,000 feet.

Some of the advantages claimed for this system of works over those originally in use are:

1. Increased capacity of Alameda pipe line by reason of greater elevation of the pipe intake.
2. Uninterrupted service. The works need not be shut down when water is turbid in the stream; the filtered water being always clear.
3. Increased yield of Alameda Creek to the extent of the storage capacity of the gravel beds in Sunol Valley.
4. Filtration.

The old works from the stone dam about two and one-half (2½) miles above Niles to the junction with the new 36-inch pipe on the south side of Alameda Creek at Niles, are now practically out of service as a part of the system of works for the supply of water to this City, and would not be now constructed as a necessary part of the Alameda Creek system.

They can, however, be brought into service within the life of the flume, which is almost beyond repair, in case of any accident to the new works, and may also be made to serve to supply water to riparian owners. To do this with any degree of reliability will, however, soon involve reconstruction or modification of parts of the works. It is difficult, therefore, to determine their value in connection with the system of works as now in use or with the perfected future system. The question of their valuation is still further complicated by the fact that the water obtained from them is the natural unfiltered flow of Alameda Creek subject to all

the dangers of pollution of a stream draining about 600 square miles of grazing and farming lands, with several communities—Livermore, Pleasanton and Sunol—on banks of its tributaries.

Taking the view that these works are not essential to the successful operation of the system, but that at the same time it may be difficult to separate them from the water rights which they helped to perfect, and that being constructed they can be made to serve a good purpose for a time at least, and as in case of a purchase it would not be desirable to have them excluded from the properties acquired, it is thought proper to appraise them at one-half of cost of duplication.

The new works of the Alameda Creek system have not been in service long enough to permit an opinion to be formed of the aggregate yield per year from this source. Their present maximum capacity is limited by pipe line and pumping capacity to about 10,000,000 gallons per day. The pipe capacity can be increased by adding additional submarine pipes as now proposed and the pumping capacity can with slight alterations of the machinery be increased to about 14,000,000 gallons per day. Even if this amount can be diverted and handled by pipe and pumps, the evidence is yet lacking that the supply stored in the gravels will afford so much water continuously.

In the light of the information now at hand, it does not seem safe to count upon more than 8,000,000 gallons as the average yield per day from this source until the contemplated alterations have been made.

These works are to be considered as still under construction. They are being extended and improved and it is not desirable at this time to interfere with the company's projects by a publication of details.

As the works above Niles are new and well constructed, it is thought advisable to appraise them together with lands and water rights at the cost of purchase and construction.

CALAVERAS VALLEY.

Calaveras Creek as a source of supply is fully described in the report already referred to of Col. G. H. Mendell.

There is a good reservoir site on this creek, but it is probable that some years will elapse before the construction of a dam will be commenced.

Storage in this locality, far removed from San Francisco, will have less value than storage in the reservoirs of San Mateo County.

The estimated yield of water from this source when projected works for its utilization have been constructed is 30,000,000 gallons. This has not been verified.

PORTOLA OR SEARSVILLE RESERVOIR.

This is located in Santa Clara County about seven (7) miles south of the southerly end of the Crystal Springs Reservoir.

The reservoir site is owned by the Spring Valley Water Works, but not all the water produced at this site is available for use in San Francisco. The first 3,000,000 gallons must be delivered to the Manzanita Water Company, which supplies water to the Leland Stanford Jr. University. It is estimated by the Spring Valley Water Works that this source of supply will ultimately yield them in excess of 7,000,000 gallons of water per day.

The reservoir has not yet been connected with the San Francisco system and is not now furnishing any water to this City. Water from this reservoir can either be pumped over the low divide into Crystal Springs Reservoir from the south or it can be carried by pipe to Belmont, and there be put under pressure for delivery into the Crystal Springs Reservoir or the force main leading to the City.

It is difficult to approximate the cost of works for the utilization of the waters from this source of supply, but it is quite apparent that this cost will not be inconsiderable. Taking this into consideration and that its location is less favor-

able for a delivery of water into San Francisco than the San Mateo Reservoirs, being more remote, and that it may be ten years or more before works for the utilization of its waters are constructed, it is thought proper to appraise value at less than allowed for lands and waters of the San Mateo Reservoir system, particularly as the dam is included in the appraisalment and its present use in connection with the City system is only to preserve and protect rights to water.

LAKE MERCED.

Lake Merced is a body of fresh water within the limits of this City. It occupies a depression formed by the junction of two ravines, which at one time undoubtedly extended to the ocean, but which about half a mile from the present coast line has been drifted full of sand. Until the water of the lake was brought under control, it kept a waterway across this sand barrier open. After this barrier had been raised by the construction of a dam and the outflowing water was put into a conduit, a sand dune drifted across the outlet adding considerably to the height and extent of the dam and completely obliterating the upper portion of the outflowing creek.

A long narrow spit of land extends from the east almost to a connection with the high ground on the west of the lake. This has been artificially extended as a dam, thus separating the lake into two bodies of water—the north lake and the south lake. In 1877 and 1878 a pumping plant was erected on the eastern shore of the north lake near the original lake outlet, and lake water was sent into the Filarcitos pipe through a 22-inch force main laid along the Ocean House road.

This pumping plant has gone out of service. The boilers have been removed to other localities and the engines were dismantled. The force pipe was taken up and is now in use as a suction pipe leading down from the San Andres pipe to the new Merced Pump.

In 1891, the new pumping plant was erected. It is located on the north-eastern shore of the South Lake, and is equipped with two high duty pumps, each capable of raising 3,500,000 gallons of water per day to an elevation of over 400 feet.

The lake water is ordinarily used as a source of supply only at time of a restricted contribution from the higher lying storage reservoirs in San Mateo County. The water pumped is, however, taken only from the South Lake. The pipe which pierces the dam connecting the lakes is kept closed.

The proximity of Lake Merced to the populous districts, Ocean View, in San Francisco, and Colma, in San Mateo County, from which localities surface drainage is toward the lake, subjects the lake water to a danger of pollution that will probably always keep the lake among the least popular sources of supply, no matter how carefully pollution may be guarded against.

Works have already been constructed for the interception of the surface drainage from the two localities named, and the water collected by these drainage works is carried past the lake and is delivered by tunnel through the high ridge west of South Lake into the ocean. These drainage works are primarily for the protection of South Lake. Similar works to carry the surface drainage from Ingleside past the North Lake are under consideration. For sewage proper, a pipe was laid from Ingleside some years ago. This discharges into the outlet pipe leading from North Lake.

Until works for the further protection of the North Lake have been carried out, the water there stored is to be regarded as a reserve supply, not to be drawn upon except in case of an emergency.

The only portion of the lake which has of late been brought under contribution is South Lake.

The general character of the watershed tributary to the lake has already been described in the report dated November 16, 1900. The main supply of the lake is

from subsurface sources, which are replenished by the rains which fall upon the sands of the surrounding country. It can not be known whether the area from which the infiltration of water into the soil is co-extensive with the watershed lines indicated by surface topography. If this be assumed to be the case, then the drainage basin of the North Lake has an area of 1,600 acres, and the drainage basin of the South Lake has an area of 3,190 acres. Of this combined area about 2,430 acres are owned by the Spring Valley Water Works.

From information furnished by the Water Company, not fully verified, but which may be accepted as substantially correct and intended to supersede the approximate figures noted in the preliminary report of November 16, 1900, the area of North Lake may be noted at 90 acres and the area of South Lake at 260 acres.

The following rating table showing contents of the lake at different stages has been furnished by the Spring Valley Water Works:

GAUGE, FEET.	SOUTH	NORTH	TOTAL.
	LAKE MERCED.	LAKE MERCED.	
	Gallons.	Gallons.	Gallons.
5.....	144,000,000	108,000,000	252,000,000
10.....	424,000,000	186,000,000	610,000,000
15.....	730,000,000	232,000,000	1,012,000,000
20.....	1,060,000,000	415,000,000	1,475,000,000
25.....	1,437,000,000	569,000,000	2,006,000,000
30.....	1,915,000,000	744,000,000	2,659,000,000
32.....	2,140,000,000	821,000,000	2,961,000,000

The surface run-off from about 1,210 acres of the watershed of South Lake is kept out of the lake by intercepting drainage works, notably by the dams and brick canal and tunnel in the main creek south of South Lake.

The lake, as stated in my previous report, is the only large body of stored water conveniently available for use in San Francisco in case of accident to the works bringing water from the more remote sources of supply. North Lake is of value for this purpose in proportion to its capacity. The entire Merced Lake property is therefore included in the appraisalment of works.

Lobos Creek is enumerated among the properties of the Spring Valley Water Works. This creek, as has been fully described in the report of Col. Mendell, already referred to, was for many years an important source of water supply for this City.

The increase of population in the watershed area of the creek and the belief in the minds of the people that the creek waters were polluted, or, at least, that they were too liable to pollution, together with the deterioration of the flume in which the water was carried around Fort Point, led to the disuse of water from this source.

There is, and has been, talk of again making use of this water. If it be done, it would be only as a measure of last resort in case of almost certain failure of a shortage from all other sources combined.

This contingency is too remote to give the holding of the Spring Valley Water Works on this creek any special value as water-producing property, and they are included in the appraisalment only to the extent of the land value.

PESCADERO RIGHTS.

The rights controlled by the Spring Valley Water Works on Pescadero and other of the Ocean Slope creeks have not been clearly defined and no water is at present obtained from this source. Their value in connection with the system appears somewhat remote, and in the absence of conclusive evidence of their value to the system they have not been included in the appraisalment.

CITY DISTRIBUTING SYSTEM.

As already stated, the water from the San Mateo Reservoir system and from Alameda Creek, reaches the City from the south in three pipes, two coming in by way of Colma, from Pilarcitos and San Andres Reservoirs, and the third by way of the Bay Shore, from Alameda Creek and Crystal Springs Reservoir.

These pipes discharge into the three main distributing reservoirs, Lake Honda, College Hill Reservoir and University Mound Reservoir. The City distributing system of pipes begins at these reservoirs.

LAKE HONDA.—Lake Honda is located in a depression between hills, just north of and below the Almshouse tract, at an elevation of about 395 feet above City Base. This reservoir has a capacity of about 33,000,000 gallons. It was constructed in 1861. It is lined with brick and concrete and massive arched bulkheads support the adjacent roadway. A masonry cross wall divides the reservoir into two compartments.

The reservoir is located below the screen house which receives the water discharged from the Pilarcitos main. After being screened the water enters the City pipe system direct, and flows to the lake, only when the consumption falls below the quantity delivered by the main. The lake contributes water to the City system when consumption exceeds this amount.

Between the screen house and the lake is a wooden tank. Drainage from above the lake is intercepted by a well-constructed sewer and is carried past the reservoir.

COLLEGE HILL RESERVOIR.—The pipe from San Andres Reservoir terminates at College Hill in a standpipe, over the top of which water flows into a flume whose branches extend to right and left over an aerator. The sides of the flume or box on top of the aerator are perforated, and the water issuing from these perforations drops from platform to platform into a shallow tank or basin from which the discharge is into College Hill Reservoir.

This reservoir is located on a spur of Bernal Heights, just to the west of Holly Park. It has been in service since 1870. Its elevation is 254 feet above City Base. It has a capacity of 15,000,000 gallons. Its embankments are faced with rock.

UNIVERSITY MOUND RESERVOIR.—The water discharged by the Crystal Springs pipe at the University Mound Reservoir first passes through cloth screens before it is dropped into the reservoir. The screen house is close by the reservoir. The reservoir is located, as its name implies, in the University Mound Tract, at an elevation of 165 feet above City Base. It was constructed in 1880. It has a capacity of 33,000,000 gallons. Its sides and bottom are lined with concrete covered with felt and asphaltum. A 44-inch main leads from this reservoir in a general northeasterly direction across Islais Creek, where it is supported on a pile trestle and by tunnel under Bernal Heights into the pipes of the low-lying downtown districts.

CLAY STREET TANK.—On Clay Street Hill, just west of Jones street, between Washington and Clay streets, the Water Company owns two fifty-vara lots, on the most northerly of which the Clay Street Tank has been erected. The tank is of iron, circular in shape, ten feet deep, and has a capacity of 212,000 gallons. It is an important equalizer of pressure in the district with whose pipes it is

connected. The Water Company has constructed concrete steps in the alley west of this property for the accommodation of the residents, to enable improvements to be made to conform to natural ground elevation. Around the lot on the north, east and west frontages is a concrete bulkhead. The high-water elevation in this tank is 375 feet above City Base. The tank was constructed about 11 years ago. It receives its water from the Black Point pūmus.

LA FAYETTE PARK TANK.—Just north of the summit of the La Fayette Park Hill, on the line of Octavia street, is a rectangular wooden tank, which has a capacity of about 72,000 gallons. This reservoir is located upon City property. It has been in service many years, and should soon be replaced by a larger and more permanent structure, the best location for which would be the summit of the La Fayette Park Hill. The elevation of the La Fayette Park Tank is 372 feet above City Base. It is supplied with water by the pumps at Black Point.

UPPER RUSSIAN HILL, OR LOMBARD STREET RESERVOIR.—The Lombard Street Reservoir is located on the summit of Russian Hill, just west of Hyde street, between Greenwich and Lombard streets, at an elevation of 295 feet. It is connected with the Lake Honda system of distributing pipes. This reservoir was constructed about forty (40) years ago. It is a brick-lined structure. Its capacity is about 3,700,000 gallons.

LOWER RUSSIAN HILL, OR FRANCISCO STREET RESERVOIR.—The Lower Russian Hill Reservoir is an excavation of irregular outline on the northern slope of Russian Hill, between Chestnut and Francisco streets. This reservoir is ordinarily not in service to its full capacity, which may be noted at about 6,000,000 gallons. The sides of the reservoir are faced in part with brick and in part with concrete and mortar, but the lining is not throughout in good condition. A light timber framework supports a board roof covering the entire area of the water surface. This reservoir is on the Unvertisy Mound system of distributing pipes. Its elevation is 139 feet above City base. It was enlarged to its present size about 1878.

CLARENDON HEIGHTS TANK.—On Clarendon Heights at an elevation of about 600 feet is a circular iron tank, having a capacity of 564,000 gallons. This receives water from the pumps on Seventeenth street, and serves the highest zone at present supplied with water by the Spring Valley Works. This tank was constructed in 1895.

POTRERO HEIGHTS RESERVOIR.—The Potrero Heights Reservoir is located on Potrero Heights, at an elevation of about 300 feet above City Base. It is supplied with water through the Lake Honda system of pipes and serves an independent district. The reservoir is lined with concrete faced with brick. It is circular. Its capacity is about 1,000,000 gallons. It was constructed in 1897.

CITY DISTRIBUTING PIPE SYSTEM.—All of the pipes within the City which are supplied with water from Lake Honda, College Hill and University Mound reservoirs are included in the City distributing system. No attempt will be made at this time to enumerate all pipes now in use, except to note aggregate lengths. There has been considerable progress made of late years in extending large mains 10 inches in diameter and upward into the business and populous residence portions of the City, but much still remains to be done in this direction. The new large mains generally either supplant pipes of smaller diameter or supplement them. Time has been lacking and facilities were not available for preparing a map exhibit of the pipes now in the ground.

It was found that the book records, in which lengths of pipe laid and lengths of pipe taken up or abandoned are carefully noted, date from 1861 and show the aggregate lengths of pipe in use from day to day. Although no map could be found on which the aggregate length of pipe was quite equal to the records, it is believed that the records may be accepted as correct and the lengths of pipe shown by them as being now in use are made the basis of the appraisalment.

The following table shows amount of pipe shown to be in actual use as per record book for five year periods:

LINEAL FEET OF PIPE IN SERVICE AT DIFFERENT PERIODS.

CAST-IRON PIPE.

	3-INCH.	4-INCH.	6-INCH.	8-INCH.
January 1, 1862.....	1,899	11,953	15,839	9,037
January 1, 1865.....	14,767	66,073	82,832	41,956
January 1, 1870.....	51,970	174,787	165,963	99,983
January 1, 1875.....	77,118	220,802	232,749	131,107
January 1, 1880.....	93,915	256,429	254,193	161,689
January 1, 1885.....	102,777	290,886	326,995	197,066
January 1, 1890.....	122,140	327,629	440,284	256,082
January 1, 1895.....	127,449	363,461	575,917	336,895
January 1, 1900.....	128,581	339,361	571,043	583,327

CAST-IRON PIPE.

JANUARY 1—	10-INCH.	12-INCH.	16-INCH.	20-INCH.	22-INCH.	24-INCH.
1862.....						
1865.....	2,516	7,377				
1870.....	11,030	53,347	14,636	994	8,903	
1875.....	11,293	59,589	23,478	1,202	9,839	
1880.....	8,978	62,811	23,391	1,202	17,896	
1885.....	9,968	63,361	23,391	1,202	28,972	
1890.....	9,968	73,899	43,316	2,814	30,242	1,150
1895.....	9,975	101,062	55,963	15,325	25,948	3,182
1900.....	9,912	210,642	97,422	21,826	23,488	10,539

WROUGHT-IRON PIPE.

JANUARY 1—	13-INCH.	22-INCH.	30-INCH.	33-INCH.	37½-INCH.	44-INCH.
1900.....	850	16,387	20,748	2,510	11,312	7,213

PUMPING STATIONS.

As already explained, water is delivered into Lake Honda by the Pillarcitos pipe at an elevation of 395 feet; into College Hill Reservoir by the San Andres pipe at an elevation of 254 feet, and into University Mound Reservoir by the Crystal Springs pipe at an elevation of 165 feet.

The yield of Pilarcitos Reservoir is inadequate in ordinary years to supply the demand upon the Lake Honda system. In many seasons the San Andres Reservoir also falls short of the required supply. The same is true of Crystal Springs Reservoir. Taking them in the aggregate their average yield is about 18,000,000 gallons per day, while the water consumption in the City is about 25,000,000. The deficiency does not fall in equal measure upon the three systems. Moreover, if considered in combination with the supply from Alameda Creek, the Crystal Springs line brings in a surplus far in excess of the requirements of the districts supplied directly from the University Mound Reservoir.

To make up a deficiency in either of the other two main pipe lines leading to the City, it is necessary to put the water under pressure to lift it 100 to 250 feet, taking it from one pipe line and forcing it into a higher line.

Within the City it is necessary to raise the water to highest elevations at which the inhabitants are to be served, some of these being considerably higher than the highest of the gravity systems.

These requirements have led to the establishment of pumping stations, of which there are nine.

BELMONT PUMPING STATION.—The pumps at Belmont force the water which is brought by pipe from Alameda Creek into the main pipe line from the Crystal Springs Reservoir. There are two pumps of the Corliss Compound Condensing type at this station, each rated at a capacity of 6,000,000 gallons.

CRYSTAL SPRINGS PUMPING STATION.—The pumps at Crystal Springs Dam are intended for occasional service only. They lift water from the Crystal Springs Reservoir, taking the same from the main pipe into a flume which discharges into San Andres Reservoir. At this station are four Thompson and Evans pumps, having an aggregate capacity of 12,000,000 gallons per day.

PILARCITOS PUMPING STATION.—This pumping station is located at the outlet of the tunnel from San Andres Reservoir. Three Dow pumps are here installed to pump water coming from San Andres Reservoir into the Pilarcitos pipe line. These pumps are for occasional service only. Ordinarily when San Andres water is to be raised to the elevation of Pilarcitos water, the work is done with greater economy by the pumps at Lake Merced.

MILLBRAE PUMPING STATION.—At the Millbrae pumping station, water taken from the Crystal Springs main can be pumped to the screen house at the inlet of the San Andres pipe to join the San Andres water.

There are two pumps at this station of the Corliss compound condensing type, each of a capacity of 8,000,000 gallons per day.

OCEAN VIEW PUMPING STATION.—At the Ocean View pumping station the pump has been installed which was originally in service in Crystal Springs Valley to lift the water from the Upper Crystal Springs Reservoir into a flume leading to San Andres Reservoir. The pump is not of a modern type. Its capacity is about 2,000,000 gallons per day. It will be put into service only in emergency cases. It takes water from the San Andres pipe line and forces the same over the aerator on the Daly Hill into the Pilarcitos line.

LAKE MERCED PUMPING STATION.—The pumps at Lake Merced are used either to pump lake water into the Pilarcitos or the San Andres pipe lines, or to force San Andres water by way of the aerator on the Daly Hill into the Pilarcitos pipe. There are two compound condensing Corliss pumping engines at this station, each of a capacity of 3,500,000 gallons per day.

BLACK POINT PUMPING STATION.—The pumps at Black Point are also known as the "City Pumps." Two pumping engines are installed at this station, both of the Corliss compound condensing type, one of a capacity of 3,000,000 gallons and the other of a capacity of 3,250,000 gallons. At this station water from

the University Mound system is pumped into the Clay Street and La Fayette Park tanks, and surplus overflow into the Lake Honda system.

CLARENDON HEIGHTS PUMPING STATION.—The Clarendon Heights pumps are located on Seventeenth street, near Sanchez. They supply water to the tank on Clarendon Heights, taking the same from a pipe of the University Mound system. When the tank is full, the discharge of the pumps is into the Lake Honda system.

There are two poppet compound condensing engines at this station, each of a capacity of 1,125,000 gallons per day.

In appraising the value of these pumping stations it has been the endeavor to estimate value on the basis of the cost of reconstruction at this date, except in the case of the Ocean View pump, which is not in regular service, which is not a modern plant and which would not be installed as a part of the system in case the works were to be reconstructed at this date. This pump has, nevertheless, some value as a part of the system, adding as it does to the reliability of the service rendered. It has, therefore, been appraised at about the cost of a modern low duty pump of equal capacity, which is far below what it would cost to duplicate the pump as installed.

VALUATION OF WATER RIGHTS AND LANDS HELD FOR RESERVOIR PURPOSES.

No uniform rule can be laid down for the determination of the value of water rights and of lands essential for water development.

Except for the fact that a private corporation has an established business (unless, indeed, it be operating under an exclusive franchise), the value of all its properties in use for the supply of water to a community can not exceed the cost of bringing in an equal supply from some other source, all conditions of service being assumed equal.

The cost of bringing in an equal supply is not, however, always the best measure, nor can it in fact always be made a measure for the valuation of established works. Take the extreme case of a municipality so situated that there is but a single available source of supply; that this be owned privately, and that the cost of works for the delivery of water is nominal. Where is the limit of the value of this water right if determined on the basis of "all the traffic will bear?" To lose it would mean complete loss of real estate and improvements and of all the various established industries and business interests dependent upon the existence of the town or city, none of which could be maintained without water. In such a case it must be assumed that the inhabitants would rather pay full value of their real estate and improvements for the water than to permit its being taken away. Such a basis of valuation is, however, entirely unreasonable, not in accord with the customs and practice of civilized communities. In this extreme case, other circumstances must be taken into consideration in determining value, even though proceedings be somewhat arbitrary in character. The cost of construction, the amounts invested in water properties, the resulting profits are then to be considered, and a fair allowance should be made for the risks at which investments were made. A compromise with other like judicious investments of the same magnitude may then lead to some conclusion as to a fair valuation. The policy should always, under such circumstances, be to compensate the person liberally who by business foresight, judicious investment or perhaps by accident has acquired possession or brought under his control the water which has become a public necessity and which has been made or is to be made a public use.

When, however, a case presents itself in which other sources of supply are available, these can be compared on their merits. When it can then be shown that other water equal in quantity or quality can be obtained and delivered under

like conditions, a comparison of cost is justifiable, but the cost of bringing in another supply should not be considered as the measure of value of the established system. In such a case the estimated cost of constructing new works will ordinarily stand as an upper limit which the value of the established system will not exceed. There may, of course, be cases in which an allowance of value from the fact that the water works are already established will carry the value of the established system beyond this limit. This comparison is always of value and in most cases affords the best basis for conclusions as to value of water rights, and sometimes as well of the franchises of the water companies.

A full discussion of the valuation of a franchise will not be attempted. It will suffice to say that no franchise has any value beyond the capitalization of its net earnings. When earnings can be determined with fair precision, the value of the franchise is easily estimated. When earnings are uncertain, the determining the value of a franchise is much more difficult.

When, as in the case of the Spring Valley Water Works, rates are fixed by the consumers, the creation or destruction of the franchise value lies in the hands of the municipal authorities.

The franchise in this case is, moreover, not definable in terms of a specific agreement with this City. Whatever there may be of value in it is due to the fact that the business of the company is an established one. It is, therefore, to be considered as included in the valuation of lands and water rights in so far as it appertains to works outside of the City. That portion of it due to the fact that the City distributing system is established and in operation, is at least equivalent to the expense which would now have to be incurred to connect all services with a new system of street mains.

In comparing the various sources of supply with each other it is necessary to take cognizance not alone of quality and quantity, but also of the reliability and efficiency of the service rendered.

Water from the high Sierra Nevada Mountains may be accepted without hesitation as the standard of quality. No water from any local, nearby or Coast Range source of supply is comparable with this water until subjected to treatment such as filtration to remove from it even the suspicion of pollution. The purest water least exposed to pollution is more desirable, and, therefore, has greater value than any other water with which it may be compared.

In comparing the cost of delivering water to the City from various sources of supply, a delivery at an elevation of 200 feet at the City limits is assumed as a fair basis.

When thus delivered, some elevation can still be sacrificed for any desirable purpose, and water will be still be under sufficient pressure (150 to 175 feet) to serve the low-lying and most densely populated portions of the City.

To bring all the water into the City at a higher elevation than 200 feet would be useless, as most of it would have to be dropped to the lower level.

The cost of water from sources too low to effect delivery by gravity at the City limits must be increased by the cost of pumping before they can be compared with sources which effect such delivery by gravity.

During this summer there have been under investigation projects for the bringing of water to this City from a number of localities in the Sierra Nevada, notably: Lake Tahoe; Yuba River; American River; Stanislaus River.

The examinations made have necessarily been of a preliminary character, as the prime purpose of the inquiry was the determination of those sources which would justify a full elaboration of a project such as could be made the basis of a bond issue. The greatest care and largest amount of detail work has been done on the Tahoe and Yuba River projects.

This has led to the conclusion, as a few preliminary figures will show, aside from the uncertainties arising from conflicting rights to water and cost of condemnation proceedings, that Yuba River or Tahoe water would cost more than water from the nearest streams, such as Mokelumne River, Stanislaus and Tuol-

umne Rivers, which are, therefore, better adapted for determining cost of a supply from a source other than those controlled by the Spring Valley Water Works.

The water from Lake Tahoe flows in the Truckee River into the State of Nevada. An examination has been made of the uses to which this water is put and to what extent property rights on the lake shore would be affected by a control of the lake's water surface, as would be essential in case the lake were to be drawn upon by this City. The uses of the water from Truckee River are not inconsiderable, and being largely established in another State it can not be predicted in advance whether under any circumstances any right could be acquired even to stored waters in the lake, so long as there are other adequate available sources.

It was found that the water surface of the lake is now under control to a limited extent by a light timber structure which has for many years been maintained in the head of Truckee River, and it may be inferred from this fact that some established rights are covered by the proposals now made to the City. The City, if drawing upon the lake for its water, would have to modify the extent of the control of lake water surface to suit its requirements and the measure of interference with established rights, acquired under conditions which permitted all of the stored water sooner or later to flow down the river, can not be fully foreseen at this time.

The analysis and bacteriological examination of the water of the lake demonstrate its purity to be all that could be expected.

A system of storage on the headwaters of American River can be added to the Tahoe project at any time or can be made an independent source of supply by making the capacity of the reservoirs sufficiently great. As an independent source of supply, the cost of developing it and bringing the water to San Francisco will be practically the same as the Tahoe project. The tunnel from the lake in one case will be offset by the storage dams in the other.

The cost of these projects removes both of them, as already stated, from consideration in the determination of the minimum cost at which water can be brought to the City under conditions comparable with the established service.

The Yuba River project was based upon the proposal of the Marysville and Nevada Power and Water Company to sell their rights to water in the North Fork of the river at Alabama Bar. The river at this point has a large summer flow, over 200 second feet; the water diverted can be stored in a large proposed reservoir at the Oregon House, the site for which is included in the offer to the City, and in its course to this City from this reservoir the water can be dropped for the generation of power. It is thus possible to carry the water in large pipes under light pressure, utilizing the power developed at the upper end for re-elevating the water to the height of 200 feet, at which its delivery is desired.

The Yuba River project presents, however, some peculiar difficulties and unsatisfactory conditions which may remove it from final consideration without the necessity of fully elaborating a project. It is found that, notwithstanding the opinion of eminent attorneys, which opinions are necessarily based on a presentation of facts by interested parties, that the rights to water can not be relied on at all stages of the river; that an attempt to divert the entire 10,000 miner's inches at low water would certainly be contested. This is not by any means a fatal defect of the project, because the proposed reservoir would be of such capacity that it would be quite feasible to rely mainly upon the water to be drawn from the river when it is above its low-water stage. The estimate of cost of works is made on this assumption, the canal from the river being made large enough to take a year's supply in four (4) months. The drainage basin of the river above the proposed point of diversion is inhabited. The principal occupation of the inhabitants is mining. All of the mines discharge more or less waste into the river or its tributaries. The two towns, Downieville and Sierra City, are located on the banks of the river. These towns have a combined population of about seven hundred. They have no sewers. The entire population of the watershed is probably not far from one thousand (1,000).

The area of the watershed tributary to the river above the point where its water is to be taken is so large and of such a character that its acquisition by the City is entirely out of the question. To have it policed thoroughly and to have sanitary regulations that would beyond question protect the water from pollution enforced is a condition hardly to be hoped for.

Mining operations will probably for many years keep the water of the river turbid at the low stages of the river, and it will be more or less so at high stages, due to natural wash.

It appears from this that to make the Yuba River water or any other from any similar source of supply comparable with the waters of the high Sierra Nevada Mountains, whose quality is unchallenged, its filtration should at the outset be considered necessary, and the cost thereof has been added.

There is practically no other route over which this water could be brought to the City than by way of Carquinez Straits and across San Francisco Bay. This is a disadvantage which weighs greatly against this project, particularly as the route to be followed is almost devoid of reservoir sites near San Francisco, which are essential to a first-class system, particularly when its source of supply is remote and when the derangement of so important a link of the system as the crossing of the Straits of Carquinez or of the Bay of San Francisco would shut off the City from its water for a long period of time.

This disadvantage appertains to every system which depends solely upon a source of supply to be brought into San Francisco by tunnels or submerged pipes under such waters as Carquinez Straits or under the Bay. In the case of the Straits there is a possibility that a combination with other interests could be effected that would permit at a reasonable cost the erection of a bridge sufficiently elevated to permit vessels to pass underneath. No such arrangement of a crossing of the Bay can now be taken under consideration.

In determining, therefore, what the value of water is, delivered at the limits of this City under a stated pressure, it is advisable to exclude from the comparison all projects whose source of supply is to the northward or so far north of east that it would be impracticable to cross San Francisco Bay at or south of Dumbarton Point.

It has been suggested that the peninsula affords ample artesian water, also that abundant artesian water can be obtained from Santa Clara Valley, near the upper end of San Francisco Bay, and from the marginal lands of the eastern bay shore; also, that there is a source of supply worthy of investigation in the gravels of Coyote Valley, about 20 miles southward of San Jose. The source of water from the water-bearing sands and gravels, from which it is assumed that a great city could thus be supplied, is purely local, and no more water can be taken from such sub-surface sources than flows into them. This quantity can not always be determined by test, no matter how protracted, because in nearly every case new conditions of sub-surface flow are established, when new vents are opened, and it may be months, and even years, before the sub-surface storage capacity of gravels is sufficiently exhausted to bring the output down to the ultimate yield.

This applies with least force to such gravel deposits as that of Coyote Valley, whose extent is limited, and in which conditions of saturation are easily determined. It applies with greatest force to such artesian supplies as those in the lower end of Santa Clara Valley, whose extent is considerable and which can not be readily brought under observation.

The taking of water, moreover, from such sources, in such quantities, and so continuously, as would be of material service to this City, must be expected to have more or less effect upon the yield of water by established wells, and it cannot be foreseen in what legal complications such taking would involve the City.

No preliminary discussion of the cost of water delivered to the City need, therefore, take note of these artesian sources, or any other sub-surface sources, except that ultimately some such source might be taken into consideration to safeguard a supply from some more distant locality.

Although the Lake Tahoe project is, by reason of cost, practically out of consideration for purposes of this report, some facts relating to the same may prove of interest.

It has ordinarily been assumed that water from Lake Tahoe would have to be brought in pipes by way of Sacramento, across Sacramento River; from north to south across Carquinez Straits, and finally across the Bay in submerged pipes; but now that the transmission of power by electricity is feasible, another route becomes practicable for water from this source, as well as for the other Sierra Nevada Mountain sources, not further to the northward. The water need not be carried across the San Joaquin Valley under great pressure to cross into Livermore Valley by way of Livermore Pass, which has an elevation of 740 feet, but can be liberated at a suitable elevation about 200 to 250 feet on the eastern side of the pass and with the ample power generated by its own fall, at some point where the water drops down the western slope of the Sierra Nevada Mountains can be pumped over the summit or by a summit tunnel.

This modification of former Sierra Nevada Mountain projects removes many of the objections that were formerly urged against them. The thickness of the iron of which the pipes would be made will be reduced far below that required by a gravity system of supply. It will be determined largely by the length of the period of desired serviceability, and not entirely by the strain to which it is subjected; no excessively heavy pipe will be required; maximum thickness of iron of a four-foot pipe need not exceed 0.4 inch and maximum water pressure in the pipes can be kept below 200 pounds per square inch. The cost of a long pipe line across the valley will be reduced to about one-half of the cost of a gravity line, a saving which greatly exceeds the cost of pumping when such amounts of water as 30,000,000 gallons per day and upward are under consideration; and, finally, the danger of disastrous breakages is reduced to a minimum.

It is not proposed to enter at this time into a full discussion of this matter, as it is not now proposed to touch upon the water supply projects to any further extent than may be necessary for a discussion of the cost of delivering water at San Francisco.

So soon as it became apparent that a route by way of Livermore Pass was open to Tahoe water, the field examinations were shaped with a view to determining how the water could best be taken from the lake and carried southward in San Joaquin Valley and across the same to Livermore Pass. In the light of the information obtained, it appears inadvisable to follow the route indicated by Colonel Von Schmidt and his associates, who offer to bring this water to the City, but to tunnel from the lake near McKinney's, at Meek's Bay, to a point on Gerle Creek, a tributary of the Middle Fork of the American River. Thence by a ditch and tunnels following approximately the course of the California Water Company's ditch, and down the Georgetown Divide to a large reservoir at some convenient point at an elevation of about 1,500 to 1,600 feet. There will on this line be opportunity for a power station with a drop of approximately 500 feet.

The water from the storage reservoir can be carried along and down a mountain spur to the South Fork of the American River, near Salmon Falls, where another opportunity for power development exists, with a drop of about 700 feet.

On the south side of the river the water will be carried westerly to a second reservoir to be constructed at about elevation 650 feet above sea level, and this will be the head of the main pipe line across the San Joaquin Valley.

The course of the pipes will preferably be southerly not far from the eastern margin of the valley on fairly high ground to near the Mokelumne River; thence southwesterly to the eastward of Stockton and across the San Joaquin River east

of Banta to a suitable elevation 200 to 250 feet on the eastern slope of the Coast Range, where a number of electrically driven pumps will raise it to a height of about 650 feet, at which elevation it can be passed by tunnel under the summit of the ridge near Livermore Pass.

From this point the water would flow to the City by gravity, the preferred route for the pipe line being around the southerly limit of San Francisco Bay. Delivery can be effected at the limits of this City at an elevation of 200 feet.

Mokelumne River has frequently been suggested as a desirable source of supply, the nucleus for storage on this stream being the Blue Lakes. The merits of this project, together with others, were discussed by Colonel G. H. Mendell in his report of 1876. Much additional information concerning the possibility of water development in the watershed of this river has since been collected by the Blue Lakes Water Company and the Standard Electric Company. The latter company is now engaged in installing an extensive electric power plant from which water will be liberated at an elevation sufficient to permit its being carried across San Joaquin Valley and pumped over Livermore Pass, as suggested for the other Sierra Nevada projects.

The interference with established rights and an established business which would be involved in obtaining water from this source, as well as conditions relating to sources of supply, which are not entirely favorable, have made it appear less desirable to consider a project for the utilization of this water than that from such other sources of supply from the Sierra Nevada Mountains, as Stanislaus River, or possibly the Tuolumne River.

More promising than any of the Sierra Nevada Mountain projects further to the northward is the project to take water from the Middle Fork of the Stanislaus River. The source of supply in this case and diversion from the stream, though high up in the mountains, would be nearer to this City. The water taken would be either the surplus flood flow of the river or stored water, with practically no interference with established rights. The route for a canal from the river to where power would be developed is already marked out by a ditch that has once been in service, and the pipe location throughout will be favorable.

Without desiring to indicate this as a preferred project, these conditions have nevertheless led to its consideration at this time in determining the cost of water from the Sierra Nevada, in addition to the sources concerning which special information has been requested by the Board of Supervisors.

The cost estimate for the Stanislaus River is so nearly coincident with another made for a project to bring water from a tributary of Tuolumne River, also a stored supply, to the City, that, as these estimates are only approximations, the same figures are noted for both.

For the purpose of comparison with the other projects, an estimate has been made of the cost of pumping water from Sacramento River above Rio Vista, filtering the same and effecting its delivery in San Francisco. For this project, electrically transmitted power from the Sierra Nevada Mountains would be available, or, as an alternative, coal or oil could be used as fuel. This project is not as attractive as those based upon a source of supply in the high mountains, for the reason that the area drained by the Sacramento River is large—about 25,000 square miles—and populous, and the purity of the water delivered would depend largely upon thorough filtration, which, even under the most favorable circumstances, would hardly remove entirely the possibility of pollution.

Against the project would also be the undesirable approach to the City, by tunnel under San Francisco Bay, and a tunnel under the Straits of Carquinez.

*Note.—Preliminary investigation indicates about \$12,000,000 as the cost of the Sacramento River project, and less than \$75 per million gallons as the cost of delivery of water to the city, including taxation.

WATER RATES.

The nearest point for storage on this or any other line from the northeast across the Bay would be in the San Pablo Hills.

The entire pipe line in this project would be under low pressure. Three pumping stations would be required. One near Rio Vista, one in Contra Costa County to keep the storage reservoir full, and one on Goat Island, to force the water through the submerged tunnel into San Francisco.

This tunnel would extend from Goat Island to some point under Telegraph Hill. At each end would be shafts about 700 feet deep, and these would be connected by a tunnel about six feet in the clear. The shafts and tunnel would be lined with heavy cast-iron plates, having inside flanges. The spaces between flanges would be filled with concrete worked to a smooth finish.

The results of these estimates may be briefly noted as follows:

YUBA RIVER PROJECT.

Canal capacity from North Yuba River, at Alabama Bar, to Oregon House Reservoir, 30,000,000 gallons per day.

Oregon House Reservoir storage capacity, 30,000,000,000 gallons.

	AMOUNT.	TOTAL.
Single pipe, 56 11-100-inch diameter; capacity, 30,000,000 gallons per day; via Carquinez Straits and under San Francisco Bay—cost....		21,605,000 00
Investment per million gallons of daily capacity..		720,000 00
Cost of each million gallons delivered.....		106 00
Double pipe, each of 56 11-100-inch diameter; combined capacity, 60,000,000 gallons per day, same route—cost.....		34,178,000 00
Investment per million gallons of daily capacity..		570,000 00
Cost of each million gallons delivered.....		81 86

LAKE TAHOE AND AMERICAN RIVER PROJECTS.

Canal and tunnel capacities, 100,000,000 gallons per day.

Storage in two reservoirs, at less than 1,600 feet elevation, 10,000,000,000.

	AMOUNT.	TOTAL.
Single pipe, 48-inch diameter; capacity, 30,000,000 gallons per day, via Livermore Pass (approx. from curves)—Total cost.....		31,200,000 00
Investment per million gallons of daily capacity..		1,040,000 00
Cost of each million gallons delivered.....		126 39
Double pipe, each 36½-inch diameter; capacity, 30,000,000 gallons per day, via Livermore Pass (approx. from curves)—Total cost.....		37,440,000 00
Investment per million gallons of daily capacity..		1,248,000 00
Cost of each million gallons delivered.....		142 80
Double pipe, each 48-inch diameter; total capacity 60,000,000 gallons per day—Total cost.....		40,800,000 00
Investment per million gallons of daily capacity..		680,000 00
Cost of each million gallons delivered.....		94 30

STANISLAUS RIVER PROJECT OR TUOLUMNE RIVER PROJECT.

Canal and tunnel capacities. 100,000,000 gallons per day. All water to be stored.

	AMOUNT.	TOTAL.
Single pipe, 48-inch diameter (taken from curve). Capacity, 30,000,000 gallons per day, via Livermore Pass—Total cost.....		18,400,000 00
Investment per million gallons of daily capacity..		613,000 00
Cost of each million gallons delivered.....		84 90
Double pipe, each 36½-inch diameter; capacity, 30,000,000 gallons per day, via Livermore Pass —Total cost.....		21,800,000 00
Investment per million gallons of daily capacity..		726,000 00
Cost of each million gallons delivered.....		103 85
Double pipe, each 48-inch diameter; capacity, 60,000,000 gallons per day, via Livermore Pass —Total cost.....		29,260,000 00
Investment per million gallons of daily capacity..		487,000 00
Cost of each million gallons delivered.....		69 57
Double pipe, each 36½-inch diameter; total ca- pacity, 30,000,000 gallons; canal and tunnel capacity, 60,000,000 gallons per day—Total cost		19,800,000 00
Investment per million gallons of daily capacity..		660,000 00
Cost of each million gallons delivered.....		96 25
Single pipe, 48-inch diameter; capacity, 30,000,000 gallons per day; canal and tunnel capacity, 60,000,000 gallons—Total cost.....		16,200,000 00
Investment per million gallons of daily capacity..		540,000 00
Cost of each million gallons delivered.....		80 53

The cost per day in the foregoing estimates includes interest at 3½ per cent. per year, the necessary annuities for reconstruction of perishable portions of the works on the basis of 40 years for the life of the pipe, and shorter periods for machinery, besides operating and maintenance expenses.

The cost estimate of the pipe lines is based on iron at 3.25 cents per pound in San Francisco, and one-quarter inch iron as the lightest to be used. Each estimate includes an allowance for providing storage facilities for water near San Francisco, to the extent of about 100 days' supply.

It will be seen from the above that the cost of bringing water from the Sierra Nevada sources for a delivery of 30,000,000 gallons per day, in a single pipe line, falls as low as 8.53 cents per 1,000 gallons; and that if a double line of pipe be used, the cost will be 9.63 cents per 1,000 gallons.

When, however, the works are planned with an expansion to 100,000,000 gallons per day as ultimate capacity, the cost of the water delivered by a single pipe line would be 8.49 cents per 1,000 gallons, and 10.39 cents per 1,000 gallons, if delivered in two pipes each having a capacity of 15,000,000 gallons.

The system with two pipe lines and a near-by storage is considered sufficiently reliable to be compared with the established works, and it might be as-

sumed that water should not therefore be valued at more than 9.63 cents per 1,000 gallons as it flows from the Spring Valley pipes into the receiving reservoirs.

But as the established system is being compared with a project whose cost of construction can not be predicted with absolute certainty, it has seemed proper to call 10.0 cents per 1,000 gallons of water the limit of value when delivered at an elevation of 200 feet under established conditions or their equivalent.

The capacity claimed for the Spring Valley Water Works is 29,000,000 gallons of water per day, and, as Mr. Schussler shows, the works can be expanded readily to about 60,000,000 gallons per day.

The water is brought to the City in three widely separated pipes.

Cost of water and value of water at the limits of the City being under comparison, no expense connected with water distribution within the City has been included.

SAN MATEO RESERVOIR SYSTEM.

Capacity, 18,000,000 gallons per day.

Value at 10 cents per 1,000 gallons would be \$1,800.

Works for the development and delivery of this water, exclusive of water rights and lands, are valued at \$5,017,000. Pumping stations are not included, because the average elevation of the water delivered by gravity is practically 200 feet.

Interest at 5 per cent., taxes on a valuation of about \$4,000,000 at 1.5 per cent., deterioration (life of pipe taken at forty years and life of flumes at twenty years), operation, maintenance, not including pumping, but including interest, taxes and operating expenses of a filter plant estimated to cost \$450,000, bring the cost of delivering this water to about \$1,200 per day.

	AMOUNT.	TOTAL.
Value of water at San Francisco.....	\$1,935 00	
Cost of water at San Francisco.....	1,328 00	
Difference of interest on value of lands and water rights		\$807 00

At 3½ per cent. this would be interest on an investment of \$6,330,000.

At 5 per cent. it would be interest on an investment of \$4,424,000.

In the light of past experiences of the Water Company, the rate of 5 per cent. per year appears to be the proper rate to make use of in estimating how much it would have to pay for borrowed money. The lower rate of 3½ per cent. is applied for purposes of illustration, being the rate which might be considered justified as a reasonable net return to expect from ordinary large investments under existing financial conditions, but which is considered too low for investments made at such risks as those of a company operating under conditions similar to those of the Spring Valley Water Works.

A fair net return would be nearer the five per cent. rate than the three and one-half per cent. rate, and this is therefore made the basis for determining capitalized value.

The area of lands now in the three reservoirs under consideration is as follows:

Pilarcitos Reservoir.....	105 acres
San Andres Reservoir.....	475 acres
Crystal Springs Reservoir.....	1,300 acres
Total	1,880 acres

Additional lands in the Crystal Springs Reservoir site which will be covered when the dam is raised to the full contemplated height have an area of about 430 acres. The lands owned by the Water Company in the drainage basins of these reservoirs and in the district which has been made tributary to them by flumes, is 16,430 acres.

The lands in the watershed, though it is desirable that they be owned by the Water Company, are not as essential features of the works as the water rights and the reservoir sites. They could be acquired by purchase from time to time at but little more than the value which they have when used for the same purposes for which other similar lands in the same vicinity are used. These lands are for the most part suitable for grazing, to some extent for general farming. Fifty dollars per acre would be a liberal average to place upon them. Taking into consideration that their original owners may have had to abandon an established occupation or business in selling them and allowing 20 per cent. additional for this greater value to the Water Company, they may be entered in the appraisalment of value at \$20 per acre.

The rest of the value of water rights and lands will fall mainly upon the reservoir sites. The segregation can not readily be made because the location and topographical features of the site have special value by reason of the fact that water flows into them and the water acquires value by reason of the existence of the reservoir sites in which it can be stored for use.

As the land for storage is the first requisite, it may somewhat arbitrarily therefore be assumed to have about twice the value of the water. This assumption would place its value somewhere in the neighborhood of \$1,250 per acre. One-half of this amount is a reasonable allowance for the lands in reservoir sites not now in use and which are not likely to come into use for a number of years. On this basis, the water rights under consideration would not exceed in value \$819,000. This is at the rate of \$45,000 per million gallons per day and being an approximation of the upper limit of value would indicate \$40,000 as a reasonable allowance.

All that is claimed for this reasoning, on the lines of "all the traffic will bear," is that it shows some value for these—the best water producing properties—of the Spring Valley Water Works—in excess of a valuation based merely upon estimated cost of duplication of works and an appraisalment of lands based solely upon their natural uses for agricultural purposes, and that this excess is probably far

beyond the actual cost of lands and water, with the cost of abandoned structures added.

The fact that the accepted valuation agrees closely with the above figures, should be regarded as a coincidence. It must be admitted that there is necessarily so much of uncertainty, and even conjecture in the items of operation, maintenance and repair, and in the assumed rates of interest and taxation, that any specific figures are to be considered only as illustrative.

This is particularly true of the system under consideration, where much uncertainty is involved in the probable life of the Pilarcitos pipe, and of the older portions of the Locks Creek Aqueduct, and of the San Andres pipe.

Whatever conclusion may be reached as to the values to be assigned to the San Mateo Reservoir system, due to the special use to which it is put, is not to be applied to other sources of water, more or less favorably conditioned.

By a similar line of reasoning the value of Lake Merced as a water producing property can be ascertained; but in the case of this source of supply the fact is to be taken into account, that the lake is less desirable as a source of supply than other sources with which it is to be compared; and that the water being practically at sea level must be pumped to the elevation of 200 feet in order to permit comparison.

It is probable that the capacity of the lake is rather under, than over 3,000,000 gallons per day. No test of this case can be made except during a long period of continuous pumping, and there has been no opportunity to make such a test. Accepting, therefore, this amount, at which its yielding capacity is rated by the Spring Valley Water Works, the value which it represents when delivered at an elevation of 200 feet after filtration is \$300 per day.

The cost of the pumping plant and works already established to make this water available, represent an investment of about \$450,000.

Considering the entire Lake Merced property as a unit, it is estimated that the cost of pumping this water to an elevation of 200 feet and filtering the same, with interest, taxes, deterioration and maintenance, would be about \$178 per day.

Value of water per day.....	\$300 00
Cost of water per day.....	178 00
Interest on value of water rights and lands.....	122 00

At 5 per cent per year, this is in the interest on a capital value of \$890,600, which again represents the upper limit of value of water rights and lands that under conditions of location, quality and quantity of water corresponding to Lake Merced, can be made available for this City at an elevation of 200 feet.

But, in this case, the lake has additional value by reason of its proximity, and because it serves as a storage reservoir ready to be drawn upon in case of emergency. To offset this in a measure, the fact should be taken into consideration that works are not yet complete for the protection of the lake water from pollution, by surface drainage.

It will appear from the appraisalment of the lands of the Lake Merced property that their value would be greater if their use for the production of water were abandoned. This value, moreover, so far exceeds the value above indicated that it seems entirely unnecessary to take the present use of the property into consideration in appraising its value. Full justice will be done by entering it at the value of the real estate. Particularly as the purchase price is far below present values, thus determined.

In the case of the Calaveras Reservoir site, it is not easy to arrive at a basis for valuation, because, in the first place, the reservoir site is not now in use and is certainly not likely to be in use for a number of years. In the second place, the yield of the Reservoir estimated by the Spring Valley Water Works at 30,000,000 gallons per day is necessarily to a considerable degree conjectural. This estimated

yield has not been confirmed, nor can it be confirmed, except by continuous measurements extending through a number of years. It would not be surprising to find its yield to fall below 25,000,000 gallons per day.

Assuming works to be carried out for the utilization of this water as outlined by Mr. Schussler (in his statement, pages 32 and 33), it must be apparent that this water will only gradually come into use—that, therefore, the cost of water per million gallons from this source so long as the reservoir yield remains at, say, one-half of its ultimate capacity, would greatly exceed the assumed value of water, and that, therefore, new works from this locality would have to be operated at a loss, or, at least, at a bare return of interest on the invested capital, assuming that the necessity for the works be conceded by the municipal authorities and rates be fixed accordingly.

As there will not be a market for the full amount of water from this source in conjunction with the other supplies under control of the Spring Valley Water Works for many years, probably not for 30 to 50, it is not possible to arrive at any satisfactory conclusion as to water right values by the line of reasoning above adopted.

But the very remoteness of this source of supply and the anticipated great first cost of its water, make its value very much less than that of the San Mateo Reservoir system. It is believed that a valuation of \$60 per acre for contiguous lands in the watershed area of this site contiguous thereto and \$300 per acre for the site itself will be an ample allowance for both the land and the water controlled thereby. When estimated at this price, there is, therefore, no additional allowance to be made for the water rights.

APPRAISEMENT

PILARCITOS SYSTEM.

	AMOUNT.	TOTAL.
Earth dam, with puddle core; trench for puddle, estimated at 15,290 cu. yds.....		
Puddle above trench at 21,980 cu. yds.; earth fill exclusive of puddle, 327,900 cu. yds.; rock facing, log boom, wasteweir with tunnel.....	\$234,000 00	
Buildings, keeper's house, men's quarters, barn and outhouses.....	5,300 00	
Flumes and feeders tributary to reservoir, 9,740 feet, 14 by 42 inches and about 2,090 feet, about 12 by 14 inches.....	14,000 00	
Stone and brick outlet gate house, complete with gates	15,000 00	
Tunnel 1,550 feet long, 42 by 54 inches in the clear, brick lined (reservoir outlet).....	37,400 00	
Flume 280 feet long on trestle, waste and measuring tank in San Mateo Valley.....	1,100 00	
Tunnel 3,420 feet long, 42 by 54 inches in the clear, brick lined from San Mateo into San Andres Valley.....	82,500 00	
Wrought-iron pipe 44-inch diameter, 750 feet in San Andres Valley below tunnel.....	7,200 00	
Flume 2,147 feet long, 36 by 72 inches, with regulating tank in San Andres Valley.....	5,600 00	
Pilarcitos Main Pipe Line—		
Cast-iron, 24 inches diameter, 776 feet long.....		
Wrought-iron, 22 inches diameter, 2,394 feet long.....	304,500 00	
Wrought-iron, 30 inches diameter, 64,941 feet long		
Ocean House flume, 16 by 42 inches, 5,236 feet long	7,500 00	
Tunnel 2,820 feet, 36 by 52 inches, brick lined.....	55,800 00	
Measuring tank, screen house and wooden tank, 500,000 gallons capacity.....	7,000 00	\$776,900 00
For engineering and contingencies add 10 per cent.		77,100 00
Total		\$854,000 00

SAN ANDRES SYSTEM.

	AMOUNT.	TOTAL.
Earth dam, with puddle core; trench for puddle core, estimated at 31,000 cu. yds.; puddle above trench, 42,600 cu. yds.; earth fill, exclusive of puddle, 500,000 cu. yds.; rock facing, log boom, wasteweir with tunnel.....	\$391,700 00	
Buildings, keeper's house, barn and outhouses.....	11,300 00	
Brick outlet structure 26 feet in diameter, and connection with reservoir; concrete outlet structure	40,000 00	
Flumes and feeders, 2,597 feet, 18 by 40 inches, and 4,485 feet of 22-inch wrought-iron pipe—all below the Pilarcitos measuring box.....	15,200 00	
Davis Tunnel, concrete lined, 1,200 feet long, 52 by 56 inches, inlet flume and dam and wooden chute 1,400 feet long, tapering from 4 ft. by 6 ft. and to 3 ft. by 4 ft.....	28,000 00	
Tunnel, outlet from reservoir, 2,820 ft. long, 42 by 54 inches in the clear, brick lined.....	62,000 00	
Measuring tank and screen house.....	4,000 00	
San Andres main pipe line—		
Wrought-iron pipe, 44 inches diameter, 28,849 feet		
Wrought-iron pipe, 37 inches diameter, 1,400 feet.		
Wrought-iron pipe, 30 inches diameter, 40,185 feet	490,800 00	
Aerator at College Hill Reservoir.....	3,800 00	
Bulkhead, 900 lin. feet, at Baden.....	2,000 00	
		\$1,048,800 00
For engineering and contingencies add 10 per cent.		104,200 00
Total		\$1,153,000 00

CRYSTAL SPRINGS SYSTEM.

	AMOUNT.	TOTAL.
Concrete dam and outlet structures, earth embankment with concrete core north of main dam, including the outlet tunnel; brick lined, 7 ft. by 6 ft. 360 ft. long, and the 54-inch wrought-iron pipe, 360 ft. long, also gate, well and gate at head of main pipe line.....	\$1,484,000 00	
Buildings, keeper's house, men's quarters and stables, including sawyer camp.....	10,300 00	
Crystal Springs main pipe line—		
Wrought-iron 44-inch diameter pipe, 87,066 feet, including 5,400 feet of pile trestle support and 1,370 feet on concrete piers.....	850,000 00	
Tunnel 300 feet, brick around 44-inch diameter pipe (at Sierra Point).....	9,000 00	
Tunnel 2,145 feet, brick lined, 52 by 56 inches, from Visitacion Valley into the University Mound District.....	42,900 00	
Measuring tank and screen house at University Mound Reservoir.....	6,000 00	
		\$2,402,200 00
Add for engineering and contingencies 10 per cent.		239,800 00
Total		\$2,642,000 00

LOCKS CREEK AQUEDUCT.

	AMOUNT.	TOTAL.
Flume 21,824 feet long, 18 by 32 inches from Aponollo Creek to tunnel from Pilarcitos to San Mateo Creek.....	\$25,214 00	
Flume 12,556 feet long, 10 by 14 inches, which is a feeder to the Main Locks Creek Line.....	6,000 00	
Wrought-iron pipe, 22 inches diameter, 6,963 feet long on the line between Aponollo Creek and Pilarcitos Creek.....	17,408 00	
Dam in Pilarcitos Creek of granite and brick, about 35 feet high.....	6,000 00	
Flume 4,300 feet long, 32 by 60 inches, from Stone Dam to tunnel and feeders to flumes....	9,200 00	
Tunnel 3,200 feet long, 42 by 54 inches in the clear, brick lined from Pilarcitos to San Mateo Creek	76,800 00	
Flume in San Mateo Valley, 10,900 feet long, 36 by 60 inches, including settling tank.....	32,800 00	
Earth dam in San Mateo Creek, with puddle trench and puddle core, concrete waste weir, timber chute and 12-inch slush pipe.....	7,200 00	
Concrete dam in San Mateo Creek.....	7,500 00	
Tunnel from San Mateo Valley into San Andres Valley 3,530 feet long, 52 by 54 inches, concrete lined.....	70,600 00	
Flume 2,980 feet, 48 by 72 inches, in San Andres Valley	9,600 00	
Wrought-iron pipe, 44-inch diameter, 2,100 feet long, crossing San Andres Valley.....	18,900 00	
Flume 9,695 feet, 48 by 72 inches, on the east side of San Andres Valley.....	31,900 00	
Concrete aqueduct past keeper's house, near San Andres Dam.....	5,800 00	
Wrought-iron pipe, 44-inch diameter chute into San Andres Reservoir.....	2,800 00	
Buildings, keeper's house, men's quarters, stable, storehouse, etc.....	2,500 00	
		\$330,222 00
Add for engineering and contingencies 10 per cent.		32,778 00
Total		\$363,000 00

SEARSVILLE SYSTEM.

	AMOUNT.	TOTAL.
Concrete dam about 75 feet high, including buildings, dwelling, barn and men's quarters.....	\$130,000 00	
Add for engineering and contingencies 10 per cent.	13,000 00	
Total		\$143,000 00

ALAMEDA CREEK SYSTEM.

	AMOUNT.	TOTAL.
Masonry dam or weir--Alameda Creek, about 2¼ miles above Niles, stone aqueduct 3 feet 6 inches by 2,700 feet long, stone sawhorse, wooden screen and settling tank, with building fence 3,131 feet long, iron bridge over Alameda Creek at Niles, 400 feet long; wrought-iron pipe 5,897 feet long, 36-inch diameter, to junction with pipe from Upper Alameda Creek Works at one-half estimated cost of reconstruction	\$54,000 00	
Alameda Creek main pipe line, below junction at Niles, 138,029 feet, with 36-inch brass-faced gate at Burlingame, including boxing and trestles	1,184,100 00	
Submarine pipe, double, 16-inch diameter, under a slough and under the Bay of San Francisco, wrought-iron 3-16 inch thick. Total length 6,800 feet, making 13,600 feet of pipe, also submarine connections at each end of each set of submarine pipes at cost about.....	120,000 00	
Buildings, three keepers' houses.....	2,000 00	
		\$1,360,100 00
New Alameda Creek Works above Niles, at cost, as reported by the Spring Valley Water Works, including properties in Sunol Valley and water rights, rights of way, etc., recently acquired between Niles and San Francisco Bay.....		\$1,309,000 00
Add for engineering and contingencies 10 per cent. on above items except the \$1,309,000, which is cost		\$2,669,000 00
		136,000 00
Total		\$2,805,000 00

CITY RESERVOIR AND PIPE SYSTEM.

	AMOUNT.	TOTAL.
Lake Honda complete, including keeper's houses, stable, sewer, etc., exclusive of land value....	\$338,200 00	
University Mound Reservoir complete, including keeper's house, stable, etc., exclusive of land value.....	141,300 00	
College Hill Reservoir, complete, including keeper's house, stable, etc., exclusive of land value	50,400 00	
Clay Street Tank, complete, including grading, concrete retaining wall, concrete stairs, etc., exclusive of land value.....	10,000 00	
La Fayette Tank (this stands on City property), complete	3,000 00	
Upper Russian Hill or Lombard Street Reservoir, complete, including keeper's house, etc., exclusive of land value.....	26,500 00	
Lower Russian Hill or Francisco Street Reservoir, complete, including brick-lined tunnel 150 feet long, exclusive of land value.....	63,400 00	
Clarendon Heights Tank, complete, including grading, but exclusive of land value.....	12,200 00	
Potrero Heights Reservoir, complete, including keeper's house, but exclusive of land value....	16,200 00	
Distributing mains and pipes, lengths from the record book of the Spring Valley Water Works:		
Wrought-iron—		
13-inch, 850 feet.....	1,572 00	
22-inch, 21,201 feet.....	93,284 00	
30-inch, 12,514 feet.....	90,100 00	
33-inch, 2,510 feet.....	20,080 00	
37½-inch, 11,312 feet.....	112,736 00	
44-inch, 9,231 feet.....	81,232 00	
Cast-iron (cost of specials included)—		
3-inch, 129,591 feet.....	88,122 00	
4-inch, 340,873 feet.....	279,175,00	
6-inch, 572,095 feet.....	664,179 00	
8-inch, 590,060 feet.....	675,059 00	
10-inch, 9,912 feet.....	18,585 00	
12-inch, 212,357 feet.....	492,880 00	
16-inch, 100,345 feet.....	328,931 00	
20-inch, 21,826 feet.....	100,487 00	
22-inch, 23,488 feet.....	125,191 00	
24-inch, 11,727 feet.....	72,191 00	

CITY RESERVOIR AND PIPE SYSTEM—CONTINUED.

	AMOUNT.	TOTAL.
30-inch, 4,494 feet.....	38,392 00	
Setting specials.....	16,000 00	
Special structures on City Distributing System of pipes—		
Two Bernal Heights Tunnels, total length 1,344 feet, at \$30.....	40,320 00	
Support of pipes on Harrison street, over Mission Creek Swamp, special pipe connection work, etc.	36,000 00	
Islais Creek Trestles and extra work pipe laying..	9,500 00	
Gates on City Distributing System—		
53 3-inch gates.....		
348 4-inch gates.....		
758 6-inch gates.....		
878 8-inch gates.....		
6 10-inch gates.....		
360 12-inch gates.....		
95 16-inch gates.....		
10 20-inch gates.....		
20 22-inch gates.....		
16 24-inch gates.....		
1 30-inch gate.....		
1 37-inch gate.....	82,880 00	
Meters, from meter account, as reported by Spring Valley Water Works.....	145,200 00	
		\$4,453,296 00
		444,704 00
Add 10 per cent. for engineering and contingencies		\$4,898,000 00

	AMOUNT.	TOTAL.
Property on hand and operating plant, tools, horses, pumps, portable engines, etc.....	20,000 00	
Coal in San Francisco and San Mateo Counties....	11,200 00	
Lake Merced Drainage System, Ingleside Sewer, dam between lakes, dam at lake outlet, outlet pipe, keeper's houses, etc.....		\$31,200 00
		\$211,200 00
Add 10 per cent. for engineering and contingencies		20,800 00
		\$232,000 00

PUMPING STATIONS.

	AMOUNT.	TOTAL.
Belmont Pumping Station complete, including standpipe and connections, reservoir, 3 concrete gate wells, coal bunker, railroad track, drain pipes, 2 dwelling houses, etc., but exclusive of land value.....	\$159,470 00	
Millbrae Pumping Station complete, including standpipe and connections, reservoir, suction and force pipes, flume, railroad track, buildings, etc., but exclusive of land values.....	242,300 00	
Crystal Springs Pumping Station complete, with 24-inch suction and 3 lines of 16-inch discharge pipes, 16-inch standpipe, buildings, stables and outhouses and 19,870 lineal feet of flume.....	123,950 00	
Pilarcitos Pumping Station complete, with standpipe and 16-inch discharge to the Pilarcitos main pipe, not including land value.....	27,400 00	
Ocean View Pumping Station complete, with suction from Lake Merced, pressure tank and discharge to the Lake Merced force main, not including land value.....	14,250 00	
Lake Merced Pumping Station complete, including suction from lake, wharf, boom, suction from San Andres pipe discharge to Pilarcitos pipe, aerating plant at Daly's Hill, railroad, coal bunkers, etc., but not including land value....	251,000 00	
Black Point Pumping Station complete, including storage tunnel, suction well, wharf, etc., but not including land value.....	164,800 00	
Clarendon Heights Pumping Plant complete, not including land value.....	49,800 00	
		\$1,032,970 00
Add for engineering and contingencies 10 per cent.		102,030 00
Total		\$1,135,000 00

WATER RATES.

	AMOUNT.	TOTAL.
Lands as follows—		
Lands in watersheds, tributary to reservoirs, 20,850 acres at \$60.....	\$1,251,000 00	
Lands in Portola Reservoir site, 430 acres, at one-half the value of lands in San Mateo Reservoir System at \$625.....	268,750 00	
Lands in Crystal Springs Reservoir site, above the present high-water surface, 430 acres at..	268,750 00	
Lands in Pilarcitos, San Andres and Crystal Springs Reservoir, 1,880 acres at \$1,250.....	2,350,000 00	
Lands at Belmont Pumping Station, at cost.....	12,000 00	
Lands at Millbrae Pumping Station, at cost.....	25,000 00	
Lands in Calaveras Reservoir site, 1,300 acres at \$300	390,000 00	
Rancho Laguna de la Merced and contiguous properties, acres.....	1,927,100 00	
City Reservoir sites, including Market street property	654,000 00	
Miscellaneous City real estate, including the office lot and building.....	955,000 00	
Total		\$8,101,600 00
Water rights—		
San Mateo System, 18,000,000 gallons per day, at \$40,000 00 per million gallons.....	\$720,000 00	
Upper Locks Creek line, 1,500,000 gallons per day, not now in use, but conveniently located, at \$20,000 00 per million gallons.....	30,000 00	
Portola Reservoir, say 6,000,000 gallons per day, at ¼ value of water in the San Mateo system..	60,000 00	
Calaveras and Alameda Creeks, included in cost of works of the Alameda Creek system.....		
Lake Merced, included in the real estate appraisal		
Total		\$810,000 00
For value, due to the fact that the business is an established one, add 25 per cent. of appraised value of City reservoirs, pumps, reservoir and pumping stations, real estate and street mains, including 25 per cent. on the reservoir sites..	\$1,400,000 00	
Pipe and other material on hand and not included in above.....	95,000 00	
Total valuation of property of Spring Valley Water Works.....		\$24,667,800 00

SUMMARY.

	AMOUNT.	TOTAL.
1. Pilarcitos System.....	\$854,000 00	
2. San Andres System.....	1,153,000 00	
3. Crystal Springs System.....	2,642,000 00	
4. Locks Creek Aqueduct.....	368,000 00	
5. Searsville System.....	143,000 00	
6. Alameda Creek System.....	2,805,000 00	
7. City Reservoir and Pipe System, including meters but not services.....	4,898,000 00	
8. Property on hand, etc.....	31,200 00	
9. Lake Merced drainage and dams.....	232,000 00	
10. Pumping Stations.....	1,135,000 00	
11. Real estate, City reservoir sites.....	654,000 00	
12. Other City real estate.....	955,000 00	
13. Lands outside of San Francisco, exclusive of Lake Merced lands.....	4,565,500 00	
14. Rancho Laguna de la Merced and contiguous property	1,927,100 00	
15. Water rights, in addition to those included in land values.....	810,000 00	
16. For value, due to the fact that the business of the Water Company is established, at about 25 per cent. of items Nos. 7, 11 and part of 10..	1,400,000 00	
17. Pipe and other material on hand and not in- cluded in above.....	95,000 00	
Total		24,667,800 00

It is to be understood that the prices allowed in the above appraisalment for Outside Lands and Water Rights are made liberal, being intended to cover whatever allowance would ordinarily be made for the fact that the business was an established one. The values put upon lands in reservoirs now in service should be considered as including also such expenditures as may have been necessary to clear the site and prepare it for use.

For reservoir and other properties directly connected with the service in the City, an addition of 25 per cent is made as a reasonable allowance for value due to this fact.

DETERIORATION.

Except as otherwise noted, the foregoing valuation is based upon estimated cost of reconstruction or duplication of works. No reduction has been applied for deterioration thereof.

This deterioration should, however, be taken into account, and the loss in value due thereto should be deducted from the above appraisalment, in case the appraisalment is to serve as a basis for the acquisition of the works by purchase.

The loss in value due to deterioration is often difficult to determine. Experience is the best guide in reaching conclusions. This loss may be directly estimated from the probable life of the works or parts of works under consideration, and time they have already served.

Deterioration is also to be taken into account in estimating cost of water delivered, and is then equal to the amount of money which would have to be annually set aside in order to be equal, with interest added to the sum necessary to replace the works when worn out.

The periods of serviceability assumed for the various parts of the Water Works now in service or hereafter to be installed in this City are as follows:

Pumping engines.....	40 years
Boilers	20 years
Wrought-iron pipe.....	40 years
Cast-iron pipe.....	100 years
Flumes	20 years
Wooden buildings.....	40 years
Electrical generating machinery.....	20 years
Water wheels.....	20 years
Poles of transmission lines.....	20 years
Water meters.....	15 years

In the case of pumping engines the depreciation is to be figured upon the entire cost of the engine, erection and foundation, because within the life of a plant such improvements are to be anticipated as might justify complete remodeling of the pumping system.

To determine actual deterioration of the cast-iron pipes in this City, they were examined at a number of points, and the result of this examination seems to fully justify the above conclusions as to life.

There is one element of uncertainty, however, which makes a prediction as to the life of the system somewhat conjectural, and that is the uncertain effect of electrolytic action. There is always a certain amount of electric current passing between the rails of the electric roads and the water pipes, and where this current flows from the pipes there must be a decomposition of iron taking place. This may be a slow process, and appears to have been barely appreciable to date, but its

future effect upon the life of the pipes in the most directly affected districts, and the percentage of injury that this would represent to the pipe system as a whole, can only be determined on the basis of a study more exhaustive than could be made in the time at command.

CHARACTER OF WORKS AND EFFICIENCY OF THE SPRING VALLEY WATER SYSTEM.

The quality of workmanship on the works and structures of the Spring Valley Water Works is commendable throughout. Materials used are selected with care. Special care and extra cost has not been shunned in important cases to secure the best. This is notably the case in the pipe work and in the concrete and masonry structures.

Where pumps of low efficiency, or in one case of a design no longer manufactured, are installed, it is because they are not in continuous service, and where the interest account on a high-duty plant would more than offset the increased expense of operating a low-duty plant. This is particularly true of the Ocean View and Pilarcitos pumps and in a less degree of the Crystal Springs pumps.

Great care has been exercised in making the delivery of water reliable, so that no accident to any portion of the works will inconvenience the City or deprive it of water.

In the City distributing system there is still too great a proportion of small pipes. The ordinary service through these to the consumers is satisfactory, but they are not all that could be desired when extraordinary demands for water are made upon the system, as in case of a great conflagration.

But the need for increased storage facilities within the City is fully as great as the need of extension of the large street mains.

There should be constructed at once a reservoir on the Market Street Reservoir lot, at an elevation of about 150 feet.

An enlarged new modern tank should be erected on La Fayette Park Hill. Increased storage should also be provided on Clay Street Hill, and a service tank should be placed on the top of Telegraph Hill.

These needs are so apparent that further discussion of the same is unnecessary.

The results of the analyses and bacteriological examination of the waters furnished to this City by the Spring Valley Water Works will be submitted as soon as they can be tabulated. Very respectfully,

C. E. GRUNSKY, City Engineer.

ACQUISITION OF PUBLIC UTILITIES.

Pursuant to the provisions of Article XII of the Charter, by which it is declared to be the purpose and intention of the people of the City and County of San Francisco that its public utilities shall be gradually acquired and ultimately owned by the City and County, the Board of Supervisors on January 15, 1900, adopted the following Resolution, to wit:

RESOLUTION NO. 13.

Whereas, It is the declared purpose of the new Charter that all the public utilities of the City and County of San Francisco shall be gradually acquired and ultimately owned by the City and County, and to that end it is provided in Article 12 that within one year from January 8, 1900, the Supervisors must procure through the City Engineer plans and estimates of the actual cost of the original construction and completion by the City and County of its various public utilities, and also to procure and place on file plans and estimates of the cost of obtaining a sufficient and permanent supply of good pure water for the City and County, and also to solicit and consider offers for the sale to the City and County of existing public utilities in order that the electors shall have the benefit of acquiring the same at the lowest possible cost; and,

Whereas, The Supervisors are commanded to formulate and submit to the electors of the City and County propositions for the permanent acquisition and ownership of the public utilities of the City and County; therefore, be it

Resolved, That the attention of the Board of Public Works of the City and County of San Francisco is hereby called to the said provisions of Article 12 of the Charter of the City and County of San Francisco; and to the end that they may act in conjunction with the Board of Supervisors in carrying out the provisions of the new Charter in respect to public utilities, they are requested to immediately formulate a plan by which the said plans and estimates may be obtained within a year and submit the same to the Board of Supervisors in order that the Board of Supervisors may provide the necessary funds; and be it further

Resolved, That the procuring of plans and estimates of the construction and acquisition of the various public utilities referred to in said Article 12 is of the very first importance and should be accomplished without fail within the time laid down by the Charter, and to that end the Board of Supervisors will give all assistance to the Board of Public Works necessary to accomplish these results.

The Clerk of the Board of Supervisors is hereby directed to forward a copy of these resolutions to the Board of Public Works.

In Board of Supervisors, San Francisco, January 15, 1900.

Adopted by the following vote: Ayes—Supervisors Booth, Boxton, Brandenstein, Comte, Connor, Curtis, D'Ancona, Duboce, Dwyer, Fontana, Helms, Hotaling, Jennings, Maguire, Reed, Sanderson, Tobin. Absent—Supervisor McCarthy.
JNO. A. RUSSELL, Clerk.

Approved San Francisco, January 16, 1900.

JAS. D. PHELAN,

Mayor and ex-officio President of the Board of Supervisors.

In accordance with the terms of the foregoing Resolution the Board of Public Works filed on February 5, 1900, a communication approving the report of its City Engineer on the estimated cost of making plans and estimates of cost of public utilities as expressed in the Charter, of which the following are copies, to wit:

COMMUNICATION FROM BOARD OF PUBLIC WORKS.

Office of the Board of Public Works,
 First Floor, New City Hall.
 San Francisco, Cal., February 5, 1900.

To the Board of Supervisors—

Sirs: In respect to Resolution No. 13 of your Honorable Board, which requests the Board of Public Works to formulate a plan under which the provisions of Article XII of the Charter may be carried out, to the end that the City and County may gradually acquire its public utilities, the Board of Public Works makes the following report:

Enclosed is a report made by the City Engineer, which contains his views as to the method of procedure suitable for adoption and a provisional estimate of the amount of money that will be needed to carry out the requirements of Section 1, Article XII of the Charter.

The Board of Public Works approves the conclusions of this report, and it concurs in the opinion that it is not practicable within the year following the date upon which the Charter went into effect to prepare plans and estimates of original construction of water works to be built by the City.

The great cost of any possible new water supply, and the complexity of the problem of determining and securing the essential conditions of a project which shall be able to meet the future requirements of this City demand thorough investigation and great subsequent deliberateness in arriving at conclusions.

These considerations become more forcible when, as in this case, a number of projects for water supply may require scrutiny and comparison.

The Board of Public Works, therefore, finds it impossible to submit a plan of procedure which shall within a year fulfill the time requirement of the Charter, so far as a new water supply is concerned.

Field work may, however, be initiated in June or July and continued during the favorable part of the year.

Section 2 of Article XII requires the Supervisors to solicit and consider offers of sale to the City and County of existing utilities, in which are included Water Works, Gas Works, Electric Light Works, Street Railroads, Telephones and Steam, Water or Electric Power Works, the last named not known to the Board to be now in operation.

In order that the Board of Supervisors may deal intelligently with any proposals that may be made to sell to the City and County existing utilities, it will be necessary to carefully investigate these offers, and to estimate values in detail. This work can, it is thought, be done within the Charter limitation as to time.

With this explanatory statement, the following plan is respectfully suggested for your consideration:

The Board of Supervisors to issue at as early a date as possible a public call inviting, within ninety (90) days the submittal of inventories of properties that would be included in propositions to sell to the City and County its public utilities, now in operation, mentioned in the Charter.

The call shall also invite proposals to furnish for the City's use new water supplies, not including therein delivery within City limits.

The call may invite offers to supply hydraulic or electric power plant, and separately an electric light plant, from external sources.

If this course be adopted, the Board of Public Works will, if it is desired, confer with the Supervisors as to the terms of the advertisement.

The offers that may be received may properly be referred to the City Engineer under call for a project of subsequent procedure.

THE BOARD OF PUBLIC WORKS,
 G. H. MENDELL, President.

One enclosure.

REPORT OF CITY ENGINEER.

Office of City Engineer,
San Francisco, January 31, 1900.

To the Honorable the Board of Public Works,
Of the City and County of San Francisco—

Gentlemen: The purpose of making plans and estimates of cost of public utilities, as expressed in the Charter, is to enable the Board of Supervisors to enter into negotiations for the permanent acquisition by the City and County, by original construction, condemnation or purchase of such public utilities as they may regard desirable for the City to own.

It is therefore made the duty of the Supervisors to procure through the City Engineer plans and estimates of the cost of original construction and completion by the City and County of:

First—Water Works.

Second—Gas Works.

Third—Electric Light Works.

Fourth—Steam, Water or Electric Power Works.

Fifth—Telephone lines.

Sixth—Street Railroads.

Seventh—Any other public utilities as the Supervisors, or the people by petition to the Board of Supervisors, may designate.

Such plans and estimates of cost are to be procured within one year from the date the Charter went into effect.

By Resolution No. 13 of the Board of Supervisors your Board is requested to formulate a plan by which the plans and estimates may be obtained within a year.

I have had this matter under advisement for several days in an endeavor to determine whether there is any prospect of accomplishing within the time limit all that the Charter seems to prescribe shall be done.

* It is required that "plans and estimates of the cost of obtaining from all of the several available sources a sufficient and permanent supply of good pure water" be procured. The sources to be examined are not specifically named, and it can not be determined at a moment's notice how many of them are to be considered available. Taking the investigations made by this municipality in 1876 as a guide, it may safely be assumed that eight or ten independent sources of supply will ultimately have to be examined, though possibly not so many within the first year.

In connection with each project it will be necessary to investigate the quantity of the water available for the use of San Francisco; its quality, storage facilities, conduits for its delivery to San Francisco, and, finally, its distribution.

The quantity available will not alone be dependent upon physical conditions but also upon legal questions, often involving matters of great uncertainty, concerning which it may even be impossible to reach definite conclusions in advance of judicial inquiry. But even where this is not the case, data that are necessary as a basis for passing upon the sufficiency of a source of supply can not always be obtained in a single season. The minimum supply must be investigated, and it is always desirable that such investigations should extend over a number of seasons. When this can not be done, the conclusions reached may have but little value. Storage of waters in connection with each of the projects will require careful investigation, many special surveys and investigations will have to be made, oftentimes expensive and perhaps productive of only negative results, yet necessary for the intelligent discussion of any project. Then, too, the character

of the conduits must be determined upon and routes for canal and pipe lines must be examined as to their availability and as to cost of construction.

Some of the projects, it might almost be said that all of them, will involve the crossing of the bay with a pipe line. It will be a considerable undertaking to examine this feature alone for any of the projects.

Finally the distributing system with necessary service reservoirs must be planned to make each project complete, and the result of the work must be put into shape for presentation to the Board of Supervisors.

In the matter of the water supplies alone, the investigations required to be made should not be undertaken with any idea of reaching final conclusions within a year, particularly as you are advised that all funds will be exhausted this fiscal year, and it appears that little or no money can be made available to start actual investigation before the commencement of the next fiscal year.

But the Charter seems explicit in the matter of requiring plans and estimates of cost to be filed within a year, and it remains to be determined how far the investigations can be carried within this time limit.

Before this question can be answered it must be known which sources of water are to be considered available and which projects will require examination. It may be advisable to proceed in this matter by a process of elimination and to determine on the basis of a preliminary investigation which sources of supply are sufficiently attractive to be considered worthy of immediate further examination and to designate those upon which final reports are most desired. In this way this office can be relieved of the necessity of extending its examinations over too broad a field. It will have the great advantage, too, of enabling the work to be carried forward more deliberately and with a smaller, better equipped and better trained force of assistants.

The projects to be examined and the order of their importance should be designated by the Board of Supervisors, possibly after conference with your Board.

To further this end it would seem advisable to issue a call for proposals to furnish water to the City, and to request evidence as to the sufficiency of the supply and quality of the water, and the feasibility of its delivery from the person, company or corporation offering the same. The call for proposals should be issued at once and all the necessary proceedings thereunder should be had at an early date in order that no time may be lost after July 1st in undertaking the necessary field work.

Similar steps might also be taken in the matter of street railroads, in order that definite instructions may be issued by the Board of Supervisors as to the routes to be examined.

On the assumption that this plan will be followed it is probable that a preliminary report can be made within the time limit, provided, of course, that ample means for the purpose be placed at the disposal of this office.

Subject to correction, as definiteness is given to the various projects to be examined, the following estimate of the cost of making the necessary surveys, examinations, plans and reports is submitted.

Water supply, on the assumption of six projects to be examined	\$70,000
Gas Works.....	7,500
Electric Light Works, Steam, Water or Electric Power Works, Telephone Lines.....	15,000
Street Railroads, say.....	7,500
	<hr/>
	\$100,000
Miscellaneous examinations, publications, etc.....	7,500
	<hr/>
	\$107,500

These sums, particularly in the case of the water supply investigations, can not be all expended to advantage before January 8, 1901.

Any appropriation made for the purpose should be in the aggregate for the examination of all classes of public utilities rather than in specific sums for each class. The present estimate of the cost of making the investigations and preparing the plans is necessarily largely conjectural. Whether they are adequate or not will depend in a large measure upon the decision reached by the Board of Supervisors as to the specific projects to be examined in each class.

The investigations necessary to be made, particularly in the matter of water supply, can be commenced as soon as funds are made available for this purpose.

It would be extremely desirable to have about \$12,000 set apart for use in this connection during the present fiscal year, as this would enable much preparatory and preliminary work to be done, greatly facilitating the direction of the subsequent final studies by giving definiteness to the work remaining to be done subsequent to July 1st. Very respectfully,

C. E. GRUNSKY, City Engineer.

In the Budget of Expenditures of the City and County for the fiscal year 1900-1901, the Board appropriated the sum of \$30,000 for examination of available sources of water supply, which sum was placed at the disposal of the Board of Public Works, to expend at its discretion.

In the Budget of Expenditures for the fiscal year 1901-1902 the Board appropriated the sum of \$20,000 for examination into public utilities, which sum was also placed at the disposal of the Board of Public Works, it being estimated that this amount would provide for the completion of examination of available sources of water supply and also secure plans and estimates of a municipal gas plant, a municipal telephone system, an auxiliary salt water system and the conversion of the Geary Street Railway into a City electric railway system.

The amounts appropriated were considerably less than the original estimates furnished by the Board of Public Works, namely \$107,500, the reason being that it was found unnecessary to examine into the number of projects originally contemplated.

The question being raised that the Board of Supervisors must procure through the City Engineer plans and estimates of the actual cost and completion by the City and County of all public utilities enumerated in Article XII of the Charter before the proposition to secure any one of them could be submitted to the people, the Board, in order to set at rest any doubt as to the correct method of procedure to be followed, adopted the following Resolution requesting the City Attorney to advise it on the subject:

RESOLUTION NO. 1383.

Resolved, That the City Attorney is hereby requested to give his opinion to the Board of Supervisors upon the following question:

Under Article XII of the Charter, entitled "Acquisition of Public Utilities," is it requisite that plans and estimates of the actual cost of the original construction and completion by the City and County of all of the public utilities enumerated in Section 1 of that Article be procured and filed before the Supervisors can submit to the people of the City and County of San Francisco the question of the issuance of bonds for the acquisition of any one of the public utilities named therein?

In Board of Supervisors, San Francisco, April 1, 1901.

Adopted by the following vote: Ayes—Supervisors Booth, Boxton, Brandenstein, Brauhart, Comte, Connor, Curtis, D'Ancona, Dwyer, Fontana, Hotaling, Jennings, McCarthy, Reed, Stafford, Tobin. Absent—Supervisors Sanderson, Wilson.

JNO. A. RUSSELL, Clerk.

In response thereto the City Attorney filed on April 17, 1901, the following opinion, to wit:

San Francisco, April 17, 1901.

Gentlemen: Resolution No. 1383 requests my opinion upon the following question:

"Under Article XII of the Charter, entitled 'Acquisition of Public Utilities,' is it requisite that plans and estimates of the actual cost of the original construction and completion by the City and County of all of the public utilities enumerated in Section 1 of that Article be procured and filed before the Supervisors can submit to the people of the City and County of San Francisco the question of the issuance of bonds for the acquisition of any one of the public utilities named therein?"

Section 1 of Article XII provides that "within one year from the date upon which this Charter shall go into effect, and at least every two years thereafter until the object expressed in this provision shall have been fully attained, the Supervisors must procure through the City Engineer plans and estimates of the actual cost of the original construction and completion by the City and County of water works, gas works, electric lines, street railroads and such other public utilities as the Supervisors or the people by petition to the Board may designate."

There is manifestly nothing in this section which would indicate that the Board of Supervisors must wait until all the plans and estimates for all public utilities had been secured before submitting any one proposition to the people. Section 2, however, contains language which might under an extremely strained construction be so interpreted:

"After such plans and estimates shall have been procured and filed, the Supervisors shall, at as early a date as they may deem for the best interests of the City and County, enter into negotiations for the permanent acquisition by the City and County, by original construction, condemnation or purchase of such or any of said public utilities as they may regard most important to the City and County to be first acquired, and to formulate and submit to the electors of the City and County, at a special election, propositions for the permanent acquisition and ownership thereof." (Section 2.)

If "such plans and estimates"—as these words are used in Section 2—means "all of such plans and estimates," then it must follow that until all estimates for all utilities are before the Board the acquisition of no one utility can be voted upon. That is to say, if in providing that after procuring "such plans" the Supervisors may submit a public ownership proposition to the people it was intended to make the question of submission entirely dependent upon the receipt by the Board of all the plans and estimates required under Section 1, then the answer to your question is that the submission of one must wait upon the securing of plans for all.

But I do not believe this to be the meaning of the Charter. Such construction would lead to an absurdity, as the slightest examination of Section 1 will show. Under this section the Supervisors must obtain from the City Engineer plans and estimates for the complete construction of (1) water works, (2) gas works, (3) electric light works, (4) steam, water or electric power works, (5) telephone lines, (6) street railroad lines, (7) such other public utilities as the Supervisors may designate, (8) such other utilities as the people by petition may designate. The Charter makers first provided for every public utility commonly known as such, and then provided for every utility that a Board of Supervisors might think desirable, and then to make sure that none should be omitted they provided for plans and estimates on any utility that should be petitioned for by the people, not designating the number who should be required to sign such petition nor leaving apparently any discretion with the Board as to whether such plans should be required or not.

If Section 2 means that all estimates must be in before any one enterprise can be undertaken, then it must follow that if the people should desire to vote say upon so simple a proposition as a municipal salt water system for fire protection and sewer flushing purposes, it would be necessary to wait until estimates were in for a complete street railway system, a water scheme, an electric power plant and all the other utilities designated, and not only all the public utilities that are designated in the Charter but all that Supervisors or people may designate. There would, in point of fact, never come a time when the acquisition of a public utility could be voted upon if we must wait until all the plans for all possible utilities have been made. Let us assume that the city now had plans and estimates for the first six utilities designated. The Board of Supervisors could then proceed and submit such proposition or propositions as it saw fit to the people, there being no other utilities for which plans and estimates were required either by the Supervisors or by the people by petition. But if the Supervisors desired plans upon some utility not specified in the Charter, then the submission of the other propositions must lie over until such new plans were made. And if by the time these new plans were made the people petitioned for plans and estimates upon some other utility, everything must wait until these could be secured. And so there would never be an end to the securing of plans. And all that one who wished to postpone the submission of any proposition to the people would have to do would be to induce the Board of Supervisors to call for plans upon some new project or present a petition therefor to the Board. The City could thus spend millions in preparation and get no result whatsoever.

I am not willing to so construe the Charter. The preamble of the Article upon Public Utilities declares it to be "the purpose and intention of the people of the City and County that its public utilities shall be gradually acquired and ultimately owned by the City and County." To hold, as your resolution suggests possible, that the consideration by the people of one proposition must depend upon preparation to acquire all utilities, would destroy the meaning of this preamble.

It is my opinion that the Board of Supervisors may, when it has plans and estimates ready upon any one public utility, submit the proposition for the permanent acquisition thereof to the people. But no proposition can be submitted until plans and estimates have been procured. "After such plans" for any one utility have been procured the Board may act thereon. Respectfully,

FRANKLIN K. LANE.

The Board of Supervisors:

AVAILABLE SOURCES OF WATER SUPPLY.

Proceeding on the assumption that the permanent supply of pure and wholesome water was the most necessary public utility to be acquired, more people being affected thereby than by any other utility, the Board, with the purpose in view of obtaining estimates of the original cost of the construction and completion of water works by the City and County as contemplated by Article XII of the Charter, and of following the procedure outlined therein, from time to time adopted the following Resolutions, which appear at length in the City Engineer's Report, hereinafter printed, viz:

March 19, 1900, No. 207—Requesting the Spring Valley Water Works to set a price on its properties.

March 26, 1900, No. 257—Requesting that description of properties be filed by parties desiring to offer water supplies or water rights to the City.

July 9, 1900, No. 647—Directing that analyses of water furnished this City be made by Board of Public Works.

- July 9, 1900, No. 648—Directing that plans and estimates of cost of water works from Lake Tahoe, from American River, from Yuba River and from Feather River be made by the City Engineer.
- July 9, 1900, No. 649—Directing that value of Spring Valley properties, exclusive of lands and water rights, be appraised by Board of Public Works.
- July 9, 1900, No. 651—Referring all proposals on file in the Clerk's office of the Board of Supervisors to furnish San Francisco with a pure and wholesome supply of water to the Board of Public Works.
- October 19, 1900, No. 953—Directing that an examination of Alameda Creek water and of San Andres reservoir be made by the Board of Public Works and that the quantity of water now stored be ascertained.
- November 8, 1900, No. 1014—Directing that area of watershed tributary to North Lake Merced be ascertained, and whether the lake is used for purposes beneficial to the City.
- December 24, 1900, No. 1138—Directing that the value of the lands and water rights of the Spring Valley Water Works be investigated by the Board of Public Works.
- January 7, 1901, No. 1149—Directing that the necessary operating expenses of the Spring Valley Water Works be ascertained by the City Engineer.
- April 1, 1901, No. 1385—Requesting the City Engineer to ascertain amount of water stored in Spring Valley Water Works reservoirs, probable date of expansion of supply under certain conditions and means at disposal of Water Company to increase supply.
- April 1, 1901, No. 1387—Requesting that cost of generating and delivering electrical power for sale be considered by the City Engineer in the planning of water works.
- April 29, 1901, No. 1475—Directing that plans and estimates be made of the cost of water works from the Stanislaus River and from the Tuolumne River.

On October 28, 1901, His Honor Mayor James D. Phelan filed in the office of the Clerk of the Board of Supervisors the "Progress Report of C. E. Grunsky, City Engineer of the Board of Public Works, on the San Francisco Water Supply Investigation for the Year 1900-1901," which Report had been previously transmitted to His Honor by the Board of Public Works.

The following is a copy of said Report, together with the letter of transmittal of City Engineer Grunsky to the Board of Public Works, to wit:

WATER SUPPLY INVESTIGATION.

PROGRESS REPORT OF C. E. GRUNSKY, CITY ENGINEER, TO THE BOARD OF PUBLIC WORKS.

LETTER OF TRANSMITTAL.

The following Progress Report is submitted for information relating to the work done during the fiscal year 1900-1901, in the matter of the Water Supply Investigation. This investigation, including the appraisal of the properties of the Spring Valley Water Works has received the personal attention of the City Engineer. All work was done under the direction of the Board of Public Works.

On the appraisal of the Water Works properties valuable service was rendered by Mr. J. C. H. Stutt, mechanical engineer, who served as expert especially on matters relating to the pumping machinery. Mr. William A. Schadde served as an appraiser of land values in and near San Francisco. Assistant Engineers Lawrence Thompson, Owen Sanford and Hermann Meyer were also engaged on

this branch of the inquiry, notably in examining the properties of the Company, reported to be in use and checking by surveys and measurements the data which had been furnished.

Mr. Luther Wagoner, who had some years ago, explored a portion of the high mountain region of the Sierra Nevada for water storage possibilities and general information for the U. S. Geological Survey, was placed in charge of the field work connected with the examination of the several water supply projects to be examined. Assistant N. B. Livermore was in charge of the surveys from Lake Tahoe. Assistant O. N. Sanford made the examination of the Shore Properties at Lake Tahoe and uses of water from Truckee River. Assistant J. R. Price conducted the work on Yuba River and Assistant C. F. Riordan made surveys of a preliminary character for a pipe line location between Livermore Pass and San Francisco.

The following maps and drawings have been prepared to illustrate this report:
Population Diagram.

Rainfall in central portions of California.

General map of the central portions of California, showing the several water supply projects.

Spring Valley Water Works system.

North Yuba River project. The river and its watershed.

North Yuba River project. From Alabama Bar to Oregon House Reservoir.

North Yuba River project. Oregon House Reservoir site.

North Yuba River project. Profile.

Lake Tahoe project. The lake and Truckee River.

Lake Tahoe project, showing Georgetown divide canal route from Lake Tahoe to New York Ravine Reservoir and the route proposed by the Lake Tahoe and San Francisco Water Works. (Colonel A. W. von Schmidt.)

Lake Tahoe project.

Lake Tahoe project. Greenwood Reservoir site.

Lake Tahoe project. New York Ravine Reservoir site.

Lake Tahoe project. Profile.

Tuolumne River project. Profile.

Very respectfully,

C. E. GRUNSKY,
City Engineer.

August 12, 1901.

To the Honorable the Board of Public Works
Of the City and County of San Francisco—

Gentlemen: The first examination of available sources of water supply for San Francisco, under direction of municipal authorities, was made in 1874 by Mr. T. E. Scowden, C. E.

At that time San Francisco was receiving water from Lobos Creek, and from Pilarcitos and San Andres Reservoirs.

He recommended the purchase by the City of the Calaveras property. Action by the City was, however, anticipated by the Spring Valley Water Works, who stepped in and bought this property, which has ever since been held in reserve.

Several years later the water supply investigation was again taken up and a report on available sources was made in 1877 by your President, Col. G. H. Mendell. This report remains standard to-day.

On the basis of conditions as they then existed, negotiations were entered into for the purchase of the Spring Valley properties, but a price could not be agreed upon and no further steps toward the acquisition of municipal water works were

taken until proceedings were commenced by the present Board of Supervisors, under Charter requirement.

The Charter of the City and County of San Francisco which went into effect on January 8th, 1900, provides: (Sec. 10 Chap. 1, Art. VI.) "All examinations, plans and estimates required by the Supervisors in connection with any public improvements or utilities, shall be made by the Board of Public Works and it shall, when requested to do so, furnish information and data for the use of the Supervisors."

And (Sec. 1, Art. XII.) "within one year from the date upon which this Charter shall go into effect, and at least every two years thereafter until the object expressed in this provision shall have been fully attained, the Supervisors must procure through the City Engineer plans and estimates of the actual cost of the original construction and completion by the City and County, water works, gas works, electric light works, steam, water and electric power works, telephone lines, street railroads and such other public utilities as the Supervisors or the people by petition to the Board may designate.

"In securing estimates of the original cost of the construction and completion of water works by the City and County, the Supervisors must procure and place on file plans and estimates of the cost of obtaining from all of the several available sources a sufficient and permanent supply of good, pure water for the City and County, in order that propositions for the acquisition, construction and completion thereof, and the incurring of municipal indebtedness therefor, may be submitted to the electors of the City and County as hereinafter set forth."

No funds were, nor could be made available for any of the work prescribed by these sections of the organic law during the fiscal year which terminated June 30th, 1900.

The appropriation made of \$30,000 for the fiscal year 1900-1901 was restricted to Water Supply Investigation, it being understood that it should also cover an appraisalment of the properties of the Spring Valley Water Works.

The Board of Supervisors, through its Water Supply Committee, had been advised by the City Engineer that neither the means at command nor the available time would permit a comprehensive investigation of each available source of supply nor the making of complete plans for each project and estimates of cost within one year. Preliminary steps were thereupon taken by the Public Utilities Committee to ascertain which source of supply should be considered available.

A resolution was passed by the Board of Supervisors, asking persons not now engaged in supplying water to this City, as well as persons who are thus engaged and who have any water rights or other properties that might be serviceable to this City in connection with a water supply for its inhabitants, to submit them for examination and to furnish proof of ownership.

This request brought numerous responses, of which the most important are hereinafter noticed.

The preliminary hearings accorded to those who had or thought they had water or water rights or other water properties to sell to the City, led to the adoption of a resolution by the Board of Supervisors instructing the City Engineer to examine and report upon the availability of Lake Tahoe, the Forks of American River, the Forks of Yuba River and Feather River as sources of supply.

The preparation for active field work commenced as soon as funds became available in July, 1900, but no active field work was undertaken until the Supervisors at the suggestion of its Public Utilities Committee had planned and made a trip to the Sierra Nevada Mountains with Lake Tahoe and the North Fork of Yuba River the special features to be inspected. Some discussion resulted among the members of the Board of Supervisors upon the return of those who participated in this trip, as to the advisability of extending the field examinations to Lake Tahoe. It being argued that on account of legal complications alone, the Lake might well be considered not available.

As the Lake lies partly in the neighboring State of Nevada and the natural course of its water is into that State—Truckee River being the Lake outlet—and as the river waters are now utilized for power and for irrigation to no inconsiderable extent, it was argued that the taking of water from the Lake might lead to interstate complications that could greatly delay, if not completely block the project, and for this reason the Lake should not be considered available as a source of supply. This view did not, however, prevail, but the preliminary consideration of this matter caused some delay in commencement of field work.

The Lake, as a source of water supply for a great municipality, is certainly attractive and the water supply investigation by the City would probably never be considered complete and would always and justly be open to criticism if the merits of the Tahoe project were passed by without discussion. The Lake is a beautiful sheet of clear wholesome water, ideal in its freedom, alike from objectionable chemical elements and bacteria life. The vastness of its extent is 191 square miles of surface area, and probably a greatest depth in excess of 1,600 feet, its great altitude 6,225 feet, and the grandeur of its surroundings all combine to impress the casual observer with the desirability of bringing its water to this City. It was, therefore, finally determined that the examination should proceed, that a comparison could be had of projects based upon the Lake as a source of supply with projects based on the taking of water from streams as far north as the Yuba River and with those more nearly opposite this City and the Sierra Nevada Mountains, such as American River, Mokelumne River, Stanislaus River and Tuolumne River.

In the case of the Lake Tahoe project, it was necessary to survey a canal route down Truckee River, with tunnel under the summit of Sierra Mountains to the north fork of American River at Soda Springs; also to survey several alternate tunnel locations for a Georgetown divide route which promised a number of advantages over the original north fork route.

Special surveys were made at Greenwood of a storage reservoir site, which is believed to be necessary in combination with the Lake Tahoe project. The surveys were then extended from Greenwood to the south fork of American River and from a second smaller reservoir site in New York Ravine which would be at the head of the pipe line.

In the case of the Yuba River the project to be examined was more clearly defined than any other of the Sierra Nevada projects designated by the resolution of July 9th, 1900, for examination.

A feasible canal route and a large storage reservoir, a large low water flow in the branch of the river from which water was to be diverted, and easy access at all times, even in midwinter, to the source of supply, which lies below the snow line, gave no inconsiderable merit to this project.

The north fork of the Yuba River is one of the most northerly Sierra Nevada streams from which San Francisco will probably ever be urged to take its water. This fact made it seem particularly important to examine this project with some care. The conclusion reached in reference thereto may, with slight modification, be applied to other streams of its class and location.

The examinations relating to lines of approach to the City were confined principally to surveys at Livermore Pass and from Livermore Pass around the upper end of San Francisco Bay.

The investigation of the past year, has, as stated, been shaped to supply much needed positive information relating to those projects generally recognized as having unquestioned merit, so that a fair comparison of relative advantage and disadvantages can be made and some conclusion may be reached as to the particular project or projects which require further investigation.

Field work was therefore directed primarily to a study of the main obstacles to be overcome on the route to be followed by a water conduit from Lake Tahoe

and from Yuba River and to surveys at Livermore Pass, the summit of the Coast Range and along the route between Livermore Pass and this City.

It could not be hoped under the circumstances, to complete the study of any individual project and present full plans and estimates of cost therefor. In the limited time, no additions of special value could be made to the rainfall data being collected by the U. S. Weather Service nor to the run-off measurements being made by the U. S. Geological Survey. No new or independent hydrometric or meteorological work was therefore undertaken in connection with this season's investigation.

Special arrangements were made, thanks to the kindness of the President of the University of California, to permit the use of space and of chemical apparatus by an employee of the Board of Public Works who was charged with the making of water analyses. Bacteriological examinations were also made. These analyses were made from month to month of water samples taken from the City's present supply. A few analyses of waters from other sources were also made.

A sample from Lake Tahoe stands as a type for the water to be expected from the high Sierra Nevada Mountains and another from Yuba River as the type of water found in streams made more or less turbid by mining operations.

As it will be necessary before the question of acquiring a municipal water supply can be submitted to a vote by the electors, to solicit offers for the sale of the established Spring Valley Water Works System, it is important to be familiar with this system and possibilities of expansion and this subject has received fair attention, though not all that it would have received if opportunities had permitted.

Much of the work done in making the appraisalment of the properties of the Spring Valley Water Works is of value in this connection. Personal examinations were made and property lists and quantities.

It is proposed to present first a few general facts relating to water supply present and prospective of this City, touching upon population, water consumption, the established system, the sources of supply to which the City must look and kindred matters, before describing the selected typical projects.

Time and means have not permitted full investigation of each suggestion and offer that has been made, but enough will be said to show that even had this been the case, there is a natural difference in the relative merits of the regions from which water must be obtained, such that even without a full investigation of all specific projects, it is possible to reach some conclusion as to those which are the most desirable.

The City now obtains water from nearby sources, mostly stored water. There are no rivers close at hand from which a supply can be obtained. Most of the water is obtained from catchment areas within twenty-five miles of the City, some is brought across the Bay, being collected in gravel beds of Sunol Valley into which it sinks from the Coast Range creeks tributary to Alameda Creek.

The limit of resources in the matter of water development, forming natural extensions of the established system on the peninsula as well as east of the Bay is far from being reached, but on these matters more light is needed before a definite limit of possible and practicable water development can be set with any great degree of precision.

The combination of some new project having its source of supply in the Sierra Nevada Mountains with the established system is a possibility which may ultimately come up for consideration, because the most available near-by storage is already utilized.

The Spring Valley Water Works has occupied the most available sites for receiving and service reservoirs, and has an established distributing system and an established business.

There is no reason why these advantages should not be recognized and why the City should not avail itself thereof, if suitable financial arrangements can be made.

For the present, however, as a basis for a cost estimate of water works, it

is necessary to proceed on the assumption that a new and independent system is required, and the various projects are considered primarily from this standpoint. Should a combination with the established system be found advisable, then the main alteration will relate to conduit capacity, as it would, in such event, not be necessary to at once put into service two pipe lines each with a capacity of 30,000,000 gallons per day, a single pipe line would suffice. The pipe line would not terminate in San Francisco, but at Crystal Springs Reservoir.

The dams and tunnels and canals in the high mountain should, however, in any event, be made of the full size and capacity required for an independent project, because comparatively little would be saved by reducing capacity of these works, which will be as lasting as the City itself and are to serve in the indefinite future. The possibilities of power development, too, make large capacity of the upper canals desirable. If built too small at the outset, enlargement is relatively expensive.

The present Board of Supervisors has from time to time passed the following resolutions bearing upon the Water Supply Investigation and the appraisalment of Spring Valley Water Works properties:

Resolution No. 207: "Resolved, That the Spring Valley Water Company, a corporation, is hereby requested to offer for sale to the City and County of San Francisco on or before the first day of June, 1900, at the lowest possible cost, all of its property now used or capable of being used for supplying water to the inhabitants of the City and County of San Francisco."

The Spring Valley Water Company is also requested to make a detailed statement of such property, with a full statement of the use to which the various parts of such properties are put, together with a detailed statement of the cost the withdrawing of San Francisco as a market for the sale of the Company's is also requested to bear in mind that any over-valuation of its water system will compel the people of San Francisco to look elsewhere for their water supply, and the withdrawing of San Francisco as a market for the sale of the Company's water will reduce the value of the Company's lands to what they are worth for agricultural purposes merely.

"Such an offer of sale must contemplate the placing in escrow of a deed to the entire system, dependent for delivery upon the acceptance of the offer by the people of San Francisco, voting at a special election to be held in the year 1901." (Passed March 19th, 1900.)

Resolution No. 257: "Now, therefore, be it Resolved, That all persons and corporations now engaged in supplying the inhabitants of this City and County with fresh water are invited to file with the Clerk of the Board of Supervisors inventories of water rights, riparian rights, land, reservoirs, wells, pumps, pipes, dams, flumes, filters, buildings, aqueducts and all adjuncts necessary for the operation of the system, specifying numbers, dimensions, materials, capacities, localities and all further data or information deemed necessary by the owners to afford a detailed description, being such as to convey an intelligent impression of the parts and such as to permit the inventory to be verified so far as may be practicable; and be further

"Resolved, That every person, company or corporation not now engaged in the supply of water to this City and County, owning water supplies and riparian rights adequate and practicable for this purpose is invited to file with the Clerk of the Board of Supervisors a description and inventory of the property in detail, which he or they may desire to sell to the City, stating so far as known the estimated drainage, area from which the supply flows, the county and locality, the number and description and capacity of reservoirs now in use, and of practicable reservoir sites not now occupied, with such explanation as he or they may deem necessary for a proper presentation of the subject. These inventories are to

be filed on or before June 1st, 1900, accompanied by reference to proof of ownership, which proof shall be furnished when required by the Board of Supervisors."

"Further Resolved, That all other persons, firms and companies desiring to furnish a water supply for this City and County are hereby invited to make propositions, and to file therewith full particulars and give all the information in connection with the proposition submitted."

"Present daily consumption of water within the City limits is estimated to be about twenty-five (25,000,000) million gallons. The future supply contemplated in this advertisement may be taken as two or three times the existing consumption." (Passed March 26, 1900.)

Resolution No. 647: "Resolved, That the Board of Public Works be and is hereby requested to make analyses of the waters of the Spring Valley Water Works from the sources from which San Francisco is supplied at the present time and to make such analyses once a month until the next winter's rains have commenced." (Passed July 9th, 1900.)

Resolution No. 648: "Resolved, That the City Engineer be and he is hereby directed to make plans and to furnish estimates of the actual cost of the original construction and completion by the City and County of San Francisco of water works, having their sources of supply as follows:

1. From Lake Tahoe
2. From the forks of the American River.
3. From the forks of the Yuba River
4. From the Feather River." (Passed July 9, 1900.)

Resolution No. 649: "Resolved, That the City Engineer and the Board of Public Works be and are hereby instructed to begin immediately an investigation of the cost of the works and machinery of the Spring Valley Water Works actually used for supplying San Francisco with water; that is to say, what is the worth of the tangible property of the Spring Valley Water Works independent of the cost of value of its water rights and lands." (Passed July 9, 1900.)

Resolution No. 651: "Resolved, That all proposals on file in the Clerk's Office of the Board of Supervisors to furnish San Francisco with a pure and wholesome supply of water be and the same are hereby referred to the Board of Public Works for investigation and report on such proposals as are deemed worthy of consideration by said Board." (Passed July 9, 1900.)

Resolution No. 953: "Resolved, That the Board of Public Works is directed to make a report at its earliest convenience on or before the first day of January, 1901, to the Board of Supervisors on the question of whether or not fecal matter of men and animals drains into the Alameda Creek above the intake of water therefrom by the Spring Valley Water Company's pipes, and the contamination, if any, which results therefrom to the water flowing into the mains of the Spring Valley Water Company and distributed to the people of the City and County of San Francisco for consumption.

"Also, whether or not any fecal matter of men and animals drains into the flumes of the Spring Valley Water Company and is thence discharged in the San Andres Reservoir, thus contaminating the water of said reservoir.

"Also, to make a report on the quantity of water contained in the San Andres, Crystal Springs and Pilarcitos Reservoirs in the month of October of this year and the influence which the past four comparatively dry years have had on the value of said reservoir systems as a water supply for San Francisco.

"Also, whether or not the Spring Valley Water Company now has a thousand

days supply of water on hand against the future needs of the City and County of San Francisco." (Passed October 19, 1900.)

Resolution No. 1014: "Resolved, That the City Engineer be and is hereby requested to report on before November 16, 1900, as to the amount of the Lake Merced water shed used in supplying the North Lake and used in supplying the South Lake, and also as to whether the North Lake is used at all for any purpose beneficial to the City." (Passed November 8, 1900.)

Resolution No. 1138: "Resolved, That the Board of Public Works be and is hereby instructed to begin immediately an investigation of the value of the lands and water rights of the Spring Valley Water Works actually used for supplying with water, and to report the result of said investigation on or before February 1st, 1901." (Passed December 24, 1900.)

Resolution No. 1149: "Resolved, That the City Engineer is requested to make an examination into the operating expenses of the Spring Valley Water Works and to recommend to this Board of Supervisors the amount of money to be set aside in the Water Rates Ordinance for such operating expenses for the fiscal year beginning July 1st, 1901, said recommendation to be furnished this Board on or before February 1st, 1901." (Passed January 7, 1901.)

Resolution No. 1385: "Resolved, That the City Engineer is requested to furnish the Board of Supervisors with a statement showing the amount of water available for use in the San Mateo system of reservoirs of the Spring Valley Water Company; and also whether said available water will be exhausted in the near future, if the average rainfall for the next five years shall be the same as for the last five years, and if so, when, the Spring Valley sources of supplies remaining the same as at present; also whether the Spring Valley Water Works has a means of increasing its sources of supply, and if so, how much, and how long will the increased supply prevent a water famine if one is threatened under the conditions named." (Passed April 1, 1901.)

Resolution No. 1386: "Resolved, That the City Engineer is requested to include in the plans and estimates for supplying the City and County with water, the cost of an auxiliary salt water system for fire protection and flushing the streets and sewers." Passed April 1, 1901.)

Resolution No. 1387: "Resolved, That in making his plans and estimates of the cost of bringing water from the Sierras for the supply of the City and County of San Francisco, the City Engineer is requested to include the cost of generating and delivering for sale in the City and County the maximum amount of electricity capable of being generated at the source of the water supply." (Passed April 1, 1901.)

Resolution No. 1388: "Whereas, Resolution No. 647 of this Board, adopted July 9th, 1900, requested the Board of Public Works to make analyses of the water of the Spring Valley Water Works from the sources from which San Francisco is supplied at the present time and to make such analyses once a month until the next winter's rains have commenced; and

"Whereas, The said analyses are now being made at an expense of \$125 a month, drawn upon the Public Utilities Appropriation, though the winter's rains have now ceased; therefore be it

"Resolved, That the Board of Public Works be and is hereby directed to discontinue forthwith the making of such analyses." (Passed April 1, 1901.)

POPULATION AND WATER CONSUMPTION OF SAN FRANCISCO.

The increase in population of San Francisco, there having been no absorption of suburbs, is clearly shown in the following table based upon the returns of the U. S. Census:

1860—Population Census.....	56,802
1870—Population Census.....	149,473
1880—Population Census.....	233,959
1890—Population Census.....	298,997
1900—Population Census.....	342,782

To predict the future growth a diagram has been prepared on which are shown also the population of Washington, Baltimore, Cincinnati, Cleveland and St. Louis.

It appears from this diagram that the population of San Francisco will probably be:

In 1910—Between.....	390,000 and 435,000
In 1920—Between.....	445,000 and 535,000
In 1930—Between.....	500,000 and 635,000
In 1940—Between.....	560,000 and 735,000
In 1950—Between.....	625,000 and 845,000
In 1960—Between.....	680,000 and 960,000
In 1970—Between.....	750,000 and 1,080,000

Or 1,000,000 probably in 1980.

According to the records of the Water Company of aggregate amount of water furnished per annum, the following table may indicate per capita consumption:

YEAR.	POPULATION.	DAILY CONSUMPTION.	
		GALLONS.	PER CAPITA GALLONS.
1865.....	103,000	2,370,000	23.0
1870.....	149,473	6,038,000	40.4
1875.....	190,000	11,700,000	61.6
1885.....	266,000	17,000,000	63.9
1890.....	298,997	20,430,000	68.3
1895.....	320,800	19,900,000	62.0
1900.....	342,782	25,466,000	74.2

This exhibit is chiefly important from the fact that it shows a gradual increase of the per capita consumption of water. This is due in the first place to the fact that the use of modern closet fixtures has been extended to almost all parts of the City, and in the second place to the more general use of Spring Valley Water at the present time; also in some measure to increased waste by consumers.

It was estimated twenty-five years ago that only two-thirds of the population

was served with water by this company, while at the present time probably more than 90 per centum of the population use Spring Valley Water.

In many of the Eastern cities where an increase of the per capita consumption is noted, this is largely due to leakage from the mains and service pipes, which in this City is believed to be merely nominal.

The consumption at present fluctuates in this City between 22,000,000 and about 30,000,000 gallons per day. The least consumption occurs on Sundays in the winter months. The greatest on Saturdays or Mondays during the occasional warm periods of spring or autumn.

As the City is one in which buildings, even residences, are generally set close together, there will probably never, as in cities with less restricted building areas, be extensive lawns and flower gardens to be irrigated.

Then, too, the summers are cool and fogs are of frequent occurrence, so that less water is needed for irrigation and street sprinkling than in warmer and dryer regions. The area of streets paved with bituminous (asphaltic) rock is comparatively large (80 out of 300 miles) and water is supplied to so small a portion thereof that its consumption on this large area of street surface for sprinkling is very small.

Finally, the main park area—Golden Gate Park—has an independent water supply.

The aggregate consumption of water for other than domestic uses will here always be comparatively small.

When all these facts are considered, it seems safe to predict that this City need never contemplate a greater water supply than at the rate of 80 gallons per inhabitant. On this basis the City will need 50,000,000 gallons per day at some time between 1930 and 1950. It will need 80,000,000 gallons when its population has increased to 1,000,000, which may be in from 60 to 110 years.

The requirements of this City in the immediate future, expressed in round numbers, may be placed at 30,000,000 gallons per day. No system of works which is not capable of producing this amount of water and which is not readily expanded to twice this capacity with possibilities of further expansion, should be regarded as fully adequate to meet this City's ultimate needs.

The most desirable system, however, will do more than this. It is easily foreseen that other Bay cities, as their population increases, will need more water and water of a better quality than afforded by their immediate surroundings, and that the ideal project will involve a combination of the interests of a number of communities, perhaps not in its inception and original construction but in its ultimate extension and maintenance.

RAINFALL AND RUN-OFF.

The following tables of rainfall will give some idea of the annual precipitation in the several drainage basins that have been under consideration.

These records are compiled in the main from United States Weather Service publications.

Rainfall is noted by months for a number of these stations to indicate the division of the year into a rainy and a dry season. There is practically no rain from the end of April to the beginning of November.

Each rainy season includes a part of two years. For run-off studies, the total fall in calendar years is never used.

RAINFALL AT MOUNT HAMILTON.

(Elevation, 4,205 Feet.)

RAINFALL IN INCHES.

July.....	1880-81.....	1881-82.....	1882-83.....	1883-84.....	1884-85.....	1885-86.....	1886-87.....	1887-88.....	1888-89.....	1889-90.....	1890-91.....
August.....	.....	0	0	0	0	0	0	0.04	0	0	0
September.....	.....	0.10	0	0.65	0.65	0.15	0	0.33	0.02	0	0.80
October.....	.....	0.33	6.16	2.15	3.71	0.05	0.60	0.09	0.49	0	0.02
November.....	.....	0.91	3.45	1.48	0.01	1.92	2.82	0.90	0.03	4.38	0.58
December.....	.....	9.72	1.93	2.05	33.84	9.80	2.34	11.25	3.27	4.46	0.58
January.....	3.51	3.55	3.10	5.60	1.99	4.40	2.83	10.04	4.23	13.19	5.39
February.....	5.99	2.90	3.75	12.76	0.57	1.80	7.80	1.38	1.42	6.60	7.12
March.....	1.13	5.40	8.66	16.35	1.15	5.77	1.39	3.40	6.17	4.39	4.10
April.....	0.98	4.70	2.66	11.96	2.08	6.79	5.75	0.68	1.92	1.79	3.08
May.....	0.09	0.48	7.55	1.24	0.16	0.70	0.25	1.25	3.21	2.42	1.01
June.....	0.33	1.06	0	3.85	0.36	0	0.30	0.67	0.05	0	0.57
Season.....	.....	29.15	37.26	58.09	44.67	31.38	24.08	30.03	21.85	45.16	24.05

WATER RATES.

RAINFALL AT MOUNT HAMILTON—CONTINUED.

July.....	0	0.01	1900-01....	0.01
August.....	0	0.02	1899-1900..	0
September.....	0.28	Trace	1898-99....	0
October.....	0.61	0.07	1897-98....	0
November.....	0.38	0.29	1896-97....	Trace
December.....	9.54	1.33	1895-96....	0.01
January.....	1.97	1.25	1894-95....	0
February.....	2.99	1.51	1893-94....	0.02
March.....	5.98	1.70	1892-93....	Trace
April.....	1.90	2.13	1891-92....	0
May.....	3.52	2.30	Season.....	27.49
June.....	0.32	2.30		37.93
Season.....	27.49	1.70		35.84
		3.37		36.61
		4.06		37.73
		1.35		38.22
		Trace		39.31

WATER RATES.

SNOW FALL AT LA PORTE.

October.....	.....	1894-95....	1895-96....	1896-97....	1897-98....	1898-99....	1899-1900..	1900-91....
.....	.....	.....	0	23.0	19.5	16.4	27.3	6.5
November.....	.....	.....	28.0	12.0	6.0	15.5	22.0	37.1
December.....	.....	.....	43.0	31.0	16.0	13.5	52.9	28.2
January.....	.....	176.0	57.0	45.0	25.5	114.1	18.0	96.5
February.....	.....	17.5	8.0	90.0	61.5	26.9	22.9	69.8
March.....	.....	43.0	73.0	111.0	16.0	117.8	52.9	68.7
April.....	.....	24.0	141.0	18.0	11.5	25.3	28.9	67.4
May.....	.....	19.0	25.5	0	3.5	12.7	1.0	5.9
Season.....	.....	.....	375.5	430.0	159.5	342.2	225.9	358.1

WATER RATES.

PRECIPITATION AT TRUCKEE—CONTINUED.

1889-90....	0	0	0	3.13	3.29	14.40	16.20	8.90	7.29	0.20	1.44	0	54.85
1888-89....	0.72	0	0.25	0	0.10	1.58	0.80	1.40	2.51	1.01	4.51	0	13.08
1887-88....	0.40	Trace	0	0	0.30	4.80	2.35	0	0	Trace	0.70	0.80	9.35
1886-87....	0.89	0	Trace	0.85	1.10	2.20	3.43	12.25	0.36	2.00	2.04	0.37	25.58
1885-86....	0	0.25	0.47	0	6.95	2.22	7.08	0.50	2.90	1.78	0.60	7.56	23.31
1884-85....	0	0.10	0.78	1.50	0	13.14	1.80	0.54	0.56	2.04	0.08	0	20.54
1883-84....	0.53	0	0.12	2.46	2.50	1.62	6.65	11.20	5.38	3.90	0.14	1.02	35.52
1882-83....	0.60	0	0	0.85	1.04	0.80	1.55	3.05	1.65	2.19	1.13	0	12.86
1881-82....	0.18	0	0.25	2.50	2.70	3.80	6.40	4.95	12.05	1.89	0.85	0.98	36.55
1880-81....	0.16	0	0	0	0.45	9.51	5.71	2.13	1.86	0.49	0.40	1.26	21.97
1879-80....	0	0	0.07	1.40	3.78	4.98	2.95	4.65	4.65	12.74	2.50	0	37.73
Season.....													

PRECIPITATION AT TRUCKEE

SNOWFALL AT TRUCKEE—CONTINUED.

1900-01....	0	0	0	4.0	4.0	25.0	27.0	50.0	49.0	25.0	18.0	7.0	0	205.0
1899-1900..	0	0	0	56.0	13.0	18.0	6.0	8.0	42.0	12.0	8.0	0	0	163.0
1898-99....	0	0	4.0	0	20.0	15.0	78.0	27.0	54.0	0	0	0	0	198.0
1897-98....	0	0	0	0	4.0	19.5	10.5	34.0	20.5	2.5	3.0	0	0	94.0
1896-97....	0	0	0	4.0	3.5	18.0	23.5	68.0	95.0	3.0	0	0	0	215.0
1895-96....	0	0	0	0	5.0	23.0	16.5	4.0	39.0	90.0	3.0	3.0	3.0	186.5
1894-95....	0	0	0	0	6.0	139.5	107.0	16.0	15.0	5.0	10.0	3.0	3.0	298.5
1893-94....	0	0	0	0.2	5.0	17.0	77.0	109.5	22.5	20.0	0	Trace..	Trace..	251.2
1892-93....	0	0	0	Trace..	27.0	23.0	23.0	75.0	43.0	33.0	13.5	0	0	237.5
1891-92....	0	0	0	0	0	50.2	26.5	12.0	30.0	19.5	22.0	1.5	0	161.7
1890-91....	0	0	0	0	0	33.0	12.2	67.2	28.0	20.5	4.0	0	0	164.9
1889-90....	0	0	0	0	10.8	132.0	162.0	89.0	38.0	2.5	5.0	0	0	439.3
July.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0
August.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0
September.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0
October.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0
November.....	10.8	0	0	0	0	0	0	0	0	0	0	0	0	0
December.....	132.0	0	0	0	0	0	0	0	0	0	0	0	0	0
January.....	162.0	0	0	0	0	0	0	0	0	0	0	0	0	0
February.....	89.0	0	0	0	0	0	0	0	0	0	0	0	0	0
March.....	38.0	0	0	0	0	0	0	0	0	0	0	0	0	0
April.....	2.5	0	0	0	0	0	0	0	0	0	0	0	0	0
May.....	5.0	0	0	0	0	0	0	0	0	0	0	0	0	0
June.....	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Season.....	439.3	164.9	161.7	237.5	251.2	298.5	186.5	215.0	94.0	198.0	163.0	205.0	0	0

PRECIPITATION AT SEQUOIA (CROCKERS).

RAIN AND SNOW.

Elevation, 4,452 Feet. H. N. Crocker, Voluntary Observer, U. S. W. B.

	1896-97.....	1897-98.....	1898-99.....	1899-1900..	1900-01.....
July.....	0	0	0	0	0
August.....	3.10	0	0	0	0
September.....	0.14	0.45	1.58	0	0.62
October.....	2.30	6.09	1.87	1.50	9.71
November.....	9.18	2.70	1.85	7.45	17.43
December.....	5.41	3.80	2.12	12.18	1.39
January.....	6.56	2.60	11.72	5.98	
February.....	15.97	7.15	1.80	1.18	
March.....	21.80	3.74	18.09	4.28	
April.....	1.33	1.10	1.60	3.56	
May.....	0	3.74	0.15	1.80	
June.....	0.75	0	1.65	0.47	
Season.....	65.79	31.37	42.43	48.40	

ANNUAL PRECIPITATION (RAIN AND SNOW.)

For Season Beginning July 1st and Ending June 30th.

YEAR.	Quincy. W. J. Edwards. Elevation, 3,350 feet	Nevada City. S. W. Marsh. Elevation, 2,500 feet.	Summit. Southern Pacific Co. Elevation, 7,017 feet.	Carson, Nevada U. S. Weather Bureau. Elevation, 4,670 feet.	Reno, Nevada. Elevation, 4,497 feet.	Second Gavotte. J. P. Chamberlain. Elevation, 2,800 feet.	Summertale. J. H. Lowery. Elevation, 5,270 feet.
1863-64.....							
1864-65.....		54.46					
1865-66.....		59.26					
1866-67.....		81.56					
1867-68.....		115.26					
1868-69.....		56.69					
1869-70.....		48.61					
1870-71.....		45.38					
1871-72.....		78.22	74.13		4.38		
1872-73.....		38.70	38.62		3.92		
1873-74.....		62.91	23.34		5.97		
1874-75.....		45.95	40.66		4.41		
1875-76.....		66.67	60.72		4.15		
1876-77.....		32.31	36.20		5.82		
1877-78.....		57.15	43.2		5.86		
1878-79.....		58.88	56.64		4.07		
1879-80.....		62.97	87.99	\$11.40	6.91		
1880-81.....		57.87	23.46	10.28	5.89		
1881-82.....		43.51	49.57	12.44	3.24		
1882-83.....		48.70	43.90	9.09	3.28		
1883-84.....		61.34	57.62	13.36	7.58	52.61	
1884-85.....		44.88	22.39	10.37		29.50	

ANNUAL PRECIPITATION (Rain and Snow)—Continued.

YEAR.	Quincy, W. J. Edwards, Elevation, 3,330 feet.	Nevada City, S. W. Marsh, Elevation, 2,800 feet.	Summit, Southern Pacific Co., Elevation, 7,017 feet.	Carson, Nevada, U. S. Weather Bureau, Elevation, 4,670 feet.	Reno, Nevada, Elevation, 4,497 feet.	Second Gavotte, J. P. Chamberlain, Elevation, 2,800 feet.	Summitdale, J. H. Lowery, Elevation, 5,270 feet.
1885-86.....			47.10	14.77		46.50	
1886-87.....			47.25	9.00		27.00	
1887-88.....			38.87	6.09		25.00	
1888-89.....			31.42	7.76		27.25	
1889-90.....			78.60	17.48		67.00	
1890-91.....			21.08	14.42		36.02	
1891-92.....			38.25	12.46		32.25	
1892-93.....			61.30	16.77		47.25	
1893-94.....		49.35	50.75	11.67		37.25	
1894-95.....		68.79	68.50	12.10		52.00	
1895-96.....	58.85	58.31	54.40	12.69		32.05	
1896-97.....	42.56	53.18	56.28	13.64		37.79	55.26
1897-98.....	32.95	29.70	54.13	8.20		20.25	29.51
1898-99.....	28.33	38.62	50.20	8.72		29.29	39.75
1899-00.....	50.84	56.09	61.52	10.03		35.22	49.58
1900-01.....	48.90	53.16	51.60	12.07			.37

§ Not including July and August, 1879.

There is appended to this report a general rainfall map for central portions of the State. The map is based upon records which have all been corrected for a seventeen year period; that is to say, for the period from 1869 to 1886. When a record did not cover the full period it was compared with records at neighboring stations for the same fractional period and the mean for the whole period was determined by proportion. The map was prepared by the State Engineer, and although the period of time covered by the rainfall records, on which it is based, is somewhat remote, it illustrates fairly well the general distribution of rain. Attention must, however, be called to the rainfall maximum indicated by the curves for the locality to the westward of San Mateo. There seems to be no doubt about the correctness of the general form of the curves in that locality, but the great excess of the rainfall there over that of adjacent regions is based entirely upon the records kept by the Spring Valley Water works, concerning which doubt is to be expressed as to whether they should always be accepted as representing the average rainfall conditions over the watershed areas tributary to the reservoirs.

No opinion can be expressed concerning the accuracy of these records, a matter which has not been investigated, but attention is again to be called to the highly improbable rainfall of 32 inches in one week ending December 24, 1871, at Pilarcitos and 40 inches at San Andres, with maximum of 10.79 and 13.63 for single days of this week at these points respectively. This extraordinary rainfall is referred to by Colonel Mendell in his report of 1877, in which he also notes that only ten inches drained into the San Andres Reservoir in the same time, which he says "is the more surprising because none of the drainage basin is more than three miles distant from the reservoir and in addition the fall of the ground toward the reservoir is rapid."

Had the amount noted at the rain gauges actually represented average depth over the watersheds of the reservoirs, there would have been a much greater inflow into the San Andres Reservoir. It ought to have received the ten inches of runoff in the one day on which over thirteen inches fell, and it should have received nearly twice as much more water within the same week.

On this subject Colonel Mendell says: "The inequalities of the product are very marked. The proportion of rainfall collected is as low as 23 per cent. in 1870-71, which was a year below the average, and runs up to 43 per cent. in 1875-76, when the fall was large. For three years following 1871 the proportion is quite uniform, being 37 per cent. in the first year and 35 in each of the others."

In the year 1876-77 the rainfall was about 20 inches and the product did not exceed 300 million gallons. An apparent anomaly is observable when 39 inches give a product of 2,938 million gallons, while 44 inches give only 2,619 millions. The rainfall of 1871-72 of 80 inches gives proportionately less than the year 1875-76 with a fall of 69 inches, which was not to be expected."

"These results go to indicate that no water product can be expected until a certain quantity of rain has fallen. This quantity is probably variable, and depends upon the dryness of the ground, its soil, slopes and vegetation, as well as upon the rate at which the rain falls."

"While these results do not altogether harmonize with each other, and do not justify a statement of exact law of production, they afford valuable information. We learn that the percentage of production is for this particular drainage very much less than is usually assumed and subject to great variations."

Notwithstanding the variations in results herein noted, it is desirable to interpret the records with a view to establishing a basis for estimating from the probable rainfall what the probable run-off from a drainage basin will be.

An attempt to reach a conclusion for such drainage grounds of small area, soil covered, in part overgrown with trees and shrubs, has led to the following:

For a seasonal rainfall of 10 to 15 inches there may be no run-off. It may, however, depending upon the intensity of the rainfall during the several storms

of the season, reach 20 or more per cent. The probable run-off will be about 5 per cent.

For a rainfall of 20 inches the probable run-off will be 2 inches, or 10 per cent.

For a rainfall of 30 inches the probable run-off will be 5.4 inches, or 19 per cent.

For a rainfall of 40 inches the probable run-off will be 10 inches, or 25 per cent.

For a rainfall of 50 inches the probable run-off will be 16 inches, or 32 per cent.

For a rainfall of 60 inches the probable run-off will be 22.2 inches, or 37 per cent.

For a rainfall of 70 inches the probable run-off will be 29.4 inches, or 42 per cent.

For a rainfall of 80 inches the probable run-off will be 37.6 inches, or 47 per cent.

These percentages are based on such figures from the Water Company's records as have been at command, and are intended for special application to the rainfall records at the San Mateo County reservoirs.

They are believed to be somewhat low, even for other similarly located drainage basins.

For the high portions of the Sierra Nevada Mountains, in large part bear granite and volcanic rock, the following run-off quantities are to be expected from large areas:

With 20 inches of rain about 6 inches, or 30 per cent.

With 30 inches of rain about 10 inches, or 33 per cent.

With 40 inches of rain about 17 inches, or 42 per cent.

With 50 inches of rain about 26 inches, or 52 per cent.

With 60 inches of rain about 36 inches, or 60 per cent.

With 70 inches of rain about 45 inches, or 64 per cent.

With 80 inches of rain about 54 inches, or 68 per cent.

From small areas there is often a much greater run-off.

EVAPORATION.

Some note is to be taken of evaporation whenever the question of maintaining a water supply by storage is under consideration. There is a constant loss from the exposed water surface, and this loss in some localities where the air is dry and warm and there is much wind is considerable, amounting sometimes to four feet or more in depth in a year.

There are, fortunately, some fairly reliable observations available, which will permit conclusions to be reached relating to evaporation from open bodies of water in central portions of the State, and which will fix a maximum for localities near the coast, where the air is generally more humid.

If there were at each proposed storage site a meteorological record available giving full data relating to temperature of air, of water, of wind movement, of moisture in the air and barometric pressure, it might be worth while to attempt to apply the conclusions reached elsewhere, which appear to demonstrate a mathematical relation between the daily thickness of the water layer evaporated and some of these meteorological conditions. But these local records do not exist at the proposed reservoir sites, and it becomes necessary to deal only with those conditions of the atmosphere which are of greatest effect.

It would be desirable to ascertain some definite relation between aggregate wind movement and evaporation, but as all points under consideration are located in central portions of the State where no great error will be introduced in assuming uniformity of wind movement, this has not been attempted.

The atmosphere throughout the State, except near the coast line, is admittedly

dry. No records are available to determine how much or how little the humidity at any part under consideration will vary from that at points where evaporation tests have been made.

The variations due to temperature when Sierra Nevada sites are under consideration may, with perhaps equal propriety, be ascribed to altitude, because the mean temperature decreases with altitude.

The following records are available:

At Kingsburg in the San Joaquin Valley, evaporation from a deep pan three feet square floating on the water surface of Kings River was measured throughout a period of four years. This record was kept under direction of State Engineer William H. Hall, and the results were published in "Physical Data and Statistics of California" (p. 378).

The total evaporation in each month during these four years—November 1st, 1881, to October 31, 1885—was recorded as follows:

EVAPORATION AT KINGSBURG BRIDGE, KINGS RIVER, FRESNO COUNTY,

(from State Engineer Department Records.)

EVAPORATION (depth in feet.)

	1881-82.....	1882-83.....	1883-84.....	1884-85.....	Mean.....
November.....	0.220	0.115	0.170	0.200	0.176
December.....	0.050	0.085	0.080	0.180	0.099
January.....	0.090	0.060	0.105	0.010	0.066
February.....	0.115	0.100	0.050	0.140	0.101
March.....	0.180	0.305	0.090	0.240	0.204
April.....	0.260	0.270	0.160	0.160	0.213
May.....	0.305	0.160	0.320	0.340	0.281
June.....	0.475	0.500	0.295	0.660	0.483
July.....	0.660	0.760	0.380	0.710	0.628
August.....	0.665	0.920	0.370	0.930	0.721
September.....	0.475	0.730	0.320	0.640	0.541
October.....	0.135	0.400	0.350	0.470	0.339
Total.....	3.630	4.405	2.690	4.680	3.851

At Lake Tahoe the United States Geological Survey has kept a record of evaporation from May to November, 1900, with the following result:

May 17 to 31.....	1.83 inches
June	3.80 inches
July	4.00 inches
August	5.15 inches
September	3.10 inches
October	2.15 inches
November	1.88 inches
Total	21.41 inches

The mean temperature recorded at Truckee for the period during which the record at Lake Tahoe was kept was 50.9 degrees Fahrenheit.

The normal temperature for the same period, based upon observations covering a series of thirty years, is 53.2 degrees.

Making an approximate allowance for this deficiency in heat, it may be assumed that the normal evaporation for this period would exceed that observed in 1900 by 10 per cent., or would amount to 23.55 inches.

The normal annual evaporation can be approximated from this record by making use of the deductions made by Mr. Glassford from experimental observations conducted in this State and in Nevada, as published in the United States Signal Officer's report for 1890-91.

He finds that the evaporation, expressed in percentage of the aggregate annual, for each month of the year is as shown in the following table, to which an additional column of means has been added, which may be assumed to represent fairly well what occurs at Lake Tahoe, which lies on the border line between the two States.

	Interior of California	Interior of Nevada	Mean
January.....	3.0	2.0	2.5
February.....	5.0	4.0	4.5
March.....	6.1	5.0	5.5
April.....	8.1	10.0	9.0
May.....	9.0	10.0	9.5
June.....	9.2	12.0	10.6
July.....	13.1	13.0	13.0
August.....	14.0	15.0	14.5
September.....	11.2	12.0	11.6
October.....	11.0	9.0	10.0
November.....	6.2	5.0	5.6
December.....	4.1	3.0	3.5

Accepting the percentage noted in the column of means as being applicable to Lake Tahoe, it will be seen that the normal evaporation for the six and one-half months from May to November may be assumed to be 70 per cent. of the total for the year. The probable normal annual evaporation from the lake surface may, therefore, be noted at about 32 inches. This amount, representing the depth of water lost into the air, is therefore accepted as the probable evaporation in seasons of normal temperature and may, in the absence of additional data, be accepted as the probable annual evaporation at other Sierra Nevada points at altitudes of 6,000 to 7,000 feet.

In round numbers, four feet are indicated by the Kingsburg records as the annual evaporation in the lower warmer locality. By approximate interpolation with an endeavor to indicate a probable maximum, it will not be unreasonable to assume three and one-half feet as the evaporation to be expected at altitudes of 2,000 to 4,000 feet and three feet at altitudes of 4,000 to 6,000 feet.

FILTRATION.

In reference to filtration, it is to be said that the conditions under which water can be freed of turbidity and of bacterial life are now fairly well known.

Polluted waters can be made wholesome. Purification takes place while the water passes through the sand of the filter beds. The filtration may either be hastened as in the American or mechanical rapid filters, by the use of small quantities of alum or other chemicals, or it progresses at a less rapid rate by natural slow percolation through large open or covered beds of sand.

The merits of both systems have been duly established. Local conditions must determine which is to be used in any special case. Among the cities now preparing to filter their waters are Pittsburg, Philadelphia and Cincinnati. At Albany a large filter plant is in successful operation.

TOPOGRAPHY AND CLIMATE AT AND NEAR SAN FRANCISCO.

Topographic surroundings of San Francisco and climatic conditions of this portion of the Pacific Coast introduce some unique features into the City's water supply problems.

San Francisco is located on the northern extremity of a peninsula, which extends for about forty miles from south to north between the ocean on the west and the south arm of San Francisco Bay on the east. The greatest width of this peninsula is about twenty miles at its base. There is a gradual diminution in width from there to six miles at San Francisco.

The main mountain ridge, extending from south to north, which forms the backbone of this peninsula, is quite broken. Numerous spurs extend from the main summit westerly towards the ocean. Between these lie numerous ocean-slope creeks, of which Tonitas, San Gregorio and Pescadero Creeks are frequently named as possible feeders for the Crystal Springs Reservoir. Pilarcitos Creek also has a natural course toward the ocean. The upper waters of this last-named creek, as well as water from Locks Creek and Aponolio Creek, are taken through the ridge and tunnels to the bay slope of the mountains as part of the Spring Valley Water Works system.

Shorter ridges extend toward the east and in some cases are turned into a position practically parallel with the main ridge, forming such valleys as that of San Mateo Creek and Canada Raymundo, which are now utilized as storage reservoirs.

The Montara Mountains are a parallel ridge of this character, connected by the Whitney Ridge with the peninsula's backbone, and having much higher summit elevations than the main ridge. Some of its peaks approach 2,000 feet in altitude.

The highest points on the main ridge within thirty miles southward from San Francisco are for the most part at elevations less than 1,200 feet. The highest points on the peninsula are near its base. Mount Black and Mount Bielawski, 2,800 feet and 3,260 feet respectively, are notable summit points a few miles further south than the base of the peninsula.

The descent of the ridge summit toward San Francisco is gradual to a lowest point, near Colma, with an elevation of about 200 feet. The San Bruno Ridge, whose highest point is at an altitude of 1,315 feet, lies to the northward of this saddle and extends from the bay line in the northerly portion of San Mateo County in a northwesterly direction, two-thirds of the distance across the peninsula, reaching into this City with its lower northerly slopes and low spurs.

The peninsula ridge within the City has lost its sharp definition of direction and its pronounced type of summit between ocean and bay; but, although not so clearly marked, it can still be traced to Twin Peaks (elevation 926 feet), Presidio Heights (360 feet), Lafayette Park Hill (360 feet), Russian Hill (300 feet), and finally Telegraph Hill (287 feet).

A spur of the ridge extends from Presidio Heights across the Presidio in a northwesterly direction to Fort Point at the Golden Gate; another from a point a little further south to Point Lobos. Between these two spurs is Lobos Creek. Toward the east, within the City, the Potrero Hills and the Hunter's Point Ridge divide the bay slope into three main sections, mostly low, flat areas, but again subdivided, but other lesser spurs from the main ridge, one of which, between Yerba Buena District and the Mission, culminates in Rincon Hill (elevation 100 feet).

In the depression which extends northwesterly from the low, flat summit at Colma into the southwestern portion of San Francisco and to a connection with the ocean, lies Laguna de la Merced, a body of fresh water which receives the surface run-off from several thousand acres of land in this City and to the south thereof, and which in addition thereto has a sub-surface inflow.

The natural water surface of the lake is only a few feet above ocean level.

The business portion of the City lies for the most part on ground which is at an elevation of less than fifty feet. The residence district covers numerous heights and hilltops, whose altitude reaches several hundred feet and in some instances exceeds three hundred feet.

These are quite widely scattered. In some localities the inhabited districts attain an altitude which approaches 600 feet. These facts are to be taken into consideration in planning a distributing system, it being necessary to subdivide the service into zones in which variations of elevation are only moderate, adhering substantially to the methods adopted by the Spring Valley Water Works in serving the various sections of the City.

The peculiar location of San Francisco makes it difficult to approach the City with a pipe line from any other direction than the south. North and east of the City is the bay, not an insurmountable obstacle for a water conduit, but one involving the construction of works out of the ordinary line of engineering practice and whose execution should be decided upon only after mature consideration.

From the south the routes are clearly defined. Water can be brought in along the bay shore route, entering the City from the southeast, or over the low summit at Colma, from the southwest. The latter will be desirable for at least some of the water. As the elevation at Colma is in the neighborhood of 200 feet, all projects are planned to effect delivery at San Francisco at that elevation.

THE COAST RANGE AS A SOURCE OF WATER SUPPLY.

The Coast Range areas on the peninsula as well as the Coast Range regions east of the Bay of San Francisco whose run-off waters can be made available by storage works being soil covered are, to a considerable extent, in actual use as

stock ranges, and, to a limited extent, for general farming purposes. There is no snowfall to speak of. Practically all precipitation is in the form of rain.

The rainfall, moreover, is ordinarily not heavy. Rain falls during storms which may last but for a day, but frequently continue for three days and even a week or longer, and occur at intervals from two to four weeks.

Rainstorms are expected only from November to the end of April. They rarely occur after May 1st or before the beginning of November.

The mean annual rainfall of the Coast Range within forty miles southerly and southeasterly of San Francisco may be noted at about thirty inches. The maximum average annual rainfall over the entire area of the peninsula may be taken at about twice this amount, or sixty inches, and the minimum to be expected at about fifteen inches. Centrally located small areas on the peninsula undoubtedly have a larger rainfall, estimated for the watersheds of the Spring Valley Water Works reservoirs, for instance, at about forty inches as the normal.

For Coast Range areas east of San Francisco Bay southward from Alameda Creek, the rainfall observations at Mount Hamilton may serve as a general guide. These indicate a mean annual rainfall (including one month, December, 1884, with the phenomenal and probably local or more likely erroneous amount of 33.84 inches) of 32 inches. It is not probable that the average fall over large areas easterly and northeasterly from this mountain will equal the rainfall on the mountain summit, particularly when the rapid decrease to about 10 inches on the west side of San Joaquin Valley is taken into consideration. The only records available, however, at several stations in the Ysabel Valley and on Ysabel Creek, as reported by Mr. Scowden for 1874 and 1875, indicate an increase toward the north and east. As these throw light upon the conditions of but a single season, but little weight should be given to them.

It seems probable that the average fall over the entire mountain areas easterly and northeasterly from Mount Hamilton to the main summit of the Coast Range is about 30 inches under normal conditions.

As there is no summer rainfall in Coast Range regions near San Francisco Bay to keep up the water supply to the creeks, and no winter snow to equalize the flow of the streams which drain these near-by Coast Range regions, and because these regions are broken up into many drainage basins of small extent, there are no streams near by of large perennial flow.

This is particularly true of the peninsula creeks. They are all torrential in character. To make them or the creeks east of the bay available as sources of supply for a large city, it becomes necessary to store their waters in order to equalize their yield.

When they are to be used for such purpose, it is also necessary to prevent or at least minimize danger of water pollution, because the tributary areas are of a character more or less suitable for human habitation and agricultural and industrial pursuits.

In the established works, this has been done in part by acquiring watershed areas and controlling the uses to which they are put, in part also by taking advantage of gravel beds to secure a natural filtration of the water.

SIERRA NEVADA MOUNTAINS AS A SOURCE OF SUPPLY.

In speaking of available sources of water supply in 1877, Colonel Mendell said: "Our peculiar climate, the number of projects, the long routes proposed by many of these schemes, the variety and strongly marked features of the topography of the country and some of the special difficulties of routes combine to make the problem * * * one of unusual magnitude and complexity." This is entirely true at the present time, with this qualification, that the needs of the City are now greater than they were twenty-four years ago, and that, both from the engineering and financial standpoint, better means are available for overcoming

difficulties of bringing in water over the long routes. The sources of supply in the Sierra Nevada do not appear as remote as they did some years ago.

Quoting from Colonel Mendell's report: "It would be difficult to imagine a drainage ground for City water supply which would strike the eye in a more favorable way than do the western flanks of the Sierra Nevada from a lower limit in altitude of 3,000 or 4,000 feet to the summit ridge, which lies at a height varying from 7,000 to 9,000 feet, overtopped at intervals by snowy peaks, which rise to 2,000 or 3,000 feet above the general level of the dividing ridge. Between these limits of height are the areas of maximum rainfall, which is deposited on the higher levels as snow, attaining at times great depth. These high mountain ranges are the condensers which extract from the southerly winds the load of moisture which they bring from the regions of maximum evaporation in the Pacific Ocean. This burden of moisture is almost entirely unloaded in these regions and over the land lying to the seaward, comparatively little being left for deposit on the plains to the east. The precipitation on the eastern slopes may be likened to the overflow or spilling of the clouds, often considerable immediately on the Eastern face, but rapidly diminishing to an insignificant quantity in the distance of a few miles. On the western slope we find a precipitation which increases with the altitude and attains a maximum of about 5,000 feet elevation, preserving this maximum to as high a point as systematic observation has been carried, which is the summit of the Central Pacific Railroad at an altitude of 7,000 feet."

Further observations have confirmed this view, and from personal examinations of the drainage basins of the rivers descending these western slopes, from the Yuba southward, to the Merced, it is to be added that in other respects some of these drainage basins are ideal drainage grounds for a city water supply. The snow which accumulates during the winter and is not all melted until midsummer performs the same function as storage reservoirs, equalizing the flow of the rivers. The severity of the climate and the ruggedness of the regions of high altitude in the Sierra Nevada render them uninhabitable, and, it might almost be said, inaccessible for the greater portion of the year. Great areas, particularly southward from the drainage basin of the Stanislaus River, have in the past been accessible for pasturage only to a very limited extent, and they are now still further protected against occupancy by man by being made national parks and forest reserves. The high Sierra is a region of granites, slates and lava, much of it bare, not yet covered by soil. Over vast areas the recent action of glaciers is traceable.

The polished, striated surfaces of the granite still glisten in the sunshine. Hundreds of small lakes have been carved out of the original surface of the country by this glacial action, notably in the region, which includes the headwaters of the Stanislaus, Tuolumne and Merced rivers and the other streams of the Sierra Nevada further to the south. Other lakes are formed in part at least by the terminal moraines of glaciers, which have been left as barriers across the original outlets of valleys.

Where an occasional patch of soil is found in these highest mountain regions, it is covered by forest growth, varying according to exposure and altitude. Coniferous trees predominate in the main forest region from altitudes of 2,000 to 5,000 feet, to the almost complete exclusion of deciduous trees. There is, however, an occasional oak to be noted and quaking asps on the small flats at high altitudes, making desperate struggles for existence against the annually recurring drifts of snow; a few alders and kindred trees along stream margins.

These regions, which are of special interest at this time in the matter of water supply, are for the most part located above the main forest region. They do, however, extend well down over such areas as would be tributary to the North Fork of Yuba River above the point at which water would be diverted from this river.

Where, as is generally the case in the higher portions of the Sierra Nevada, no data are obtainable from records of the fall of rain and snow, this forest growth

is a good index of climatic condition, and whether the same be cause or effect of copious precipitation it is in either event to be accepted as proof of abundant rainfall, and a conclusion as to average and minimum precipitation can still be reached for those regions which will be brought under discussion and for which there are no rainfall records.

The rivers which descend from these mountains have cut deep gorges into the softer outlying rocks. Their drop is generally precipitous from elevations of about 3,000 feet to and often below 1,000 feet. This at once suggests utilization of power represented by at least a part of this fall, which can be converted into electricity and transmitted to distant points. The utilization of the regulated flow of a stream for power makes it necessary to effect diversion from the natural channel at high altitudes. This diversion at high altitudes is an advantage for water to be used for domestic supply, because the danger of pollution is practically eliminated when only the high mountain regions are made tributary to the supply.

The diversion should not, however, be made at too great an altitude on account of climatic conditions. At points of 5,000 and more feet in elevation it will be doubtful whether open canals can be kept free of ice and snow, and at still higher altitudes canals and other structures would be entirely inaccessible for a good portion of each year.

Throughout the high mountain region, and particularly in those portions thereof which show marked glacial action, the lakes, as already stated, are numerous. Some of these are of considerable size, among the best known being Blue Lakes, Lake Eleanor and Lake Tenaya. The water of these lakes is almost without exception of remarkable purity. A large number have been personally visited, and no reason seems apparent why the water of those of the glaciated, uninhabited high mountain regions southward from Lake Tahoe should not be considered equal in quality, or even preferable to the water of Lake Tahoe, around which there will always be more or less marginal land available for human occupancy and desirable as a summer resort.

Referring to the subject of high mountain lakes, Colonel Mendell has said: "These lakes lie nestled in greater or less profusion all along the range, . . . with areas of a few acres to some hundreds, in amphitheatres surrounded by peaks and ridges a thousand or more feet above them, and generally with narrow outlets, which permit them to be dammed by inexpensive constructions.

This last named fact, and the further circumstance that their surface are level and often pieced out by meadows, scarce above their own level (which gives them great capacity per foot in height of dam), makes them extremely valuable as storage reservoirs.

SIERRA NEVADA RIVERS.

The Sierra Nevada mountain rivers are usually at a low stage in the months of August to November, inclusive, the minimum flow occurring as a rule late in September. This low water flow is not definitely determinable from the extent of the drainage areas, but as an approximation may be noted at .02 to .05 second feet per square mile of drainage basin for rivers of the class and in the geographical position of the Merced, Tuolumne, Stanislaus and Mokelumne Rivers at .05 to .10 second feet per square mile of drainage basin for the rivers of the western Sierra Nevada slope further to the north. These mean rates of low water flow should not, however, be applied to fractional parts of the drainage basins of any of the rivers. The flow from these basins may be greater in one part and smaller in another. It will generally be larger from the forest covered high mountain areas than from the low foothill regions. It probably never falls below .05 second feet per square mile from fairly large high mountain portions of any of these watersheds.

The streams show a slight increase inflow, as a rule, during October, when the weather begins to become cooler and evaporation decreases somewhat. They re-

spond readily to the first rains of autumn, generally in October or early in November, and in their lower sections are turbid during freshets. Their turbidity is much less marked at such times in the high mountain regions. The streams remain fairly high from this time on throughout winter and spring, being kept supplied with water by the snow which is constantly melting at its lower edges and being occasionally swelled to mountain torrents by the heavy rain storms of winter. These storms, however, usually affect only the lower portions of the streams, as the rain rarely extends into the high mountains. Moisture there falls as snow. In the spring and the early months of summer the melting snow keeps up the supply, and the living streams are usually free from the turbidity which is characteristic of the lower section swelled by rain.

Generally, at some time in June or early in July, varying according to spring temperatures, as well as to quantity of snow which had fallen in the preceding winter, the main bodies of snow have disappeared and but few patches remain in sheltered places. Even these rarely hold out till the first snow of the next season falls. As these mountain snows decrease in extent and volume, the flow of the streams gradually drops to the low water stage, as already described.

These conditions of flow, coupled with the possibility of storage to tide over the periods of insufficient summer flow, make the Sierra Nevada streams exceptionally favorable as sources of water supply where purity, freedom from danger of pollution and constancy of supply are factors of the highest importance.

To illustrate the yielding capacity of specific Sierra Nevada Mountain areas, the following figures from State Engineer Department records and from the records of the U. S. Geological Survey, may be quoted, and will prove instructive:

WATER RATES.

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(From State Engineer Department Records.)

MOKELUMNE RIVER AT BASE OF FOOTHILLS.

Drainage area—657 square miles.

PERIOD.	Mean Flow. Second-Feet.	Total Amount in Million Gallons.	Total Depth of Water Drained off. Inches.
1878-79.			
November-January.....	132	7,800	0.61
February-April.....	1,886	108,600	9.79
May-July.....	2,469	146,500	13.20
August-October.....	70	4,200	0.37
Season.....	1,131	267,100	23.97
1879-80.			
November-January.....	270	16,000	1.45
February-April.....	1,868	108,900	9.82
May-July.....	4,597	274,000	24.68
August-October.....	184	11,000	1.00
Season.....	1,728	409,900	36.98
1880-81.			
November-January.....	480	28,600	2.58
February-April.....	2,427	140,000	12.61
May-July.....	1,618	96,400	8.69
August-October.....	87	5,100	.47
Season.....	1,143	270,100	24.35

MOKEĻUMNE RIVER, AT BASE OF FOOTHILLS.—Continued.

PERIOD.	Mean Flow. Second-Feet.	Total Amount in Million Gallons.	Total Depth of Water Drained off. Inches.
1881-82.			
November-January.....	477	28,400	2.56
February-April.....	1,768	102,000	9.19
May-July.....	2,997	178,600	16.09
August-October.....	119	7,100	.64
Season.....	1,305	316,100	28.48
1882-83.			
November-January.....	277	16,400	1.49
February-April.....	973	56,100	5.05
May-July.....	2,406	143,400	12.92
August-October.....	153	9,100	.82
Season.....	952	225,000	20.23
1883-84.			
November-January.....	143	8,500	.77
February-April.....	3,307	192,800	17.38
May-July.....	2,956	176,200	15.88
August-October.....	237	17,700	1.60
Season.....	1,667	305,200	35.63

WATER RATES.

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STANISLAUS RIVER, AT OAKDALE.

Drainage area—1,051 square miles.

PERIOD.	Mean Flow, Second-Feet.	Total Amount in Million Gallons.	Total Depth of Water Drained off, Inches.
1878-79.			
November-January.....	205	12,200	0.66
February-April.....	3,653	210,800	11.52
May-July.....	3,323	198,000	10.81
August-October.....	56	3,300	0.18
Season.....	1,794	424,300	23.17
1879-80.			
November-January.....	343	20,400	1.12
February-April.....	515	134,900	7.37
May-July.....	6,064	361,500	19.74
August-October.....	383	16,800	.92
Season.....	2,250	531,600	27.15
1880-81.			
November-January.....	927	55,200	3.01
February-April.....	3,978	229,400	12.53
May-July.....	2,965	177,900	9.71
August-October.....	207	12,300	.67
Season.....	2,008	474,800	25.92
1881-82.			
November-January.....	684	40,800	2.23
February-April.....	3,221	185,800	10.15
May-July.....	4,088	243,600	13.31
August-October.....	229	13,600	.74
Season.....	2,046	483,800	26.43

WATER RATES.

STANISLAUS RIVER, AT OAKDALE—Continued.

PERIOD.	Mean Flow. Second Feet.	Total Amount in Million Gallons.	Total Depth of Water Drained off. Inches.
1882-83.			
November-January.....	368	21,900	1.19
February-April.....	1,058	61,000	3.34
May-July.....	3,495	208,300	11.39
August-October.....	231	13,800	.76
Season.....	1,290	305,000	16.68
1883-84.			
November-January.....	228	13,500	.76
February-April.....	4,040	235,600	12.86
May-July.....	4,723	281,500	15.37
August-October.....	477	28,300	1.50
Season.....	2,358	558,900	30.49

TUOLUMNE RIVER, AT MODESTO.

Drainage area—1,635 square miles.

PERIOD:	Mean Flow, Second-feet.	Total Amount in Million Gallons.	Depth of Water Drained off, Inches.
1878-79.			
November-January.....	205	12,100	0.42
February-April.....	3,120	180,000	6.31
May-July.....	4,658	277,600	9.74
August-October.....	85	5,000	0.18
Season.....	2,008	474,700	16.65
1879-80.			
November-January.....	476	28,300	1.00
February-April.....	2,947	171,800	6.02
May-July.....	10,650	635,000	22.28
August-October.....	479	28,500	1.00
Season.....	3,642	863,600	30.30
1880-81.			
November-January.....	1,352	80,500	2.82
February-April.....	5,244	302,500	10.61
May-July.....	4,827	237,700	10.09
August-October.....	215	12,100	.42
Season.....	2,888	682,800	23.94

WATER RATES.

TUOLUMNE RIVER, AT MODESTO—Continued.

PERIOD.	Mean Flow. Second-Feet.	Total Amount in Million Gallons.	Depth of Water Drained off. Inches.
1881-82.			
November-January.....	482	28,700	1.01
February-April.....	2,166	124,900	4.38
May-July.....	6,062	361,300	12.68
August-October.....	561	33,400	1.18
Season.....	2,319	548,300	19.25
1882-83.			
November-January.....	517	30,700	1.08
February-April.....	1,845	106,400	3.73
May-July.....	5,565	331,700	11.64
August-October.....	361	21,400	.76
Season.....	2,074	490,300	17.21
1883-84.			
November-January.....	356	21,100	.74
February-April.....	4,866	283,700	9.95
May-July.....	7,351	438,200	15.37
August-October.....	740	44,100	1.55
Season.....	3,178	787,100	27.61

These estimates of flow are only approximations, but will nevertheless serve to give a fair idea of the annual yield of the Sierra Nevada water sheds. In explaining the records upon which the foregoing figures are based, the State Engineer says:

"Its (Mokelumne River) channel has been repeatedly examined, and its flow measured at a station near the Lone Star Mill, north of Clements. Gauge rod observations have been made at this station and at Westmoreland Bridge, twelve miles above, quite fully for a large part of our period, and occasionally for the remaining time. These data form the basis of what is believed to be a good practical estimate of water quantities."

Less careful and systematic observations were made on Stanislaus River, for which missing data were supplied by comparison with adjacent streams.

"The gaugings (on Tuolumne River) were made at a station near the Railroad Bridge River south of Modesto. . . . A rod record was kept from 1879 to 1882, inclusive, and occasional observations made since the last date. . . . The results in the table are presented as sufficiently exact for all purposes of a general water supply discussion. The output includes Dry Creek, a tributary entering the river just above the point of observation. The drainage area covers only the mountain drainage basins of the river and creek, there being no appreciable contribution to their flows through the valley portion of their courses. The flow of several mining ditches taken from the Tuolumne River, in the mountains above, has not been taken into consideration. For very low water periods this would materially affect the results."—Physical Data and Statistics, 1886, Wm. Ham. Hall, State Engineer, p. 407 et seq.

(From U. S. Geological Survey Records.)

DISCHARGE MEASUREMENTS.

Stanislaus River, at Oakdale—

1897—Feb. 16—Discharge.....	1.346	second feet
May 30—Discharge.....	6.754	second feet
July 14—Discharge.....	1.015	second feet
Sept. 5—Discharge.....	.144	second feet
Oct. 29—Discharge.....	.223	second feet
Dec. 19—Discharge.....	.429	second feet
1898—April 17—Discharge.....	2.203	second feet
June 2—Discharge.....	.912	second feet
July 29—Discharge.....	.73	second feet
Oct. 6—Discharge.....	.50	second feet
Dec. 22—Discharge.....	.362	second feet
1899—Sept. 9—Discharge.....	.88	second feet
1900—Aug. 11—Discharge.....	.66	second feet
1900—Sept. 6—Discharge.....	.35	second feet

Stanislaus River, above Head of Stanislaus, and San Joaquin Company's Canal—

1900—Sept. 7—Discharge.....	.113	second feet
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Tuolumne River, at La Grange—

1897—Feb. 15—Discharge.....	1.864	second feet
May 29—Discharge.....	11.594	second feet
July 12—Discharge.....	1.839	second feet
Sept. 7—Discharge.....	.95	second feet
Oct. 30—Discharge.....	.534	second feet
Dec. 20—Discharge.....	.614	second feet
1898—April 18—Discharge.....	5.762	second feet
May 31—Discharge.....	1.887	second feet
Sept. 9—Discharge.....	*	

*All of the water not taken out by the La Grange Mining Company and by the Turlock Canal is lost in the gravel bed. (C. E. G.)

WATER RATES.

Oct. 7—Discharge.....	.83	second feet
In Turlock Canal.....	.30	second feet
In Mining Ditch.....	.24	second feet
Total	<u>.137</u>	second feet
1899—Sept. 11—Discharge.....	.12	second feet
In Turlock Canal.....	.29	second feet
In Mining Ditch.....	.24	second feet
Total	<u>.65</u>	second feet
Turlock Canal is lost in the gravel bed. (C. E. G.)		
1900—Aug. 11—Discharge.....	.17	second feet
In Turlock Canal.....	.117	second feet
In Mining Ditch.....	.12	second feet
Total	<u>.146</u>	second feet
1900—Sept. 8—Discharge.....	.11	second feet
In Turlock Canal.....	.35	second feet
In Mining Ditch.....	.9	second feet
Total	<u>.55</u>	second feet

The following estimates of flow are published by the U. S. Geological Survey. They are based on continuous rod records, showing elevation of water surface from day to day, and on rating tables based on actual gaugings.

STANISLAUS RIVER, AT OAKDALE.

Drainage area—1,051 square miles.

SECOND FEET.

	1896.....	1897.....	1898.....	1899.....	1900.....	Average...
January.....	1 806	609	207	457	1,944	1,004
February.....	782	3,252	389	355	700	1,096
March.....	2,464	1,915	572	2,445	1,829	1,845
April.....	3,274	5,064	1,813	3,525	1,761	3,087
May.....	4,717	7,324	1,378	2,559	3,343	3,864
June.....	6,541	2,077	647	2,663	1,863	2,758
July.....	1,293	582	167	502	349	578
August.....	385	198	66	150	64	173
September.....	332	152	61	85	46	135
October.....	239	176	77	309	448	250
November.....	705	255	71	1,092	1,220	668
December.....	681	411	139	1,461	871	712
Means.....	1,935	1,835	466	1,294	1,203	1,348

TUOLUMNE RIVER, AT LA GRANGE.

Drainage area—1,501 square miles.

	1896.....	1897.....	1898.....	1899.....	1900.....	Average...
January.....	2,312	1,231	454	487	2,384	1,374
February.....	1,164	5,172	900	740	967	1,789
March.....	2,725	4,032	1,224	3,616	2,343	2,788
April.....	3,522	7,735	4,014	5,193	2,389	4,571
May.....	4,429	11,923	4,630	4,513	6,796	6,456
June.....	7,692	5,673	2,247	6,060	5,291	5,303
July.....	3,003	2,181	277	1,010	694	1,433
August.....	485	237	85	145	43	199
September.....	432	86	20	33	11	116
October.....	120	222	52	505	1,228	425
November.....	1,135	768	39	2,428	2,536	1,381
December.....	1,083	1,104	256	3,047	1,332	1,362
Means.....	2,342	3,364	1,182	2,315	2,167	2,274

The amount of water diverted from each of these rivers into canals—the Stanislaus and San Joaquin Water Company's canal in the one case, and the La Grange Mining Ditch and Turlock canal in the other—as indicated by the actual discharge measurements above noted. These amounts are not included in the above tables of discharge.

Expressed in million gallons, these estimates indicate annual discharges as follows:

	1896.....	1897.....	1898.....	1899.....	1900.....	Average...
Stanislaus river	455,000	432,000	109,000	305,000	284,000	318,000
Tuolumne river.....	553,000	789,000	278,000	367,000	511,000	500,000

Concerning the low water of 1898, Mr. J. B. Lippincott, in charge of the hydrographic work for the U. S. Geological Survey in this State, says (p. 524 of Report of Progress of Stream Measurements, G. F. H. Newell, for 1898):

"During the year 1898 the available water supply diminished to a degree wholly unprecedented in the history of the State. . . . On examining the tables of precipitation prepared by seasons, it will be noted that, as above stated, there has been an unusual period of drought during the past nine years, this condition being accentuated in the southern end of the State since 1890-91. In Sacramento there have been during this period three seasons when the rainfall exceeded the mean, and six when it fell below the mean. At Fresno there have been two seasons of excessive rainfall, two of deficient and one of mean. . . . It will be seen from this that the State of California has been passing through a cycle of the driest years ever reported by rainfall observers in this State, possible exceptions being between 1854-1855 also 1858-1859, reported for Sacramento alone."

The estimates of the flow of Stanislaus and Tuolumne rivers are, therefore, of particular interest for the year 1898, as they indicate the minimum run-off to be expected from the watersheds of these rivers.

The discharge of these rivers, as estimated by the U. S. Geological Survey, for 1898, and expressed in million gallons, and depth of water drained from tributary areas, was as follows:

STANISLAUS RIVER, AT OAKDALE (U. S. G. S.)

MONTH.	Amount in Million Gallons.	Depth of Water Drained off. in Inches.
January.....	4,146	0.23
February.....	7,037	0.39
March.....	11,457	0.62
April.....	35,136	1.93
May.....	27,601	1.51
June.....	12,538	0.69
July.....	3,345	0.18
August.....	1,322	0.07
September.....	1,182	0.07
October.....	1,542	0.08
November.....	1,376	0.08
December.....	2,784	0.15
The Year.....	109,466	6.00

To these amounts should be added the flow of the Stanislaus and San Joaquin Canal, which on June 2d had a flow of 72 second feet; on July 29th, 42 second feet, and on October 5th, 33 second feet. Its average flow for the season probably amounted to over 40 second feet.

Disregarding all minor diversions, the mean flow of the river may, therefore, be noted at 506 second feet, the total discharge for the year at 119,674 million gallons, and the depth of water drained off at 6.52 inches.

Owing to greater proportion of the bare rocky areas in the high mountain portion of the watershed than in the lower soil covered and partly cultivated foothill regions, it may safely be assumed that the percentage of the rainfall running to the stream in these higher regions exceeds by 50 per cent. that from the lower portion of the watershed area. An approximate classification would put about two-fifths of the drainage basin of the Sierra Nevada rivers into the low mountain and foothill region, and the remaining three-fifths into the high mountain region. On this assumption for Stanislaus River, and the further assumption, which is probably not far in error, that the fall of snow and rain in the higher regions is about 50 per cent greater than that in the lower portions of the watershed, it is readily demonstrated that the depth of runoff from the higher portions of the mountains drained by Stanislaus River in 1898 was about 8.3 inches.

TUOLUMNE RIVER, AT LA GRANGE (U. S. G. S.)

Drainage area, 1,501 square miles—1898.

MONTH.	Second-Feet.	Amount in Million Gallons.	Depth of Water Drained off, in Inches.
January.....	454	9,089	0.35
February.....	900	16,281	0.63
March.....	1,224	24,504	0.94
April.....	4,014	77,791	2.78
May.....	4,620	92,492	3.55
June.....	2,247	43,547	1.73
July.....	277	5,545	0.21
August.....	85	1,702	0.07
September.....	20	387	0.01
October.....	52	1,041	0.04
November.....	39	745	0.03
December.....	256	5,125	0.20
The Year.....	1,182	278,249	10.54

To these amounts should be added the flow of the La Grange Mining Company's ditch, which averaged probably 24 second feet, and the flow of the Turlock Canal, concerning which no definite information is at hand, but which was about 30 second feet in October and may have averaged 20 second feet for the year. (The canal was not yet in regular service.)

These amounts added bring the annual mean flow for 1898 to 1,226 second feet, and make the total discharge of the river for the year about 280,000 million gallons, and the average depth of water drained off about 10.93 inches.

Based on the same reasoning and similar assumptions as above noted for Stanislaus River, the actual runoff from the high mountain portion of the drainage basin of the Tuolumne River can be shown to have been about 14.0 inches in 1898.

The 8.3 inches above noted as the average depth of runoff in 1898 from the high mountain areas of the Stanislaus River watershed, 14.0 from the highest portions of that of Tuolumne River are, however, intended to represent only average values. Where areas of 600 to 1,000 square miles are under consideration, some portions solid covered and overgrown with forests and other portions bare, impervious granite rock, it goes without saying that a considerable variation in depth of water drained off must have occurred and that the average amount should be used only as a general guide. It will generally be true that the bare almost impervious granite areas have yielded more than this average amount of water, that the forest-covered regions were more efficient in absorbing and storing up the winter rain and melting snow, and that these areas, therefore, though yielding less in the aggregate, contributed more to the summer and autumnal flow of the streams.

The portions of the drainage basins, in short, which include large areas of the bare, bald mountain peaks, glaciated regions of exposed granite where soiled covered areas are but small and lightly timbered, are those which are more desirable as watersheds from which to collect water for storage.

The heavily timbered somewhat lower belt of the Sierra Nevada is that which yields most water in the summer, less in the winter and from which a larger proportion of runoff goes to make the summer discharge of the rivers.

Where there are established water rights on a stream, this is a matter of no small importance. There is usually a great surplusage of flow in the Sierra Nevada rivers in winter and spring, and there is sure to be a scarcity in summer and autumn, after suitable irrigation works shall have been established. It is, therefore, much more desirable, in view of the possible future needs of the valley lands, to effect the storage of the flood waters increment which comes from the bare, rocky summit regions of the mountains than it would be to attempt storage of water draining from the well timbered lands at lesser altitude.

In the one case, nearly all the water runs off in the few months, February to June, when snows are melting, in the other it runs off throughout the year with a maximum productiveness during the rainstorms of winter.

No objection can be successfully urged against any project depending for its water supply upon the storage of flood waters, and in no wise interfering with the ordinary summer, autumn and early winter flow of the river in whose watershed storage works are located. These considerations and the fact that in view of the large quantities of water to be conveyed to this City, distance becomes of less importance than if smaller quantities were required, has given to the Sierra Nevada projects a particular importance and puts them in the front rank of those to be considered in planning a new system or an extension of the works.

It has not been possible to make a thorough study of established water appropriations from each stream or lake that has been under consideration. In view of the uncertainty of the interpretation of the laws under which rights of water may be acquired, this would have been an almost useless task and under the circumstances not justified, at least not at this preliminary stage of the inquiry

and not until some definite water supply project has been selected as the one to be recommended.

The assumption may be made at the outset for all the Sierra Nevada streams under consideration that it will not be safe to count upon a diversion of their entire ordinary low water flow. This assumption is, however, not strictly correct for every stream, because the water which is now vested in private ownership if required for public use is, after all, subject to condemnation, and it may well be argued that such adverse use is not therefore an insurmountable obstacle, but only an additional one, which adds to the cost of ultimate utilization by the City.

Where there is, however, such an excess of water over the amounts now being utilized as at high water stages in the case of the principal rivers in that portion of the Sierra Nevada Mountains that must come under consideration in connection with a water supply for this City, it is not difficult to demonstrate abundance of supply that can be made available with no, or only moderate, interference with vested rights. Those sources, however, deserve first consideration which involve least conflict with well established older rights to water. Many projects are reasonably free from such complications, particularly when means can be found, as already suggested, of utilizing only those waters in excess of ordinary flow to which prior rights have not been established.

In planning this utilization of a Sierra Nevada stream, the project should involve storage works for enough water to supplement the supply that can be taken direct from the living stream. This storage requirement will ordinarily be equivalent to the consumption in this City during six to nine months. It will not mean storage to tide over two dry seasons, as in the case of a Coast Range supply, because only such reservoir locations are supposed to be under consideration in the Sierra Nevadas as will, beyond question, receive enough water to fill them each winter, even in winters of scant rainfall.

Reservoirs of capacity in excess of that thought to be essential will nevertheless be desirable, particularly because the greater the amount of flood water stored, the less probability will there be of attempts at interference by those claiming prior rights to water. The electrical installation for generation of power, too, will be more readily capable of expansion, if storage is ample, and finally the whole system can then be conveniently kept at the capacities demanded by a growing community, and by possible future demands upon the system by other cities within easy reach from this City's mains.

It was at once recognized that the water of any Sierra Nevada source of supply in dropping from the high altitude at which it was desirable to divert it from natural channels, could be made to generate power which would be available by electric transmission wherever required, that, therefore, the water descending the western slope of the Sierra Nevada could be made to lift water to a lesser height over the summit of the Coast Range. Planned on these lines some of the objectionable features of the long pipe lines across San Joaquin Valley are eliminated for many of the earlier Sierra Nevada projects which involved the crossing of Livermore Pass at an altitude of 740 feet by gravity flow.

The pipe lines are shortened; the intake of the pipe may be at a lower altitude; the average pressure of the pipes is reduced to about one-third and the maximum pressure to one-half. The weight of iron required becomes but little more than one-third of what would have been required under earlier projects.

In considering any Sierra Nevada source of supply it must, as already stated, be borne in mind that the waters that are without question available without condemnation from such streams are the flowing waters in excess of vested rights; also the surplus flood waters that may be stored for use at times when the living stream does not afford the desired volume.

There is, it is believed, no stream from the north fork of the Yuba River southward to the Merced River on which a diversion from a perennial stream of the amount of water required by San Francisco, if not supplemented by storage,

would not be contested by those who have established, or claim to have, established, rights to the flow at the ordinary low water stage.

The low water stage (not always extreme low water which only occurs after winters of very light rainfall and snowfall or after early warm spring weather) generally begins in the main rivers of the Sierra Nevada some time in July and continues until December. There is, in November, occasionally earlier, a rise in the streams due to October and November rains. The volume of discharge—but naturally with considerable departure from the normal in each individual year—then increases from month to month until the maximum flow is reached in May or June, from which, with a disappearance of the snow on the summit of the mountains, the fall to the low water stage is rapid.

Long continued observation through many seasons is necessary to afford definite information on the subject of flow of rivers. Such information is not readily obtainable. Data collected by the State (Physical Data and Statistics, 1886, W. H. Hall, State Engineer), and by the Federal Departments have already been referred to.

Fragmentary and incomplete as this information is, it is far better than data relating to water appropriation and established rights to use water. There are no satisfactory records to which to appeal for reliable information on this subject and special examinations will have to be made when such data are required.

The work of stream gauging, which is of extreme importance in this State, and particularly so in the case of the waters of the Sierra Nevada, is entirely neglected by the State. There is no Department charged with the duty of preserving records of stream and canal discharges. As funds permit, the U. S. Geological Survey continues making stream measurements. Much was done in the last few years and much more was in prospect, but extension of the work will, unfortunately, to a great extent, be again deferred by reason of a failure of this State to render financial assistance. The necessary gauging stations are, for the most part, yet to be established, and but few records even of the stage of water in the streams are to be found.

So far as available, however, the data collected by the State Engineer 15 to 20 years ago, and since that time by the U. S. Geological Survey, have been made use of in reaching conclusions as to the availability of the mountain streams.

AUXILIARY NEAR-BY STORAGE.

It is considered that City water works whose source of supply is in the Sierra Nevada Mountains, should have connected therewith supplemental storage works comparatively near the City, with as direct and simple conduits to this City as circumstances will permit. Temporary interruption of service from any cause is to be guarded against. Even with the utmost expenditure of human skill and care, no works are to be expected so perfect in design and execution that accidents, which may temporarily throw them out of service, may not happen.

Under ordinary circumstances that system of supply will be most reliable which has the least and simplest structural devices intervening between the source of supply and the point of use, and in which any possible interruption of service is foreseen and provided against.

Ordinary precautions being taken, there is very small probability of derangement in a pipe line, and when it occurs, repairs can generally be speedily made. The liability to derangement may be regarded as proportional to the length of the line and to the pressure under which it is operated. The Spring Valley Water Works, with a few days' water supply within the limits of the City in its receiving and service reservoirs and with a reserve supply available by pumping at Lake Merced and with three independent pipe lines from as many storage reservoirs 12 to 16 miles from the City, is exceptionally well fortified against interruption of service.

Any other system of supply should have some stored water within reach, even though possibly not as near the City as the peninsula supplies now in use; but so located that it may supplement an interrupted mountain supply should the emergency ever arise.

For a route into San Francisco from the mountains by way of Carquinez Straits and under the Bay of San Francisco, the utilization of the Pinole Reservoir site is contemplated. This would afford storage for about 6,000 million gallons of water, ample to meet any contingency that can be foreseen as likely to arise. But this location has the disadvantage of being across the bay and should be still further supplemented by additional storage on the peninsula. There is difficulty in suggesting where this is to be found if the territory now occupied by the Spring Valley Water Works is not to be invaded. Possibly sufficient storage could ultimately be secured by combining many small, not naturally favorably sites, but this method would be alike undesirable and expensive. It would, however, seem better to contemplate an ultimate establishment of emergency works at Lake Merced, which in case of successful introduction of Sierra Nevada water would certainly go out of service as a source of supply and could be put to no better use than here suggested. The probable future addition of Lake Merced to any Sierra Nevada system would go far toward assuring the reliability of service.

When the pipe line route, however, is by way of Livermore Pass, particularly under the proposed system of electrical transmission of power to the pumping station for elevating the water over the summit of the Coast Range, it is desirable to have a stored supply at some point to the westward of Livermore Pass.

It is not necessary that the selected reservoir for this purpose be located on the pipe line and be filled with the mountain water. It may be an independent source, but must be so located that its water can either be delivered to San Francisco by an independent pipe or can be turned into the main pipes leading to San Francisco.

As these pipes are to be carried around the upper end of the Bay and will be accessible at all points, there being at least two for any project contemplating the entire replacement of the present water works, a main storage on the eastern side of Santa Clara Valley would fulfill the requirement.

Without wishing to be committed to any definite plan for securing such an emergency storage as here shown to be desirable, it may be suggested that Ysabel Valley is one of the reservoir sites available for this purpose. Its storage capacity is large, probably approaching 9,000,000,000 gallons as noted in Mr. Scowden's report of 1875. Its drainage basin is relatively small, about 14 square miles, and the mean annual rainfall about 30 inches. The reservoir, if emptied, could probably not be refilled in a single season by ordinary rainfall. This would not, however, interfere materially in its serviceability, as ample time could be allowed for filling it and once filled the stored water would not be drawn upon except for use in case of emergency. It is highly improbable that any repair work would ever require the closing down of the main system more than thirty days, in which event, at 30,000,000 gallons per day, the reservoir contents would be ten times the required amount in that time, and when consumption shall have increased to 60,000,000 about five times the required amount.

The water from Ysabel Reservoir, if so utilized, would be allowed to flow in natural channels to near the Calaveras reservoir site, thence by pipe to the main conduits from Livermore Pass.

ARTESIAN WATERS.

In seeking for the most available source of water, investigations are not necessarily restricted to lakes and streams or to the surface runoff from suitable catchment areas.

Much of the water which falls as rain penetrates into the earth and following pervious geological formations, usually strata of sand or gravel, can often be reached and made available by sinking wells.

When water thus encountered rises above the natural surface of the ground it is called artesian. Such natural flow from a well indicates that the source of the supply lies higher than the point where the well has been sunk and indicates that a portion of the pervious stratum is saturated with water above the horizontal plane passing through the well location. The extent of this high portion of the pervious stratum and the ease with which rainwater or the flow of streams flows into its upper edges and with which this water flows through the pervious material toward the well, determines the permanency of the yield of the well and the rate of flow from it.

Should a well or group of wells be so favorably located that their combined output is greater than the inflow into the stratum, then that portion of the stratum above the altitude of the well will be drained of its water. This process of drainage will be as certain throughout a mass of material whose extent is not always easily approximated as in the case of an open reservoir where, however, there is no such uncertainty about the extent of flooded area and volume of water stored.

Sub-surface storage may be replenished if there be periodical inflow filling the voids in the sands or gravels in the same way as surface storage is replenished by the visible flow of streams. The portion of the pervious layer above the altitude of the well may therefore pass through all the phases of a full, partially filled and empty reservoir.

A continuous draft upon any well in excess of the average rate of inflow into the pervious stratum cannot be maintained indefinitely. The time will come when the storage above the well altitude is exhausted, and then the output must be reduced to an amount per year not exceeding the inflow into the pervious stratum.

These conditions cannot be altered by pumping. Pumping merely has the effect of reducing the altitude of the plane above which the pervious material is tributary to a well or group of wells, and it increases the extent thereof. It therefore increases reservoir capacity drawn upon by the well and may, according to extent of this increase and in proportion to annual inflow, add materially to the serviceability of the same as a source of supply.

Lowering of the water plane or water pressure in a pervious layer may, in some cases, also make it more receptive for the waters from above, and may, therefore, increase in a measure the inflow of water, thereby increasing the output of the well. It is also possible that a lowering of pressure as by pumping may materially affect the conditions of the flow in a sub-surface layer, as would be the case if pressure were so reduced at any point as to fall below that represented by a natural point of discharge.

But the main principle remains the same, the water to be expected from a pervious layer will not exceed that which enters it, and no inexhaustible supply from such a source is to be hoped for.

It is a well-known fact that for some years past the Oakland Water Company has pumped from wells at Alvarado about 5,000,000 gallons of water per day. At Alviso and as far south as San Jose in the Santa Clara Valley artesian wells are numerous. Is there a limit to possible development from these artesian sources, or may not this City look to them in preference to Coast Range and Sierra Nevada supplies?

The fact that there is an inter-dependence of wells, recognized by local authority in Santa Clara County, which directs that artesian wells be capped and their water be not wasted when they are not in use and that an effect of wet and dry seasons upon these wells is claimed to have been recognized, they stand as an indication that the supply of artesian water is limited and that a large continuous draft upon this supply might prove possible for a few years only.

The source of this water is to be sought, without question, in the streams which enter, and whose flow sinks, in part, near the margin of Santa Clara Valley, notably—Alameda, Aquaque, Coyote, Los Gatos, Calabazas and Stevens Creeks and smaller streams.

During freshet flows of these streams a large portion of their water sinks in their gravelly beds and finds its way into the upper edges of pervious strata which dip under the valley, often lying at considerable depth—300 to 1,000 feet and more in the vicinity of Alviso. They alternate with and may be said to be capped by more or less impervious layers. When these are bored through the water rises and if the site of the well be not at too great an altitude, water will flow from it.

A comprehensive study of this source of supply, which would be very expensive because it could not be made without actual pumping tests from a number of experimental wells (which tests should be continuous for a year, and preferably longer), does not seem advisable so long as an ample supply of water at reasonable cost from a Sierra Nevada source seems obtainable, for the following reasons among others:

The source of this water is purely local, there can be no yield from such wells in excess of the quantity which sinks near the marginal lines of Santa Clara Valley and there is therefore no hope to be held out that an inexhaustible supply may thus be found. The limitations of this source would only be demonstrated under actual utilization.

There is no certainty that the best location for such water development can be determined by any reasonable amount of experimental boring and testing.

No test, however protracted, will establish beyond doubt the permanency of the supply, because in nearly every case new conditions of sub-surface flow are established when new vents are opened, and it may be months, and even years, before the sub-surface storage capacity of gravel is sufficiently advanced to bring the output down to the ultimate yield.

The taking of the water as continuously and in such quantities as would be of material service to this City must be expected to have more or less effect upon the yield of water by established wells, and it cannot be foreseen in what legal complications such taking would involve the City.

Should it ever become necessary for this City to abandon all reliance upon the water works now in service, then some investigation in this direction may be justified and artesian waters may prove valuable to safeguard a supply from some more distant locality. The taking of this water would not then be continuous but for short periods of time only, and the efficiency of any set of wells to meet such requirement would be quite satisfactorily determinable by test.

SPRING VALLEY WATER WORKS.

This City is at present supplied with water by the Spring Valley Water Works which have grown with the City.

It is not necessary at this time to review the history of this Water Company nor to enter upon a full account of the general extension of its system.

Colonel Mendell in 1877 said: "The Spring Valley Water Company now derive all their supply from three sources, or if we speak in less detail we may regard the sources as two instead of three.

"The nearest source is Lobos Creek, which drains a part of the area of the City and County of San Francisco. This source supplies about two million gallons daily, drained from about 2½ square miles of land. * * * * The supply from Lobos Creek is comparatively reliable. It results from the slow percolation of water through the sand and is similar to that afforded by Laguna Merced. While it cannot be independent of the amount of rainfall, the circumstances under which it is afforded, protected in some degree from evaporation and hold it back, deliver-

ing it at a nearly uniform rate. The sand hills may be considered in the light of a reservoir."

"The remaining source of supply," said Colonel Mendell, "lies in San Mateo County, partly within twelve miles of the City and some of it so much as twenty miles distant. It consists of a drainage ground of 12½ square miles. * * * The product of this drainage is stored in two reservoirs which are known as the Pilarcitos and San Andres."

At the time the above was written there was a long slide flume in service at Pilarcitos Reservoir 42x16 inches about 2 miles long, which brought into the reservoir the water from several small tributaries of Pilarcitos Creek which joined the main Creek below the reservoir. This flume added about a square mile to the drainage area directly tributary to the reservoir.

Provision had also been made to carry the waste water from Pilarcitos Reservoir by flume into San Andres Reservoir.

The natural drainage basin of San Andres Reservoir had been further augmented by auxiliary conduits, "which pick up and discharge into the reservoirs such portions of Lock's, Aponolio and San Mateo Creeks as they can carry."

The areas tapped by these conduits and which contribute a part of their drainage water to San Andres, comprise 5 or 6 square miles.

Since the time of Colonel Mendell's investigation, the upper Crystal Springs dam was constructed, adding 12 square miles to the catchment areas tributary to the reservoirs and over 3,000,000,000 gallons to the reservoir capacities.

The water from this was pumped into a flume leading to the San Andres Reservoir. Still later—1887 to 1892—the large concrete dam for the lower Crystal Springs Reservoir was constructed, and an additional 8½ square miles of drainage area was added to the watersheds from which the City's supply is collected.

There had, meanwhile, a pumping plant been erected at Lake Merced which was claimed to be able to supply about 5,000,000 gallons of water per day. This was in 1877 and 1878.

Ten years later, when an exhaustion of the stored supply seemed imminent, a pipe was laid across the marsh and the Bay to bring Alameda Creek water into the system, and this with the necessary pumping works to force its water into the main from Crystal Springs has since been in continual service.

During the last year an extension of the Alameda Creek system to the gravel beds in Sunol Valley has been perfected and the capacity of the feeder from this source has been thereby materially increased.

PILARCITOS RESERVOIR AND PIPE LINE.—Pilarcitos Reservoir is located on a creek of the same name in San Mateo County, about midway between the Bay and Ocean and about twelve (12) miles south of the southern boundary of San Francisco.

The reservoir is formed by an earth dam about 90 feet high and 730 feet long on the crest, which is located just below the junction of two long, narrow valleys.

The water surface of the reservoir, when full, is at elevation 682 feet above City base. The outlet pipe is at elevation 640 feet. The water surface of the reservoir, when the same is full, has an area of about 105 acres.

The quantity of water in the reservoir at stages from the height of the out-flow pipe, noted at 5-foot intervals up to a full reservoir, is as follows:

GAUGE, FEET.	ELEVATION,	CONTENTS,
	FEET.	GALLONS.
0.....	640	.....
7.....	647	92,417,000
12.....	652	170,525,000
17.....	657	264,029,000
22.....	662	369,841,000
27.....	667	489,674,000
32.....	672	625,066,000
37.....	677	775,510,000
42.....	682	940,248,000
48.....	688	Top of dam

(Elevations are referred to City base.)

There are about 4 square miles of watershed above Pilarcitos dam directly tributary to the reservoir. By an intercepting flume and small feeders 1.4 square miles more of hillside area are made partially tributary to this reservoir.

Storm waters in excess of the reservoir capacity flow past the dam through three large iron gates into a brick tunnel over a waste weir down a chute of brick and timber into a creek below the dam.

The water from the conduit leading to the City flows through a brick lined tunnel 1,550 feet long into the San Mateo Valley; thence across the same in a flume combined with a measuring tank and a waste gate into another tunnel 3,420 feet long also brick lined, which terminates in the San Andres Valley about a mile below the San Andres dam.

The Pilarcitos water then flows through 750 feet of 44-inch pipe, through 2,147 feet of old wooden flume to a regulating tank from which the main pipe line to the City takes its water.

This pipe is cast iron, 24 inches in diameter for 776 feet; thence 22-inch wrought-iron 2,394 feet; thence wrought-iron pipe 30 inches in diameter 64,000 feet to the western slope of San Miguel Mountain in San Francisco, near Ingle-side, where this pipe discharges into a flume. This flume has a length of 5,236 feet, terminating at Corbett Road. The water flows in a 30-inch wrought-iron pipe 939 feet from the end of this flume to a tunnel 2,820 feet long, which terminates at the Screen House near Lake Honda, at an elevation of 395 feet. At the Screen House the water is passed through cloth screens before entering the City pipes at Lake Honda.

The original or upper dam at Pilarcitos Reservoir was completed in 1865. It was submerged when the main lower dam was built in 1868 and 1869 and is therefore to be considered as having gone out of service.

This upper dam formed the original Pilarcitos Reservoir from which water was brought mainly by flume to the City.

SAN ANDRES RESERVOIR AND PIPE LINE.—San Andres Reservoir is located on a branch of San Mateo Creek, northeasterly from Pilarcitos Reservoir.

also in San Mateo County, and about 10 miles south from the south line of San Francisco.

The water surface of the reservoir, when full, is at an elevation of 435.6 feet above City base. Its outlet pipe is at an elevation of 371.6 feet.

The area of the reservoir, at the height of the dam, is 475 acres. It is formed by an earth dam 90 feet high, 990 feet long on the crest. The watershed above the dam has an area of 3.8 square miles. To this area 1 square mile has been added by the construction of the Davis Tunnel which intercepts the water of San Mateo Creek and turns it through the ridge from San Mateo Creek Valley into a hillside gulch dropping into San Andres Reservoir.

By the construction of the Lock's Creek line, consisting of flumes, pipes, tunnels and other structures, which were built for the interception of water from the ocean slopes of the mountain ridges and from Lock's Creek, Aponollo Creek, Pilarcitos Creek, below Pilarcitos dam, and from San Mateo Creek below the Davis Tunnel, the area from which water reaches the reservoir is still further increased by about 3.4 square miles, which are, however, to be considered as only partially tributary. When the runoff from this area exceeds conduit capacity, or when the conduit is out of order, not all the runoff from this area reaches the reservoir. One-half of this area, 1.7 square miles, is tributary to San Mateo Creek and all water in excess of conduit capacity from this area flows into the lower Crystal Springs Reservoir. It has not been included in the watershed area noted for that reservoir, to which it is only tributary at times of excessive rainfall. That part of Lock's Creek line above Aponollo Creek is at present out of service, and the repair of the works above this creek would practically mean reconstruction. The contents of the reservoir at stages from the height of the outflow to a full reservoir noted for five foot intervals are as follows:

GAUGE, FEET.	ELEVATION, FEET.	CONTENTS, GALLONS.
19.....	371.6	.....
24.....	376.6	125,856,000
29.....	381.6	304,215,000
34.....	386.6	531,439,000
39.....	391.6	805,843,000
44.....	396.6	1,131,991,000
49.....	401.6	1,523,095,000
54.....	406.6	1,984,687,000
59.....	411.6	2,508,619,000
64.....	416.6	3,088,845,000
69.....	421.6	3,718,642,000
74.....	426.6	4,393,860,000
79.....	431.6	5,115,120,000
83.....	435.6	5,723,507,000
85.6.....	442.0	Top of dam

(Elevations are noted with reference to City Base.)

Water which reaches San Andrés Reservoir in excess of its capacity for storage, passes through a large brick tunnel under control of four heavy iron gates, into a timber chute leading into the creek below the dam. It flows in this creek southerly to the Crystal Springs Reservoir.

Water taken from the San Andrés Reservoir for delivery in San Francisco enters a tunnel 2,820 feet long, which pierces the ridge on the eastern side of the reservoir. It flows through a measuring box into a screen house where it is passed through cloth screens and then enters a 44-inch pipe 28,849 feet long, which is, for the most part, laid along the County road. This 44-inch pipe is of recent construction. It has replaced a portion of the original 30-inch pipe. From its termination a 30-inch pipe carries the water by way of Colma and around the western slope of Daly's Hill into the City and to the aerator at College Hill Reservoir, over which it is dropped into the reservoir and there enters the City's distributing system. Where the creek is crossed between Baden and Colma the old pipe was replaced with new 37-inch wrought-iron pipe, which is supported on a pile trestle. This 37-inch pipe has a length of 1,400 feet and the 30-inch pipe an aggregate length of 40,185 feet.

CRYSTAL SPRINGS RESERVOIR AND PIPE LINE.—Crystal Springs is the main reservoir for the collection and storage of peninsular waters. It lies in a depression between two of the Coast Range ridges about four (4) miles west of San Mateo. Canada Raymundo from the south, and San Andrés from the north here unite, forming a large basin whose outlet is in the San Mateo Creek.

The reservoir as it now exists, was formed by the construction of a massive concrete dam. This was constructed in the years 1887 to 1892. It is proposed to raise this in height at some future time when increased storage facilities in this locality become desirable.

As early as 1878, long before the rights and lands, whose acquisition had to precede the construction of the concrete dam, could be acquired, the southernmost portion of this reservoir site was converted into a reservoir by the construction of the upper or original Crystal Springs dam. This was a structure of earth which impounded 3,000,000,000 gallons of water. Its crest is nearly at the height of the present top of the concrete dam, and inter-connection between basins above and below, being established by tunnel and pipe. This connection is kept under control so that the dam serves in a measure to improve the quality of the stored water. The County road from San Mateo to Spanishtown and Pescadero passes over its crest; it therefore serves in lieu of a bridge.

Bridging of the reservoir or other expensive road connection would have been necessary if the dam had not been available for use as a roadway at the time of the construction of the concrete dam.

The watershed tributary to Crystal Springs Reservoir has an area of 20.9 square miles, of which 12.1 are tributary to the upper reservoir. These areas do not include one square mile of the watershed area of San Mateo Creek cut off by the Davis Tunnel and thereby made tributary to San Andrés Reservoir, nor 1.7 square miles of drainage ground on the same stream, cut off by a concrete dam and also made tributary at ordinary stages of the creek to the same reservoir.

The water surface area at the present height of the concrete dam is about 1,300 acres and when the dam is raised to the full height proposed, it will flood an area of about 1,780 acres.

The present top of the concrete dam, which has a maximum height of 145 feet and a crest length of 606 feet, is at elevation 280 feet above City base. The outlet pipe is at elevation 166 feet.

The contents of the Crystal Springs Reservoir are shown in the following table:

GAUGE.	ELEVATION.	LOWER CRYSTAL SPRINGS.	UPPER CRYSTAL SPRINGS	CRYSTAL SPRINGS TOTAL.
Feet.	Feet.	Gallons.	Gallons.	Total Gallons.
0.....	166	.....	.....	.....
1.....	167	13,092,000	.....	.....
7.....	173	117,132,000	.....	.....
12.....	173	238,608,000	.....	.....
17.....	183	392,976,000	.....	.....
22.....	188	591,700,000	.....	.....
27.....	193	805,104,000	.....	.....
32.....	198	1,063,368,000	.....	.....
37.....	203	1,357,176,000	.....	.....
42.....	208	1,686,619,000	.....	.....
47.....	213	2,046,045,000	133,526,000	2,169,581,000
52.....	218	2,445,533,000	299,861,000	2,745,394,000
57.....	223	2,888,668,000	518,938,000	3,407,606,000
62.....	228	3,376,245,000	799,174,000	4,175,419,000
67.....	233	3,904,396,000	1,145,710,000	5,050,106,000
72.....	238	4,474,583,000	1,557,086,000	6,031,669,000
77.....	243	5,088,272,000	2,031,834,000	7,120,106,000
82.....	248	5,747,597,000	2,567,822,000	8,315,419,000
87.....	253	6,454,497,000	3,163,634,000	9,618,131,000
92.....	258	7,202,811,000	3,829,670,000	11,032,481,000
97.....	263	.....	.....	12,867,169,000
102.....	268	.....	.....	14,240,869,000
107.....	273	.....	.....	16,070,766,000
112.....	278	.....	.....	18,067,631,000
114.....	280	Present top of dam	.....	18,913,631,000

(Elevations are noted with reference to City base.)

The water from this reservoir is admitted direct into a 44-inch wrought-iron pipe which brings it to the City. The elevation of the reservoir is not sufficient to force the water over the summit near Colma. The pipe therefore follows a Bay shore route, crossing a long stretch of swampy ground near Baden and lying upon hilly and otherwise difficult ground as it approaches San Francisco, notably Sierra Point, one spur of which is pierced by tunnel 300 feet long. North of Visitacion Valley the water enters another tunnel 2,145 feet long, and is carried thence by another stretch of pipe to the screen house at University Mound Reservoir. The aggregate length of 44-inch pipe from Crystal Springs Reservoir to the University Mound Reservoir is 87,066 feet.

Before entering the distributing reservoir the water flows through cloth screens.

RESERVOIR YIELD.—The peninsula reservoirs of the Spring Valley Water Works—Pilarcitos, San Andres and Crystal Springs—are notable examples of reservoirs with relatively small tributary areas. Their aggregate capacity of about 26,000,000,000 gallons exceeds the run-off from the tributary watershed of 33 to 35 square miles in years of ordinary rainfall, and they are filled only in years of more than normal rainfall.

It is estimated that if they were empty, the Spring Valley Water Works rain gauges would show a rainfall in excess of 80 inches for any season that would fill them, assuming no water from any of them to be lost, the excess flow from Pilarcitos being led into the San Andres and the waste from San Andres into the Crystal Springs Reservoir. Their yield per day—as such a rainfall would be phenomenal, having occurred but once in the past—is not therefore dependent entirely upon their storage capacity. In this particular case storage capacity so far exceeds ordinary run-off that practically no water is wasted. The occurrence of a very wet winter at a time when the reservoirs are still nearly full is not probable. The reservoirs, by reason of their large capacity, have a productiveness of water fairly determinable on the basis of mean annual run-off. The recurrence of dry seasons has been a feature of the weather conditions of the past and is to be again expected in the future. The fact that one season very deficient in rainfall may be succeeded by a second one led Colonel Mendell to the conclusion already referred to, that storage capacity of reservoirs of any near-by supply should be equal to about 900 times the daily requirement.

This rule does not, however, apply to the San Mateo reservoirs in their present condition, where tributary watershed area compared with storage capacity is disproportionately large.

Based on the Spring Valley Water Works' record of rainfall at these reservoirs, it is found that rainfall there exceeds the rainfall as recorded by the United States Weather Service, San Francisco, by about 75 per cent. If several seasons of excessive rainfall at the reservoirs be excluded from the comparison. The normal rainfall at San Francisco is between 22 and 25 inches. The normal at the reservoirs may therefore be expected to be about 40 inches. With this rainfall a run-off of about 25 per cent. from the tributary area may be expected.

Rainfall upon the water surface of the reservoirs will be about equal to the evaporation from the exposed water surface; no note need, therefore, be made of the direct fall of rain upon the reservoirs.

Giving the areas which are made to contribute indirectly through flumes one-half of the weight of areas naturally a part of the watershed, the mean annual run-off is then estimated at about 5,730 million gallons, or about 15,700,000 gallons per day. It is to be remembered, however, that productiveness of the watershed areas becomes proportionately larger for rain considerably in excess of the normal and that this yield would be considerably increased by an occasional season like

1871 and 1872, 1877-78 or 1889-90, which gave nearly double the normal rainfall.

In each of these seasons more than 70 inches of rain are reported for the reservoir stations. As these seasons have occurred within the period of 32 years covered by the rainfall records, it may be considered probable that their future occurrence will be as in the past, or about one in eleven years.

Each such season produces about double the ordinary quantity of water. They would therefore add an average amount of about 500 million gallons per year to the stored water, as above estimated, or 1,400,000 gallons per day, bringing the estimated aggregate yield of the reservoirs to about 17,100,000 gallons per day.

LOCKS CREEK AQUEDUCT.—The works which are comprehended under this designation have already been referred to as feeders of San Andres Reservoir.

The lower and principal part of the works known as Locks Creek line is below the stone dam on Pilarcitos Creek. At this point, about a mile below Pilarcitos Reservoir, a dam about 35 feet high of granite and brick checks the flow of the creek and turns it into a flume 5 feet wide about three-quarters of a mile long. This flume connects with the flume from Aponollo and Locks Creeks at a tunnel which takes its waters through a ridge into San Mateo Valley. This tunnel is brick lined and has a length of 3,200 feet. From its eastern end the water which it has brought from the ocean slope of the hills flows in a 36-inch flume about two (2) miles in a northeasterly direction and finally across San Mateo Valley to a tunnel through the ridge between San Mateo and San Andres Valleys. At the San Mateo end of this tunnel the flume is joined by another flume from the north, which adds San Mateo Creek water, diverted by a concrete dam from that creek. The drainage area of San Mateo Creek below the Davis tunnel and above the concrete dam is about 1.5 square miles. The waste water from the Pilarcitos line may also take this course into San Andres Reservoir.

Just above the point where the Pilarcitos water crosses San Mateo Creek in a flume, an earth dam has been built across the creek to form a settling pond, serving a good purpose, as some of the watershed above this point is still in use for pasturage.

The tunnel which takes the waters of the Locks Creek line from San Mateo into San Andres Valley has a length of 3,530 feet. It discharges into a flume a little over one-half mile long, and from this water flows through a 44-inch pipe across San Andres Valley to the flume along the western slopes of the hills upon the east side of this valley. This flume has a northerly course into San Andres Reservoir.

Upon the easterly side of San Andres Valley the Locks Creek flume is joined by a flume from Crystal Springs pumping station. This is in service only when it is necessary to supplement the work ordinarily done by the pumps at Millbrae, as it serves the same purpose of adding to the supply at the level of the San Andres Reservoir.

Of the original Locks Creek Aqueduct, the upper portion, consisting of flumes and pipes above Aponollo Creek crossing, is now out of repair and out of service. These works may at some time be reconstructed, but this does not seem probable, as the water of the same streams caught by them is more likely to be intercepted at lower levels if at all.

ALAMEDA CREEK AND SUNOL VALLEY.—Since 1887 Alameda Creek has been made to contribute to the water supply of San Francisco. The foundation was laid for the bringing in of this water when in 1875 the Spring Valley Water Works bought the rights and properties of the Alameda Water Company, which purchase included the water rights of the old Vallejo Mill at Niles as well as 1,915 acres of land on Calaveras Creek, being the first purchase towards the acquisition of the Calaveras Reservoir site.

The diversion of water from Alameda Creek was, until September, 1900,

effected at a point about $2\frac{1}{2}$ miles above Niles, where a stone overflow dam or weir turned the creek water into a brick-covered conduit 2,700 feet long. On the line of this conduit is a masonry screen and settling tank, at which a waste gate permits a discharge of surplus water back into the creek.

From the termination of the brick aqueduct the water was carried by flume 3,131 feet and then entered a pipe. The water was passed through a second screen house at Niles and thence by pipe across the creek and by way of Centerville and Newark to Dumbarton Point and across San Francisco Bay in two submarine 16-inch pipes to Ravenswood, where these pipes are reunited. Thence by pipe to Belmont, where the water is put under pressure by pumps and delivered at Burlingame into the 44-inch main from Crystal Springs.

The Alameda pipe has a diameter of 36 inches. Where it crosses salt marsh lands it is supported on a trestle, and where at the approach of the marsh it lies in heavy alkali soil, it is enclosed in a wooden box.

At Niles it is carried over Alameda Creek by a three-stand iron bridge 400 feet long.

For a number of years the Spring Valley Water Works has been gradually acquiring additional rights to water from Alameda Creek in order to increase the supply from this source. The rights thus secured have enabled the company to perfect its arrangements for carrying a much greater quantity of water across the bay in the pipe already in service, and by taking advantage of the natural gravel filter in Sunol Valley to take water into this pipe at all seasons of the year.

The pipe capacity was increased by raising the intake of the pipe. Water from the upper Alameda Creek works enters the pipe at an elevation about 80 feet higher than the original intake. This added pressure has made it possible to deliver through the pipe for the pumps at Belmont about 10,000,000 gallons of water per day, while before the construction of the new works the pipe capacity was only 7,000,000 gallons per day.

The new works for the collection of water at Sunol consist in the main of an open filter gallery or deep cut into the gravel bed, plank covered and sides well timbered and lagged with planking so placed that open joints admit the water from the gravel freely. This gallery is about one-half mile long and terminates at the upper end of a concrete sub-surface aqueduct, into whose sides many short pipes are built to permit an inflow of the water from the gravel. This sub-surface aqueduct is about 3,000 feet long, and is connected at its lower end with a gallery leading across Alameda Creek from north to south through the body of a concrete bedrock dam or weir, by means of which water levels in the creek and in the Sunol Valley gravels are largely controlled.

From this point water is carried in concrete-lined tunnels and flumes about five (5) miles to the regulating tank and screen house near Niles. The first tunnel leading from the dam has a length of over 7,000 feet. The aggregate length of tunnels on this line is about 16,000 feet.

Some of the advantages claimed for this system of works over those originally in use are:

1. Increased capacity of Alameda pipe line by reason of greater elevation of the pipe intake.
2. Uninterrupted service. The works need not be shut down when water is turbid in the stream; the filtered water being always clear.
3. Increased yield of Alameda Creek to the extent of the storage capacity of the gravel beds in Sunol Valley.
4. Filtration.

The old works from the stone dam about two and one-half ($2\frac{1}{2}$) miles above Niles to the junction with the new 36-inch pipe on the south side of Alameda Creek at Niles are now practically out of service as a part of the system of works for the supply of water to this City, and would not now be constructed as a necessary part of the Alameda Creek system

They can, however, be brought into service within the life of the flume, which is now almost beyond repair, in case of any accident to the new works, and may also be made to serve to supply water to riparian owners. To do this with any degree of reliability will, however, soon involve reconstruction or modification of parts of the works.

The water obtained from them is the natural unfiltered flow of Alameda Creek, subject to all the dangers of pollution of a stream draining about 580 square miles of grazing and farming lands, with several communities—Livermore, Pleasanton and Sunol—on banks of its tributaries.

The new works of the Alameda Creek system have not been in service long enough to permit an opinion to be formed of the aggregate yield per year from this source. Their present maximum capacity is limited by pipe line and pumping capacity to about 10,000,000 gallons per day. The pipe capacity can be increased by adding additional submarine pipes as now proposed and the pumping capacity can, it is claimed, with slight alterations of the machinery, be increased to about 14,000,000 gallons per day. Even if this amount can be diverted and handled by pipe and pumps, the evidence is yet lacking that the supply stored in the gravels will afford so much water continuously.

In the light of the information now at hand it does not seem safe to count upon more than 8,000,000 gallons as the average yield per day from this source until the contemplated alterations have been made.

CALAVERAS CREEK.—No work on the dam of the Calaveras Reservoir site has yet been done by the Spring Valley Water Works. The creek has not been brought under contribution to the water supply of this City except to the extent that the water, which flows through the reservoir site, enters the gravels of Sunol Valley and swells their output.

In the report of 1877 Colonel Mendell said:

"When the consumption of the City shall have reached the limit of the daily product from this drainage ground of 27 or 28 square miles" (referring to the peninsular reservoir system) "the company must be prepared with an additional supply. This supply may come either from the western slope of the coast mountains or the peninsula, which are drained by Pescadero, San Gregorio and other small streams, or it may be derived from the Calaveras. The latter point is the one contemplated in the plans of the Spring Valley Water Company as first to be developed."

The expectation that this source of supply would be the next to be developed was not realized, as already explained. The peninsular reservoir system was extended and a direct diversion from Alameda Creek was followed by the establishment of the filter galleries in the Sunol gravels.

"The Calaveras is a tributary of Alameda Creek, which it joins at Sunol. It runs in a northwesterly direction, and is separated from Santa Clara Valley by a range of hills varying in height from one to two thousand feet.

"The drainage area above the reservoir site is about 25 miles in length, with an irregular breadth of three miles in some places and seven in others. By actual survey made by Mr. Scowden" (in 1874) "the area of the drainage basin is 101 square miles. In this basin is Mount Hamilton, a conspicuous feature in the topography of the country. It has an altitude of 4,400* feet. This area is almost entirely uninhabited, a few persons being engaged in the pasturage of sheep and cattle. Above the reservoir site there is little or no cultivation. The country is extremely rough. The creeks run at the bottom of steep defiles, and are in many places almost inaccessible. There are no roads through the upper and main part of the drainage basin. The hills are timbered in some places sparsely with groves of oak and in others thickly with pine, oak and shrubs.

*Should be 4,205.

WATER RATES.

The above description applies to-day, except that the upper portions of the drainage basin have been made more accessible by road construction and that there is more or less pasturage of stock throughout the entire watershed area.

Calaveras Valley, the site of the proposed reservoir, is located about eight miles southeast of Sunol and about six miles a little north of east from Milpitas. The valley has a length of about four miles and a greatest width of about one mile.

"Its fall is considerable—about 70 feet per mile—which makes a high dam necessary to store much water. In other respects the site is favorable. The dam sites are at the gorge where the mountains on either side form the abutments with slopes of one-half or less." Calaveras Creek breaks into the valley through a gorge about midway of the eastern side of the reservoir site.

The height of the creek at the outlet of this valley is about 563 feet (Scowden's Surveys).

The capacity of the reservoir site, based on the surveys made by Mr. Scowden, may be noted as follows:

ELEVATION ABOVE CITY BASE.	Height of Dam	Capacity, Gal. cons.
563.....		Creek bed at dam site.
585.....	27	27,000,000
595.....	37	59,000,000
605.....	47	237,000,000
615.....	57	511,000,000
625.....	67	992,000,000
635.....	77	1,734,000,000
645.....	87	2,654,000,000
655.....	97	3,879,000,000
665.....	107	5,408,000,000
675.....	117	7,247,000,000
685.....	127	9,498,000,000
695.....	137	12,192,000,000
705.....	147	15,102,000,000
715.....	157	18,389,000,000
725.....	167	22,015,000,000
735.....	177	25,991,000,000
745.....	187	30,351,000,000
755.....	197	35,002,000,000
765.....	207	39,998,000,000
775.....	217	45,342,000,000
785.....	227	50,994,000,000

The location selected by the Spring Valley Water Works for a dam is located about 1,000 feet below the point on Calaveras Creek to which the foregoing figures apply. At the lower dam site the creek bed is 6 feet lower than at the upper site or 557 feet above City Base.

The dam proposed by the Spring Valley Water Works for the lower site is to have a height of 183 feet, and high water elevation in the reservoir would be at 735 feet above City base.

The reservoir capacity would be very nearly 26,000,000,000 gallons.

By reference to the rainfall record at Mt. Hamilton it will be seen that the mean annual rainfall at that point since 1881 has been 32.54 inches, that the least fall of rain occurred in 1897-98, which season gave only 17.66 inches, and that the maximum reached 58.09 inches in 1883-84.

On the assumption that the rainfall over the entire watershed of Calaveras Creek above the reservoir site be equal to that at Mt. Hamilton, it is estimated that the mean annual flow to the reservoir site from the area directly tributary would be about 19,000,000,000 gallons and in seasons with a rainfall as low as that of 1897-98 the flow to the reservoir would fall to about 5,000,000,000 gallons and in seasons with a rainfall equal to that of 1883-84 it would reach nearly 59,000,000,000 gallons.

In winters whose rainfall is considerably in excess of the normal, as these figures show, there will be much more water flowing to the reservoir than can be stored there.

All in excess of available storage will have to be allowed to flow past the dam and will not add to the producing capacity of this source of supply.

Evaporation from the reservoir would be about 1,500,000,000 gallons per year if storage capacity is made 26,000,000,000 gallons.

The water from Calaveras Reservoir is to be brought to San Francisco by means of a tunnel through the ridge between the reservoir and Santa Clara Valley, thence by pipe across Santa Clara Valley and by canal, which is also to serve for water from the Searsville Reservoir into Crystal Springs Reservoir. Until it becomes necessary to construct the works of the full capacity of 30,000,000 gallons per day, some use could be, and if no steps be taken to bring in Sierra Nevada water, probably will be made of the Calaveras system by the storage of a fractional part of what is ultimately intended to be stored and its gradual liberation at low water stages of the creek to feed the Sunol filter galleries. A low dam which could ultimately be raised, would accomplish this and would no doubt add greatly to the capacity of the Sunol Works and would at the same time have the advantage of making the contribution greatest from the most desirable portion of the watershed tributary to Sunol Valley.

The watershed area tributary to Calaveras Valley can be increased by intercepting the flow of Arroyo Honda. By this means about 36 square miles of drainage area can be made indirectly tributary. This stream is torrential in character, flashing up quickly when a rainstorm is on, and as soon as the rain stops dropping at once to moderate stages. This would have to be taken into consideration in planning a feeder to the reservoir. In estimating probable yield of any definite project much less would be allowed to areas thus made indirectly tributary than to the natural catchment areas. It is to be said, however, that such a feeder would be proportionately of greater service in seasons of less than normal rainfall and that the percentage of efficiency of the added area would increase as seasonal rainfall decreases.

PORTOLA OR SEARSVILLE RESERVOIR.—This is located in Santa Clara County about seven (7) miles south of the southerly end of the Crystal Springs Reservoir.

The reservoir site is owned by the Spring Valley Water Works, but not all the water produced at this site is available for use in San Francisco. It is understood that the first three million gallons per day must be delivered to the Manzanita

Water Company, which supplies water to the Leland Stanford Jr. University. It is estimated by the Spring Valley Water Works that this source of supply will ultimately yield them in excess of 7,000,000 gallons of water per day.

The reservoir has not yet been connected with the San Francisco system and is not now furnishing any water to this City. Water from this reservoir can either be pumped over the low divide into Crystal Springs Reservoir from the south or it can be carried by pipe to Belmont, and there be put under pressure for delivery into the Crystal Springs Reservoir or the force main leading to the City.

This reservoir is on Corte Madera Creek, one of the branches of the San Francisquito Creek. The watershed tributary to the reservoir has an area of fifteen square miles, of which 912 acres are owned by the Spring Valley Water Company.

The Portola dam is a structure of concrete. Its greatest height is at present about 75 feet. Its crest length is 280 feet. The lower face of the dam is stepped off to receive an addition when it shall become necessary to raise the height of the structure.

Water from this source is at present supplied to the Leland Stanford Jr. University.

No definite information is at hand relating to proposed ultimate storage at this site.

LAKE MERCED.—Lake Merced is a body of fresh water within the limits of this City. It occupies a depression in the southwestern part of the City formed by the junction of two ravines, which at one time undoubtedly extended to the ocean, but which about three-quarters of a mile from the present coast line has been sufficiently obstructed by drifting sand to cause the formation of the lake. Until the water of the lake was brought under control, it kept a waterway across this sand barrier open. After this barrier had been raised by the construction of a dam and the outflowing water was put into a conduit, a sand-dune drifted across the outlet adding considerable to the height and extent of the dam and completely obliterating the upper portion of the outflowing creek.

A long narrow spit of land extends from the east almost to a connection with the high ground on the west of the lake. This has been artificially extended as a dam, this separating the lake into two bodies of water—the North Lake and the South Lake. The dam between the two lakes is pierced by a large iron pipe which permits of an inter-connection of their waters.

Visible springs at various points around Lake Merced indicate the source of its waters. There seems to be little question that the water which reaches the lake is the rainfall which has fallen upon a tributary area covered by porous sands through which it sinks to impervious strata which force the same to the surface at the lake margin or under its bed, and which at the same time prevent its reaching the ocean by rising above or near to natural lake surface elevation between lake and ocean.

The watershed of the lake as indicated by topographical features of the surface of the country surrounding the lake, may or may not be coincident with the area which is in fact tributary to the lake. It is quite possible that the extent and slope of the sub-surface impervious layers which control the sub-surface flow of water into the lake, vary considerably from the watershed area thereof as indicated by the surface topography, but no evidence on this point is available except possibly in the case of the strip of land lying between the lake and the ocean where a decided dip of strata towards the northeast indicates a somewhat greater area tributary to the lake than shown by the ridge line dividing the two surface drainages.

The proximity of Lake Merced to the populous districts—Ocean View in San Francisco and Colma in San Mateo County—from which localities surface drainage is toward the lake, subjects the lake water to a danger of pollution that will probably always keep the lake among the least popular sources of supply, no matter how careful pollution may be guarded against.

To prevent contamination of the waters which sink into the sands in the vicinity of the lake, an intercepting sewer has been carried from Ingleside through the northern portion of the lands owned by the Spring Valley Water Works to a discharge into the outflow conduit of the North Lake. This serves particularly for the protection of North Lake.

There has also been constructed a long flume intercepting the drainage of Ocean View district and carrying the same to a point at the southern end of South Lake which it unites with the surface drainage from the south and enters a brick canal and tunnel. The surface drainage from the south which originally flowed into South Lake is checked by two earth dams forming settling ponds, and is turned into a brick lined canal reaching the same tunnel. This tunnel perforates the ridge between lake and ocean and discharges upon the ocean beach.

From the best map data at command it is found that the watershed tributary to Lake Merced, as indicated by the ridge lines, has an area of 7.48 square miles or 4,790 acres. Of this amount again as indicated by the ridge lines, 1,600 acres are tributary to the North Lake and 3,190 acres are tributary to the South Lake. About 836 acres of the area tributary to North Lake and 1,595 acres of the area tributary to South Lake are owned by the Spring Valley Water Works. The lands thus owned are the lands nearest the lake margin.

As already stated, it is not possible to determine whether the area contributing water to the lake is co-extensive with the watershed area, neither can a dividing line between the areas that contribute respectively to the North Lake and the South Lake be determined. For this reason the watershed areas above noted should serve only as an approximate indication of sub-surface conditions of drainage. The surface runoff from 2,340 acres of the watershed of South Lake has been cut off by intercepting drainage works, notably, by the dams, brick canal and tunnel in the main creek south of South Lake. The actual surface runoff from the portions of the watershed which remains directly tributary to North and South Lakes is relatively small because the soil is very sandy and porous, absorbing the rainfall about as rapidly as it falls.

In 1877 and 1878 a pumping plant was erected on the eastern shore of North Lake near the original lake outlet, and lake water was sent into the Pillarcitos pipe through a 22-inch force main laid along the Ocean House road. This pumping plant has gone out of service. The boilers have been removed to other localities and the engines were dismantled. The force pipe was taken up and is now in use as a suction pipe leading down from the San Andres pipe to the new Merced pump.

North Lake is reported to have been out of use as a source of supply for a number of years past.

In 1891 a new pumping plant was erected. It is located on the northeastern shore of South Lake and is equipped with two high duty pumps, each capable of raising 3,500,000 gallons of water per day to an elevation of over 400 feet.

The lake water is ordinarily used as a source of supply only at times of restricted contribution from the higher lying storage reservoirs in San Mateo County. The water pumped is, however, taken only from the South Lake. The pipe which pierces the dam connecting the lakes is kept closed.

North Lake can at any time be drawn upon by the pumping system now in service on South Lake should any emergency arise making it desirable to draw upon the storage supply and yielding capacity of the combined lakes.

From information furnished by the Water Company, not fully verified, but which may be accepted as substantially correct, the area of North Lake may be noted at 90 acres and the south area of the lake at 260 acres.

WATER RATES.

The following rating table showing contents of the Lake at different stages has been furnished by the Spring Valley Water Works:

GAUGE, FEET.	SOUTH	NORTH	TOTAL
	LAKE MERCED.	LAKE MERCED.	
	Gallons.	Gallons.	Gallons.
5.....	144,000,000	108,000,000	252,000,000
10.....	424,000,000	186,000,000	610,000,000
15.....	730,000,000	282,000,000	1,012,000,000
20.....	1,060,000,000	415,000,000	1,475,000,000
25.....	1,437,000,000	569,000,000	2,006,000,000
30.....	1,915,000,000	744,000,000	2,659,000,000
32.....	2,140,000,000	821,000,000	2,961,000,000

The surface runoff from about 1,210 acres of the watershed of South Lake is kept out of the lake by intercepting drainage works, notably by the dams and brick canal and tunnel in the main creek south of South Lake.

The lake is the only large body of stored water conveniently available for use in San Francisco in case of accident to the works bringing water from more remote sources of supply. North Lake is of value for this purpose in proportion to its capacity.

LOBOS CREEK.—Lobos Creek which, at the time of the investigation made by Col. Mendell, was contributing about 2,000,000 gallons of water per day to the supply of this City, went out of service in 1895. Popular sentiment which was opposed to the use of a water liable to pollution by reason of the rapidly increasing population in the drainage basin of the creek, and deterioration of the wooden conduit in which water from the creek was carried around Fort Point, led to the disuse of water from this source.

There has been talk of again making use of this source of supply. If it be done it will only be as a measure of last resort in case of almost certain shortage from all other sources combined.

Lobos Creek is a small stream flowing westerly from Mountain Lake at the Marine Hospital on the southerly line of the Presidio. Its drainage basin is limited on the east by Presidio Heights and the ridge which extends thence southerly across the Laurel Hill, Calvary and Masonic Cemeteries into Golden Gate Park; on the south by a summit line well within the park area; on the west by the summit of the Point Lobos spur of hills and on the north by the southerly portion of the Fort Point ridge. Richmond lies entirely within this drainage basin.

The flow of the creek is but slightly affected by rainstorms. Its supply comes from the sands of the tributary area which may or may not be correctly indicated by the surface topography as above noted. Into these sands the rains sink and by slow percolation, as stated by Col. Mendell, gradually find their way into the creek channel.

Future utilization of this water would not involve reconstruction of the old works. The water would be pumped into the distributing system direct or by way of a small reservoir without being first carried around Fort Point.

PESCADERO AND OTHER OCEAN SLOPE CREEKS.—Referring to this subject Col. Mendell says: "Starting from Canada Raymundo" (now upper Crystal Springs Reservoir), "twenty-five miles from San Francisco, a westerly course

carries us in a few miles on and over a high, well timbered range of mountains, named on the map Sierra Morena, which is drained to the Pacific Ocean by a number of streams, reaching the sea in distances of 10 or 15 miles. The mountains lying so close to the sea, and having elevations of two to three thousand feet, these streams necessarily have steep declivities, which enable them to carry the heavy drainage of the district. The principal streams in order going south are the Tunitas, San Gregorio and Pescadero. They drain a length of 18 or 20 miles, measured on the crest, and the width between the mountains and the sea varies, growing wider as we go south."

"There are several propositions for developing these resources of water supply. They all establish the headworks at an altitude sufficient to enable the water to be delivered into the Canaúa Raymundo at the height of 300 feet. The area situated at an altitude sufficient to permit its drainage to be delivered into the Canaúa Raymundo at an altitude of 300 feet, is about 60 square miles. One-half of this area lies on the drainage ground of the Pescadero, and nearly one-third on that of the San Gregorio."

"The rapid fall of the country permits no reservoir sites of any value. The storage reservoir must be in the Crystal Springs Valley."

"The region we now speak of is known by every good evidence, except systematic observations, to have a large average rainfall. The heavy timber and luxuriant growth of smaller vegetation—whether partly cause or partly effect of rain—are at least an evidence of it."

There are possibilities of utilizing some of this water, some of the project being referred to at some detail in the reports of Col. Mendell and the earlier report of Mr. Scowden.

No definite project has, however, as yet been disclosed by the Spring Valley Water Works to effect such utilization. The prospective addition from this source to their supply must, therefore, for time being remain somewhat conjectural.

CITY DISTRIBUTING SYSTEM.—As already stated, the water from the San Mateo Reservoir system and from Alameda Creek, reaches the City from the south in three pipes, two coming in by way of Colma, from Pilarcitos and San Andres Reservoirs, and the third by way of the Bay Shore, from Alameda Creek and Crystal Springs Reservoir.

These pipes discharge into the three main distributing reservoirs, Lake Honda, College Hill Reservoir and University Mound Reservoir. The City distributing system of pipes begins at these reservoirs.

LAKE HONDA is located in a depression between hills, just north of and below the Almshouse tract at an elevation of about 375 feet above City base. This reservoir has a capacity of about 31,000,000 gallons. It was constructed in 1861. It is lined with brick and concrete and massive arched bulkheads support the adjacent roadway. A masonry cross wall divides the reservoir into two compartments.

The reservoir is located below the screen house which receives the water discharged from the Pilarcitos main. After being screened the water enters the City pipe system direct, and flows to the lake, only when the consumption falls below the quantity delivered by the main. The lake contributes water to the City system when consumption exceeds this amount.

Between the screen house and the lake is a wooden tank. Drainage from above the lake is intercepted by a well constructed sewer and is carried past the reservoir.

COLLEGE HILL RESERVOIR is the reservoir into which the San Andres pipe discharges. This pipe terminates at College Hill in a standpipe, over the top of which water flows into a flume whose branches extend to right and left over an

the water issuing from these perforations drops from platform to platform into a shallow tank or basin from which the discharge is into the reservoir.

The reservoir is located on a spur of Bernal Heights, just to the west of Holly Park. It has been in service since 1870. Its elevation is 254 feet above City base. It has a capacity of 15,000,000 gallons. Its embankments are faced with rock.

UNIVERSITY MOUND RESERVOIR is located, as its name implies, in the University Mound Tract in the south central portion of San Francisco. The water surface of the full reservoir is at an elevation of 165 feet above City base.

The water discharged by the Crystal Springs pipe at the University Mound Reservoir first passes through cloth screens before it is dropped into the reservoir. The screen house is close by the reservoir. The reservoir was constructed in 1880. It has a capacity of about 33,000,000 gallons. Its sides and bottom are lined with concrete covered with felt and asphaltum. A 44-inch main carries water from this reservoir in a general northeasterly direction across Islais Creek, where the pipe is supported on a pile trestle. Bernal Heights are pierced by a tunnel and the water is delivered into the pipes of the low-lying down town districts.

CLAY STREET TANK is located on Clay Street Hill just west of Jones street, between Washington and Clay streets. The Water Company here owns two fifty-vara lots, on the most northerly of which the Clay Street Tank has been erected. The tank is of iron, circular in shape, ten feet deep, and has a capacity of 212,000 gallons. It is an important equalizer of pressure in the district with whose pipes it is connected. The Water Company has constructed concrete steps in the alley west of this property for the accommodation of the residents, to enable improvements to be made to conform to natural ground elevation. Around the lot on the north, east and west frontages is a concrete bulkhead. The high water elevation in this tank is 375 feet above City base. The tank was constructed about 11 years ago. It receives its water from the Black Point pumps.

LAFAYETTE PARK TANK is located just north of the summit of the Lafayette Park Hill, on the line of Octavia street. It is a rectangular wooden tank, which has a capacity of about 72,000 gallons. This reservoir is located upon City property. It has been in service many years and should soon be replaced by a larger and more permanent structure, the best location for which would be the summit of the Lafayette Park Hill. The elevation of the Lafayette Park Tank is 372 feet above City base. It is supplied with water by the pumps at Black Point.

THE UPPER RUSSIAN HILL, OR LOMBARD STREET RESERVOIR is located on the summit of Russian Hill, just west of Hyde street, between Greenwich and Lombard streets, at an elevation of 295 feet. It is connected with the Lake Honda system of distributing pipes. This reservoir was constructed about forty (40) years ago. It is a brick-lined structure. Its capacity is about 2,800,000 gallons.

THE LOWER RUSSIAN HILL, OR FRANCISCO STREET RESERVOIR is an excavation of irregular outline on the northern slope of Russian Hill, between Chestnut and Francisco streets. This reservoir is ordinarily not in service to its full capacity, which may be noted at about 6,000,000 gallons. The sides of the reservoir are faced in part with brick and in part with concrete and mortar, but the lining is not throughout in good condition. A light timber framework supports a board roof covering the entire area of the water surface. This reservoir is on the University Mound system of distributing pipes. Its elevation is 169 feet above City base. It was enlarged to its present size about 1878.

CLARENDON HEIGHTS TANK is on Clarendon Heights at an elevation of about 600 feet. It is a circular iron tank, having a capacity of 565,000 gallons. This receives water from the pumps on Seventeenth street, and serves the highest zone at present supplied with water by the Spring Valley Water Works. This tank was constructed in 1895.

THE POTRERO HEIGHTS RESERVOIR is located on Potrero Heights, at an elevation of about 300 feet above City base. It is supplied with water through the Lake Honda system of pipes and serves an independent district. The reservoir is lined with concrete faced with brick. It is circular. Its capacity is about 1,000,000 gallons; it was constructed in 1897.

The distributing pipe system has grown and has been extended, and pipes have been replaced with larger mains from time to time as called for by the needs of the City and the expansion of the densely populated areas.

The Spring Valley Water Works has positively refused to permit employees of the Board of Public Works to make copies of its maps showing the location of its mains and specials, and when pressed to verify by map reference the schedule of pipes now in service, the Company's chief engineer after a somewhat critical though hurried examination, reached the conclusion that their own map record was not complete and needed revision.

The following table shows the amount of pipe in service at various periods, the figures being an abstract from the Water Company's record book:

CAST IRON PIPE.

	3-INCH.	4-INCH.	6-INCH.	8-INCH.
January 1, 1862.....	1,899	11,953	15,839	9,037
January 1, 1865.....	14,767	66,073	82,832	41,956
January 1, 1870.....	51,970	174,787	165,963	99,983
January 1, 1875.....	77,118	228,802	232,749	131,107
January 1, 1880.....	93,915	256,429	284,193	161,689
January 1, 1885.....	102,777	290,886	326,995	197,066
January 1, 1890.....	122,140	327,629	440,284	256,082
January 1, 1895.....	127,449	308,461	575,917	326,895
January 1, 1900.....	128,564	339,361	571,043	583,327

CAST-IRON PIPE.

	10-INCH.	12-INCH.	16-INCH.	20-INCH.	22-INCH.	24-INCH.
Jan. 1, 1862...						
Jan. 1, 1865...	2,516	7,377				
Jan. 1, 1870...	11,039	53,347	14,636	994	8,903	
Jan. 1, 1875...	11,293	59,589	23,473	1,202	9,839	
Jan. 1, 1880...	8,978	62,311	23,391	1,202	17,896	
Jan. 1, 1885...	9,968	63,361	23,391	1,202	28,972	
Jan. 1, 1890...	9,963	73,899	43,316	2,814	30,242	1,150
Jan. 1, 1895...	9,975	101,062	55,963	15,325	25,948	3,182
Jan. 1, 1900...	9,912	210,642	97,422	21,826	23,488	10,539

WROUGHT-IRON PIPE.

	13-INCH.	22-INCH.	30-INCH.	33-INCH.¶	37½-INCH.	44-INCH.
Jan. 1, 1900...	850	16,387	20,748	2,510	11,312	7,213

WROUGHT-IRON PIPE.

To obtain some idea of the present condition of the cast iron pipe it was examined at a number of points.

This examination was not an exhaustive one, but merely intended to give a fair idea of the general condition of the pipe system.

Only the external surface of the pipe was examined.

Age of pipe, its location, and its size were taken into consideration in selecting the points to be examined. Pipes of the same age were selected at widely separated points in order that the effect of different kinds of soil upon the iron might be noted.

Where the pipe was located near the rails of electric railways some tests were made to determine the flow of the electric current between rail and pipe. Although some current could in each case be noted, it was very weak and apparently of no effect, with possibly the single exception of the pipe on Mission street near Eleventh, where rust scale and iron were intimately connected, and intervening carbonized layer and some deterioration of the pipe was quite apparent.

At each point opened, a joint between two sections of pipe was exposed. Due care was exercised not to disturb the material adhering to the pipe in making the exploration trench. The inspection was made by the City Engineer and two assistants in the presence of a representative of the Water Company.

WATER RATES.

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The result of this examination is given in the following tabular exhibits and the explanatory notes:

No. of Opening	LOCATION.			Size of Pipe... (Inches.)	Date when Laid
	STREET.	BETWEEN—			
1	Fillmore.....	Bush	Pine.....	16	1865-1869
2	Mariposa	Carolina	Wisconsin	8	1865-1869
3	Haight.....	Scott.....	Devisadero	22	1865-1869
4	Fifth.....	Folsom.....	Harrison.....	6	1865-1869
5	Mission.....	Eleventh.....	Twelfth.....	12	1865-1869
6	Leavenworth	Jackson	Pacific.....	6	1865-1869
7	Octavia.....	Hayes	Grove.....	8	1870-1873
8	California	Jones	Leavenworth.....	6	1870-1873
9	Shotwell.....	Twenty-first.....	Twenty-second	4	1870-1873
10	Thirteenth	Valencia.....	Guerrero	16	1870-1873
11	Powell	Jackson.....	Pacific.....	8	1875
12	Octavia.....	Fell	Hayes.....	8	1875
13	Church.....	Seventeenth.....	Eighteenth.....	6	1875
14	Townsend	Second.....	Third.....	8	1875
15	North Point.....	Polk	Van Ness.....	12	1880-1883
16	Franklin.....	Elis.....	O'Farrell	6	1880-1883
17	Illinois	Mariposa.....	Eighteenth.....	8	1880-1883
18	Alabama	Twenty-third.....	Twenty-fourth,	6	1880-1883
19	Spear	Howard	Folsom.....	8	1885
20	Second.....	Folsom.....	Harrison	8	1885
21	Eighth avenue.....	Clement.....	Point Lobos.....	6	1885
22	Jones.....	Washington.....	Jackson.....	8	1890
23	Bryant	Second.....	Rincon place.....	8	1890
24	Church.....	Twenty-third.....	Twenty-fourth.....	8	1890
25	Eureka.....	Seventeenth.....	Eighteenth.....	6	1890
26	O'Farrell	Mason	Taylor.....	8	1895
27	Fifth avenue.....	Point Lobos	A.....	8	1895
28	Seventeenth	Dolores.....	Church.....	20	1895
29	North Point.....	Leavenworth.....	Hyde.....	8	1900
30	Twenty-fifth.....	Hampshire	Potrero.....	16	1900
31	Twentieth.....	Kentucky.....	Illinois.....	12	1900

WATER RATES.

No. of Opening	CHARACTER OF SOIL	CHARACTER OF PAVEMENT.	Depth of Pipe Below Surface	Date of Inspec- tion—1901....
1	Yellow clay.....	Basalt block.....	FT. IN. 2 0	Feb. 13
2	No inspection.....	.....		.....
3	Sand.....	Basalt block.....	2 6	Feb. 13
4	Loamy soil; no rock.....	Cobble.....	2 6	Feb. 13
5	Sand.....	Basalt block.....	2 6	Feb. 14
6	Clay and country rock.....	Basalt block.....	2	Feb. 13
7	Sand.....	Basalt block.....	2 6	Feb. 14
8	Clay.....	Basalt block.....	2	Feb. 13
9	Yellowish clay.....	Bitumen.....	2 3	Feb. 28
10	Sand.....	Bitumen.....	2 3	Feb. 14
11	Clay.....	Cobble.....	2 6	Feb. 13
12	Sand.....	Basalt block.....	1 6	Feb. 13
13	Sandy clay.....	None.....	2	Feb. 14
14	Filled ground; clay and rock.....	Basalt block.....	2 3	Feb. 13
15	Sand.....	None.....	2 6	Feb. 13
16	Sand.....	Bitumen.....	2 2	Feb. 13
17	Filled ground; serpentine rock mostly.	Macadam.....	1 4	Feb. 13
18	No inspection.....	.....		.....
19	Filled ground; mostly sand.....	Basalt block.....	3	Feb. 13
20	Clay.....	Macadam.....	2 6	Feb. 28
21	Sand.....	Macadam.....	2 6	Feb. 13
22	Clay and country rock.....	Basalt block.....	2 6	Feb. 13
23	Clayey soil.....	None.....	2 6	Feb. 13
24	Yellow clay.....	Macadam.....	2 2	Feb. 14
25	Yellowish loam.....	Macadam.....	1 8	Feb. 14
26	Sand.....	Basalt block.....	2 6	Feb. 13
27	Sand.....	Macadam.....	2	Feb. 13
28	Yellowish clay.....	Bitumen.....	2 6	Feb. 14
29	Country rock shaly.....	None.....	2	Feb. 13
30	Yellow clay.....	Macadam.....	2 8	Feb. 14
31	Serpentine rock.....	Macadam.....	2 6	Feb. 14

OPENING NO. 1. The coating of the pipe was intact. No pitting was observed. The pipe was covered with a layer or thick scale of clay cemented with iron oxide. This was from $\frac{1}{4}$ to $\frac{1}{2}$ -inch thick, which separated readily from the pipe and under it the surface of the pipe was smooth showing a trifling attack by rust. The lead in the joint was in first-class condition. No deterioration was apparent.

OPENING NO. 2. The pipe had been removed.

OPENING NO. 3. A cemented scale $\frac{1}{8}$ to $\frac{1}{4}$ -inch thick, rust colored, was found adhering to the pipe. The iron underneath the scale was smooth, clean and healthy. The dip or coating was well preserved, particularly on bell end. The lead was in first-class condition.

OPENING NO. 4. The pipe in front of the bell was practically without rust. Some of the pipe coating remained. The bell was very slightly rusted. Both pipe sections were in first-class condition.

The lead was in first-class condition. A very thin film of material, looking a mewhat like graphite, was observed on the lead.

OPENING NO. 5. The pipe was rust coated, with a cemented scale $\frac{1}{4}$ to $\frac{1}{2}$ -inch thick adhering to it. Under the scale the iron was carbonized in a thin layer. Effect of electrolytic action on the pipe was apparent, and appeared uniform.

Between the black surface of the pipe and the cemented scale was a very thin crust of white mortar-like material.

The original coating has entirely disappeared.

OPENING NO. 6. The original coating could still be seen. There were slight evidences of rust, but no pitting. The iron was in first-class condition.

The lead was in first-class condition.

OPENING NO. 7. The pipe was covered with cemented scale—very slight.

The iron beneath this scale was smooth, healthy, free from defects and otherwise in good condition. No pitting was observed.

The lead was in good condition.

OPENING NO. 8. The pipe showed a very slight uniform rusting with a thin layer of cemented clay adhering to it. Beneath the adhering layer the iron was clean, smooth and in first-class condition, with no pit holes.

The lead was in good condition.

OPENING NO. 9. The pipe was in very good condition. A very slight clay scale adhered to the pipe. The coating was in good condition.

The lead was in first-class condition.

OPENING NO. 10. There was a very little cemented sandy scale adhering to the pipe. A very thin coat of rust was observable, closely adhering to the iron. The iron was slightly pitted. There was no appearance of electrolysis. The original coating appeared in spots beneath the scale behind the bell, but not in front.

The lead was slightly coated with oxide, being good otherwise.

OPENING NO. 11. There was no rust observable on the pipe. The outside of the pipe was clean, black and looked new. The lead was clean.

Both pipe and lead were in first-class condition.

OPENING NO. 12. A cemented scale $\frac{1}{8}$ to $\frac{1}{4}$ -inch thick adhered to the pipe in patches. The pipe beneath the scale had the appearance of new pipe. There was no pitting. The coating of the pipe was in good condition.

The lead was in first-class condition.

OPENING NO. 13. The pipe was covered with a cemented scale $\frac{1}{8}$ to $\frac{1}{2}$ -inch thick, beneath which the coating was in first-class condition.

The lead was bright and clean.

OPENING NO. 14. The pipe was about the same as at opening No. 1, possibly in a little better condition.

A layer of rock and clay cemented by the asphaltic pipe dip and apparently by iron oxide was found adhering to pipe.

OPENING NO. 15. The pipe in front of the bell was coated with a thin layer of rust-cemented sand, beneath which the iron showed partly smooth and in part attacked by dust. The penetration of the rust into the iron was very slight. Some coating still adhered to the pipe in its original condition. The iron was hard and firm.

On the pipe back of the bell the rust had taken a firmer hold of the iron. The surface of the iron was slightly rough. There is probably no appreciable reduction in the weight of the iron.

The lead was in good condition.

Foreman Gleason of the Spring Valley Water Works, stated that the pipe noted above was first laid between 1850 and 1860 and was relaid in its present position between 1865 and 1869.

OPENING NO. 16. The pipe was in first-class condition and looked like new pipe. The coating and the lead were in good condition.

OPENING NO. 17. Irregular patch of cemented scale adhered to the pipe, beneath which the pipe was clean. No pitting was observed. The coating and lead were in first-class condition.

OPENING NO. 18. The pipe at this point was not exposed when the inspecting party reached it, and no inspection was made.

OPENING NO. 19. A thin scale of asphaltic material adhered to the pipe in spots. The pipe was in first-class condition and the lead also.

OPENING NO. 20. The pipe and lead were in first-class condition apparently being as good as new.

OPENING NO. 21. The coating behind the bell was in good condition. The coating in front of the bell was not so good, but otherwise the pipe was in good condition. The lead was slightly covered with oxide, but in first-class condition. There was practicably no deterioration apparent.

OPENING NO. 22. The pipe and lead were in first-class condition. There was no rust visible.

OPENING NO. 23. The pipe was barely rusted, small specks of rust showing. The coating and lead were in first-class condition.

No deterioration was apparent.

OPENING NO. 24. The pipe, lead and coating were in first-class condition. There was practically no rusting.

OPENING NO. 25. A very slight cemented scale was beginning to form and adhere to the pipe.

The coating and lead were in good condition.

There was no pitting and practically no deterioration.

OPENING NO. 26. The pipe was in perfect condition. There was a very trifling discoloration of the sand surrounding the pipe.

OPENING NO. 27. There was a very slight rust deposit on the iron. The pipe, the coating and the lead were in first-class condition, with practically no deterioration.

OPENING NO. 28. The pipe was in first-class condition. The coating and the lead were as good as new.

OPENING NO. 29. The pipe was new and in first-class condition with no deterioration.

OPENING NO. 30. The pipe was new and the pipe coating and lead were in first-class condition, with no deterioration.

OPENING NO. 31. The pipe was new, and everything was in first-class condition throughout.

PUMPING STATIONS.—As already explained, water is delivered by the Pilarcitos pipe into Lake Honda at an altitude of about 375 feet, by the San Andres pipe into College Hill Reservoir at an altitude of about 254 feet, by the Crystal Springs pipe into the University Mound Reservoir at an altitude of 165 feet.

The water brought across San Francisco Bay from Sunol Valley is liberated at Belmont at an altitude far below that of the water in Crystal Springs Reservoir. It is necessary to force the Alameda Creek water into the conduit for Crystal Springs by the use of pumps. The yield from Pilarcitos Reservoir is inadequate in ordinary years to supply the demands upon the Lake Honda system. In many seasons the San Andres Reservoir also falls short of the required supply. It therefore becomes necessary to lift the water from one level to another, and this is done by pumping. Pumps are used, too, to supply those portions of the City which lie too high to be served with water by gravity from any of the systems. These requirements have led to the establishment of eight pumping stations.

THE BELMONT PUMPS at Belmont force the water which is brought by pipe from Alameda Creek into the main pipe line from the Crystal Springs Reservoir. There are two pumps of the Corliss compound condensing type at this station, each rated at a capacity of 6,000,000 gallons.

CRYSTAL SPRINGS PUMPS at Crystal Springs dam are intended for occasional service only. They lift water from the Crystal Springs Reservoir, taking the same from the main pipe into a flume which discharges into the San Andres Reservoir. At this station are four Thompson and Evans pumps, having an aggregate capacity of 12,000,000 gallons per day.

THE PILARCITOS PUMPING STATION is located at the outlet of the tunnel from the San Andres Reservoir. Three Dow pumps are here installed to pump water coming from San Andres Reservoir into the Pilarcitos pipe line. These pumps are for occasional service only. Ordinarily when San Andres water is to be raised to the elevation of Pilarcitos water, the work is done with greater economy by the pumps at Lake Merced.

THE MILLBRAE PUMPS at Millbrae take water from the Crystal Springs main and pump it to the screen house at the inlet of the San Andres pipe to join San Andres water.

There are two pumps at this station of the Corliss compound condensing type, each of a capacity of 8,000,000 gallons per day.

THE OCEAN VIEW PUMP is one which was originally in service in Crystal Springs Valley to lift the water from the upper Crystal Springs Reservoir into a flume leading to San Andres Reservoir. The pump is not of a modern type. Its capacity is about 2,000,000 gallons per day. It will be put into service only in emergency cases. It takes water from the San Andres pipe line and forces the same over the aerator on the Daly Hill into the Pilarcitos line.

THE LAKE MERCED PUMPS are used either to pump lake water into the Pilarcitos or San Andres pipe lines, or to force San Andres water by way of the aerator on the Daly Hill into the Pilarcitos pipe. There are two compound condensing Corliss pumping engines at this station, each of a capacity of 3,500,000 gallons per day.

THE BLACK POINT PUMPS are also known as the "City Pumps." Two pumping engines are installed at this station, both of the Corliss compound condensing type, one of a capacity of 3,000,000 gallons and the other of a capacity of 3,250,000 gallons. At this station water from the University Mound system is pumped into the Clay street and Lafayette Park tanks and surplus overflow into the Lake Honda system.

THE CLARENDON HEIGHTS PUMPS are located on Seventeenth street, near Sanchez. They supply water to the tank on Clarendon Heights, taking the same from a pipe of the University Mound system. When the tank is full, the discharge of the pumps is into the Lake Honda system.

There are two Poppet compound condensing engines at this station, each of a capacity of 1,125,000 gallons per day.

AMOUNT OF WATER IN THE RESERVOIRS OF THE SPRING VALLEY WATER WORKS.

The City Engineer has been directed by Resolution No. 1385 of the Board of Supervisors, passed October 19, 1900, to ascertain "the amount of water available for use in the San Mateo system of reservoirs of the Spring Valley Water Company, and also whether said available water will be exhausted in the near future. if the average rainfall for the next five years shall be the same as for the last five years, and if so, when the Spring Valley sources of supply remaining the same as at present; also whether the Spring Valley Water Works has a means of increasing its source of supply, and if so, how much, and how long will the increased supply prevent a water famine if one is threatened under the conditions named."

As it is impossible to forecast how an amount of rain equal to that of the last five years would be distributed to each of the next five winters, it must suffice, for purposes of illustration, to assume an equal precipitation for each season.

It was desired for the purposes of this discussion to obtain full information from the Spring Valley Water Works records of the amount of water which was reached these reservoirs in past seasons, in order that a fair basis could be laid for an opinion as to the amount which any season of an assumed character would supply for storage.

The officials of the Spring Valley Water Works seem reluctant to furnish any information to this department, and repeated requests for a statement of amount of water in the reservoirs in past seasons on November 1st and May 1st of each year have received no further reply than a telephone communication that the matter

would receive attention, and a letter from their Chief Engineer, Mr. Schussler, in which he gives a stored amount of water on April 19, 1901, as follows:

San Mateo County Reservoirs—	
Pilarcitos	711,000,000 gallons
San Andres.....	2,564,500,000 gallons
Lower Crystal Springs.....	4,689,500,000 gallons
Upper Crystal Springs.....	2,865,000,000 gallons
<hr/>	
Total	10,830,000,000 gallons

LAKE MERCED—	
South Lake Merced.....	1,481,000,000 gallons
North Lake Merced.....	516,000,000 gallons
<hr/>	
Total	1,997,000,000 gallons

The amount in the San Mateo County Reservoirs at their lowest stage in November, 1900, was 8,351,530,000 gallons.

The comparison has been made between the rainfall records of the U. S. Weather Bureau of San Francisco and the records of the Spring Valley Water Works at the reservoirs in San Mateo County since 1878, with the exclusions of three seasons of unusually heavy rainfall, to approximate the relation between rainfall in the two localities in seasons when the total precipitation is moderate.

It was found that at the reservoirs 75 per cent more rain is to be expected than at San Francisco.

The rainfall of the last five seasons at San Francisco has been as follows:

1896-97.....	23.43 inches
1897-98.....	9.38 inches
1898-99.....	16.87 inches
1899-1900.....	18.47 inches
1900-1901.....	21.17 inches
<hr/>	
Total.....	89.32 inches
Average.....	17.86 inches

For five additional seasons similar to the last five, there is therefore to be expected at the reservoirs a rainfall of 75 per cent in excess of this amount, or 31.25 inches.

All of the rain falling upon the water surface of the reservoirs and about 20 per cent. of that falling upon the watershed surrounding the reservoirs and made tributary thereto by intercepting canals and flumes, will be added to the reservoir contents.

The water surface area will constantly fluctuate. It will increase rapidly during the rainy months and will thereafter decrease slowly until the next rainy season sets in. Great variations in aggregate areas may be caused by drawing upon one or the other of the reservoirs more than upon the others. It is as well to assume for purposes of runoff calculations, a uniform water surface area for each of the five seasons, at the average expected for the whole period under consideration. This is approximately 900 acres.

The areas whose run-off is brought in by flumes are in wet seasons only partially tributary because flow in excess of flume capacity is lost. They should ordinarily be estimated as being about one-half as affective in producing water as areas directly tributary to the reservoirs. But as a conjuncture is required that relates to less than normal rainfall, it may be assumed that under these conditions the

intercepting works will contribute the same percentage of runoff from their areas as that which reaches the reservoirs direct.

On these assumptions there are about 33 square miles of watershed area tributary to the reservoirs, exclusive of water surface areas.

The annual contribution to the reservoirs by the supposed rainfall of 31.25 inches, would, on the above assumption, be about 4,350 million gallons of water.

Evaporation from the reservoirs would vary with variations of water surface area and with climatic conditions that can not be foretold. It may be assumed that depth of water evaporated will be 3.5 feet, although it is quite possible that it will fall as low as three feet.

On this basis and areas indicated by the maximum and minimum reservoir contents each season, with water distributed to the three reservoirs in about the present proportions, evaporation has been approximated and enters into the calculations as below noted.

The water consumption of San Francisco is increasing at the rate of about 200 million gallons per year. It was 8,677 million gallons in 1897, and 9,295 million gallons in 1900. It is therefore estimated that water will be required as follows:

In 1901 about.....	9,500 million gallons
In 1902 about.....	9,700 million gallons
In 1903 about.....	9,900 million gallons
In 1904 about.....	10,100 million gallons
In 1905 about.....	10,300 million gallons

Of the required water about 8,000,000 to 10,000,000 gallons per day will be supplied by the Alameda creek system from the Sunol gravels; and about 3,000,000 gallons can be supplied from Lake Merced.

Assuming that the Alameda Sreek system will supply the full amount claimed for it, 10,000,000 gallons per day or 3,650 million gallons per year, and that Lake Merced be also required to furnish the full quota of 3,000,000 gallons per day or 1,095 million gallons per year; then the peninsular reservoirs will be called on for the remainder of the water needed or applying the yearly amounts to 12 months, beginning November 1st:

Nov. 1, 1900 to Nov. 1, 1901, about	4,755 million gallons
Nov. 1, 1901 to Nov. 1, 1902, about	4,935 million gallons
Nov. 1, 1902 to Nov. 1, 1903, about	5,155 million gallons
Nov. 1, 1903 to Nov. 1, 1904, about	5,335 million gallons
Nov. 1, 1904 to Nov. 1, 1905, about	5,535 million gallons

On the required assumption, therefore, of five seasons, each with a fall of 17.86 inches of rain at San Francisco, the water account for the San Mateo County reservoirs becomes about as follows:

WATER RATES.

	MILLION GALLONS.	
	AMOUNT.	TOTAL.
Contents of reservoirs April 19, 1901.....		10,830
Evaporation to November 1, 1901, about.....	931	
Delivery to San Francisco to November 1, 1901.....	2,598	3,520
Contents of reservoirs November 1, 1901.....		7,310
Inflow 1901-1902.....		4,350
		11,660
Evaporation 1901 to 1902 about.....	1,150	
Delivery to San Francisco 1901-1902.....	4,955	6,105
Contents of reservoirs November 1, 1902.....		5,555
Inflow 1902-1903.....		4,350
		9,905
Evaporation 1902-1903 about.....	1,000	
Delivery to San Francisco 1902-1903.....	5,155	6,155
Contents of reservoirs November 1, 1903.....		3,750
Inflow 1903-1904.....		4,350
		8,100
Evaporation 1903-1904.....	875	
Delivery to San Francisco.....	5,355	6,230
Contents of reservoirs November 1, 1904.....		1,870
Inflow 1904-1905.....		4,350
		6,220
Evaporation 1904-1905 about.....	680	
Delivery required by San Francisco 1904-1905.....	5,555	6,235

On the above assumption, therefore, of five additional seasons whose rainfall averages the same as that of the last five seasons, and the addition of no new sources of supply, the San Mateo County reservoirs must be expected to be empty at the beginning of the rainy season 1905-1906.

Their contents in November of each year from and after 1900 would be as follows:

1900—reported at.....	8,351 million gallons
1901—about.....	7,310 million gallons
1902—about.....	5,555 million gallons
1903—about.....	3,750 million gallons
1904—about.....	1,870 million gallons
1905—about.....	0 million gallons

Alameda Creek has in the past contributed as much as 7,000,000 gallons per day on the average for an entire year. The pipe line capacity from Alameda Creek has been increased to about 10,000,000 gallons by the new arrangement of bringing in Alameda Creek water from the gravel beds in Sunol Valley. The Belmont pumps can handle 10,000,000 gallons per day. It is not known, however, that the expectation of the Spring Valley Water Works that the Sunol gravels will yield 3,650 million gallons per year will be fully realized. Should this amount fall to 8,000,000 gallons per day or 2,920 million gallons per year, then on the same lines of reasoning as above the reservoirs would be empty some time in the summer of 1904.

There is no question concerning the possible increase of the supply from Sunol Valley. The yield of the gravels in the winter months can be made to greatly exceed the Alameda Creek pipe line and Belmont station pumping capacities—each being about 10,000,000 gallons per day.

The pipe capacity can be materially increased by adding more submerged pipes under San Francisco Bay.

The pump can be altered to meet such increased capacity to a limit of about 14,000,000 gallons (claimed by the Chief Engineer of the S. V. W. W.)

Additional pumps could be installed if required.

By the construction of a low dam at Calaveras Valley enough water could there be stored to keep up, without question, the supply to the Alameda Creek pipe line, to the extent of 14,000,000 gallons or more, throughout the year.

These alterations and additions could be made before the beginning of the wet season 1902-1903, and would materially reduce the draft upon the San Mateo County reservoirs.

It is, therefore, to be assumed that the Spring Valley Water Works will, for some years at least, and without undertaking any new works on a large scale, be in a position to meet the growing requirement of the City.

It should also be stated that the recurrence of five seasons all with normal or less than normal rainfall is highly improbable. That within this period at least one season with considerable excess of rain over the normal is to be anticipated, and that in each such season with an excess of rain a larger percentage of the rain will reach the reservoirs than in seasons such as are made the basis of this illustration.

NORTH FORK OF YUBA RIVER PROJECT.

Yuba River is the principal tributary of Feather River, which it joins at Marysville. It has a watershed area of about 1,298 square miles, draining a broad section of the western slope of the Sierra Nevada northward from the line of the Central Pacific Railroad. In the drainage basin of this river's South Fork are many high mountain lakes and reservoirs in which water is stored for the mines, for

power development and for irrigation. The water is used in the low mountain and foothill territory which lies between the South and Middle Forks of the river and in the drainage basin of Bear River.

The Middle Fork ranks lowest in extent of country drained. The North Fork is a stream of copious flow, probably never carrying less than 200 second feet at its lowest stages at the point where it joins the Middle Fork. The mean annual precipitation (snow and rain) in its drainage basin is about 60 inches.

The North and Middle Forks unite about two miles west of North San Juan. Ten miles below their junction the South Fork comes in from the east. This point is about 25 miles east of Marysville.

About fifteen miles above the junction with the Middle Fork on the North Fork is Alabama Bar. This is the point which has been indicated as a suitable one for diverting water from the river for use in San Francisco. The river above this point has a drainage area of 417 square miles. The river here lies in a gorge which is 1,500 to 2,000 feet deep. A contraction in this gorge, just at the lower end of Alabama Bar, offers a suitable dam site. Hard rocky cliffs will afford suitable abutments for a diverting dam and give promise of a suitable foundation therefor under the gravel which lies in the bed of the stream.

The altitude of Alabama Bar is about 1900 feet. It lies below the snow line and is easily accessible. A comparatively short canal from this point along the mountain slopes west of the river would take the water over the ridge (or, to speak more precisely, through the ridge in a tunnel about five miles long) into the drainage basin of Dry Creek, from which the lower country toward the west is all commanded. There is right at hand, if this location be adopted for a canal, a reservoir site with a capacity ample for the needs of this City in combination with such a source as Yuba River. This is the Oregon House site. Its capacity, with a dam 140 feet high and water five feet below the crest of the dam, would be 29,500,000,000 gallons above the proposed outlet elevation. It lies so near the summit of the flat ridge which separates creek from river drainage that its own watershed area is very small. This is an advantage in this case, where entire reliance is to be placed upon a canal from the river to fill it and where large drainage ground would only increase the danger of pollution.

The lowest point of this reservoir site is at an altitude of about 1,475 feet, the proposed water surface about 1,610. The reservoir outlet is projected at an elevation of 1,500 feet, thus making 110 feet in depth of its water available for use. From it water can be carried about nine miles southerly in a canal to a suitable place for a drop and power station. The water there liberated at an elevation of about 550 to 600 feet would, after being led to filter beds, enter the main pipe line leading to this City.

Alabama Bar is about 140 miles distant from San Francisco in an air line. The intake of the main pipe line would be about 120 miles from here.

Surveys were made last summer to determine the feasibility of effecting the proposed diversion to determine reservoir capacity and to make a preliminary study of canal location, in order that some definiteness could be given to a cost estimate of this project. As elsewhere explained, it is thought desirable to project a canal of sufficient capacity to supply a year's supply of water to the reservoir in those months during which the river's flow exceeds its low-water discharge, thereby avoiding conflict with rights that may have been vested in other parties to any of the low-water discharge of the river and rendering condemnation proceedings unnecessary.

The canal, if used only for river water in excess of low-water discharge, would be out of service for two to four months each year.

During the rest of the year the river's discharge exceeds its low-water flow by amounts ranging from a few second feet to thousands of second feet. The excess is well sustained for four or five months, ordinarily from February until late in June, and it has seemed desirable to project the canal of sufficient capacity to

carry into the reservoir nearly the full year's supply within this period. Information is lacking which would permit a definite statement to be made, on the foregoing extreme assumption that none of the low water is to be taken, relating to the amount which could be diverted each month in normal seasons. There has been, however, a study made, largely upon a general knowledge of run-off conditions and the rainfall records in and adjacent to the river's watershed area, of the seasonal variations and the river's discharge. The result of this study is below noted. Monthly averages are given. Material departure from these figures is to be anticipated for any single month, but the flow in excess of low-water stages is so great that an abundant supply to replenish the reservoir each season may be assumed.

The canal capacity should be about 235 second feet flowing full for four months and one-third full for an additional period of four months would put about 24,400 million gallons of water into the reservoir, of which 2,700 million gallons could be allowed for loss from canals and by evaporation and still leave 60,000,000 gallons per day for delivery to San Francisco.

The canal has been preliminarily projected on a gradient of about 8 feet per mile, but if constructed it would be put upon a lighter gradient to keep mean velocity at or below 4 feet per second. For estimate purposes it has been assumed that an effective cross section of about 66 square feet of water would be required and that the bottom width of canal in rock would be 8 feet.

It is not proposed to line the canal with masonry or concrete. This could be done at any time in the future, when it might become of some importance to increase its carrying capacity and to reduce the amount of water lost by infiltration into the soil and rock fissures.

Diversion of water from the North Fork would be effected at Alabama Bar by a masonry dam or weir about 70 feet high and 220 feet long, which would raise the water surface of the river sufficiently to fill a canal and locate it high enough to be above reach of high water in the canyon below the dam.

The hillside into which the canal would have to be cut is for the most part a very hard rock, various kinds of diorite predominating, thinly covered with soil, which, however, is sufficient to afford foothold for a dense growth of brush. The slopes are steep, generally 45 to 60 degrees with the horizon, occasionally as flat as one vertical on three horizontal. There is no sliding ground.

The best way to reach Oregon Reservoir from Alabama Bar is by means of a canal six miles long, thence by a tunnel 30,000 feet through the ridge and by canal about six and one-fourth miles long, from the lower end of the tunnel to the reservoir site, making the total length of conduit from Alabama Bar to the reservoir about 17.8 miles.

Two other canal routes have been examined; one for a canal about twelve miles long to a tunnel about four miles in length to the same point for tunnel outlet as that of the accepted project, thence by canal as above stated; the other for a still longer canal and shorter tunnel. Both of these projects are feasible, but longer canal lines on some very difficult ground more than offset any disadvantage due to the longer tunnel on the accepted route.

The country drainage which crosses the line of the canal would be carried across the canal in suitable structures, except in the case of such streams as Empire and Indian creeks, of which the former would be crossed in a flume, the latter by means of an iron pipe forming an inverted siphon about 760 feet long.

As above stated, an extreme possible gradient of eight feet per mile for the canal line was assumed. This was done because it may be found desirable to carry the water in the canal at a higher velocity than in ordinary practice, in order to reduce width and cross-sectional area of canal, and thereby reduce cost of construction.

Tunnel position and length were determined for estimate purposes on this basis. For the large volume of water which it was, later in the investigations, thought

desirable to provide for, the gradient will probably be nearer four feet per mile, and either the tunnel entrance can be raised and the tunnel shortened to some extent, or the height of the diverting dam at Alabama Bar can be somewhat reduced.

There will naturally be some choice as to the distribution of the 200 feet fall from proposed crest height of dam at Alabama Bar to high-water elevation in Oregon House Reservoir. This matter has not received the full consideration which it should be given in case of actual construction.

The Oregon House Reservoir is favorably located. The utilization of this site would require the construction of a masonry dam a few hundred yards below the Oregon House. Bedrock is exposed at this dam site, so that there is no uncertainty as to the sufficiency of a foundation for a substantial dam. The dam should be a first-class structure. The water to be impounded above it would be so great that no reasonable precaution should be neglected in making it a safe structure. Failure here would not alone result in detriment and inconvenience to the community depending upon the reservoir for its water supply, but being in comparatively close proximity to the valley sections of Dry Creek and Yuba River, would endanger life and property. It is, therefore, thought advisable to make a masonry structure the basis of the cost estimate.

The projected dam would have a crest length of 1,615 feet and a height of 135 feet. Its cubical contents in masonry would be about 123,400 cubic yards. With water five feet below its crest it would inundate about 1,800 acres. The elevation of the high-water plane of the reservoir would be about 1,610 feet above sea level and its effective capacity about 29,500 million gallons. Near the upper end of the reservoir are several low places in the flat ridge which separates the reservoir basin from adjacent drainage areas. These would have to be closed by low dams of earth.

The reservoir site is a beautiful flat, sparsely covered with oak timber. Very little clearing would be required to prepare it to receive water.

The survey below this reservoir site was extended far enough to demonstrate possibilities of power development by dropping the water from the reservoir elevation to the altitude at which a pipe line intake should be located, with an allowance for loss of head at a proposed filter station.

Leaving the reservoir by canal at an altitude of 1,500 feet or 110 feet below proposed high water, it is found feasible to carry it southward about 9 miles by a canal to a point where, within less than one mile of distance, a drop of 850 feet or more can be utilized. Water would in such event be liberated at an elevation in the neighborhood of 600 feet and the pipe line to San Francisco would be operated under comparatively light pressures and with a low effective head. The power generated would be required, in part, to put the water under additional pressure as it approaches San Francisco, and particularly to overcome frictional resistance in the pipe or pipes under the Bay and to elevate the water to the desired height at the selected point of delivery in San Francisco.

The filter beds would be located near the power station, preferably several miles to the westward at such elevation that water would be delivered from them into the main pipes at about 530 feet above sea level.

Two pipes each 54 inches in diameter would be required to convey 60,000,000 gallons of water per day from this point to a pumping station to be located about one-half mile to the southward of Vallejo Junction. To reach this point the pipes would cross Yuba River near the mouth of Dry Creek; they would pass to the westward of Wheatland, cross Bear River, and several small streams, in a southerly direction, thence turning into a southwesterly direction on a trestle support they would cross the submersible country upon both sides of Sacramento River. The river itself would be crossed in a triple line of submerged pipe.

Reaching a point to the southward of Woodland, the line would be southerly to near the railroad southward from Davisville, thence closely following the railroad

near Suisun and around the Suisun marshes to near Army Point; thence along the hills westerly on the north side of Carquinez Straits to a point opposite Vallejo Junction, where the water would be delivered into an iron-lined tunnel leading under the Straits at a depth of about 400 feet below the water surface. Rising by shaft from this tunnel it would be carried through the spur of hills in the rear of Vallejo Junction at an elevation of 60 to 80 feet and delivered into a receiving reservoir at a pumping station.

Here power transmitted by electricity from the power station would put the water under sufficient pressure to effect its delivery in San Francisco at an elevation of about 200 feet on Telegraph Hill.

The pipes from this pumping station to Yerba Buena Island, where water would be delivered into a tunnel under the Bay, would be two lines each 48 inches in diameter. It is assumed that authorization can be obtained, by act of Congress if necessary, to extend a trestle from the Oakland shore of the Bay to Yerba Buena Island for the support of the pipe, and that permission will likewise be given to lay pipe on the Island and to construct a shaft on the Island and to tunnel under the Bay at a depth of 500 to 700 feet below the water surface. The double pipe line would terminate at the shaft on Yerba Buena Island, into which the water would be delivered.

The Bay crossing would be effected by tunnel two miles long. This tunnel and shafts at either end would be iron lined and would become the conduit under the Bay.

Continuity of service under this system will depend upon continuous service by the pumps at the pumping station and by the water wheels and electric generators at the power station. To avoid inconvenience which would result in case of temporary intermission of service from any cause, whether at the pumps at the power house or on account of repairs along the pipe line, it will be desirable to provide auxiliary near-by storage.

This is best obtainable on Pinole Creek, about three miles above Pinole.

A reservoir there to be constructed with water surface at an altitude of about 270 feet above sea level, would hold in reserve about 6,000 million gallons of water.

This reservoir would be filled by natural inflow from tributary watershed areas in one or more seasons. It could also be filled by pumping into it a part of the supply brought down in the pipes from Yuba River.

This reservoir, when full, can send some water into a proposed receiving reservoir on Telegraph Hill, at 200 feet or less elevation by gravity flow, but to become a reliable auxiliary source it will be necessary to provide a second pumping station with steam power located near Pinole, which would put the Pinole water under sufficient pressure to keep up the full supply to San Francisco, no matter at what stage the water may be in the Pinole reservoir.

Further investigation, in case of actual construction, may demonstrate the desirability of combining the two pumping stations, establishing only one, equipped for both electric and steam power at Pinole. A full investigation of this matter has not been attempted.

The project as here outlined has been made the basis of the cost estimate.

It is necessary to state, however, that careful instrumental survey as a basis for a cost estimate has only been made for the upper sections of this project; that pipe location and lengths, and proposed straits and bay crossings, and pump locations are based on map studies and reconnaissances, which leave the project subject to material modification in case further examination thereof is desired.

DISCHARGE OF THE NORTH FORK OF YUBA RIVER AT THE DAM OF THE BAY COUNTIES POWER COMPANY ABOUT TWELVE MILES BELOW ALABAMA BAR.

The following gaugings of the north fork of Yuba River were made in the summer of 1900 by Mr. H. D. Connick for the U. S. Geological Survey, under direction of Mr. M. Manson. The measurements were made about twelve miles below Alabama Bar, at the dam of Brown's Valley Irrigation District, now generally referred to as the dam of the Bay Counties Power Company:

July 3rd.....	606 second feet
July 6th.....	567 second feet
July 17th.....	438 second feet
July 18th.....	419 second feet
July 27th.....	366 second feet
July 29th.....	371 second feet
July 31st.....	364 second feet
Aug. 9th.....	328 second feet
Aug. 10th.....	322 second feet
Aug. 29th.....	282 second feet
Aug. 30th.....	284 second feet

Based on these measurements and water surface elevations which were recorded twice each day, the average flow was estimated as follows:

For July, 1900 at.....	460 second feet
For Aug., 1900 at.....	311 second feet
For Sept., 1900 at.....	276 second feet
For Oct., 1900 at.....	486 second feet

The minimum flow in this period was about 265 second feet.

In the absence of discharge records the normal flow of the river has been estimated from rainfall in the tributary watershed and apportioned to the several months of the year by diagram. The apportionment of the flow to the several months is to be considered less reliable than the figures noted for mean annual discharge.

This diagram indicates the following:

January.....	Normal flow, about 600 second feet.
February.....	Normal flow, about 1,000 second feet.
March.....	Normal flow, about 1,800 second feet.
April.....	Normal flow, about 2,700 second feet.
May.....	Normal flow, about 3,200 second feet.
June.....	Normal flow, about 2,000 second feet.
July.....	Normal flow, about 600 second feet.
August.....	Normal flow, about 300 second feet.
September.....	Normal flow, about 250 second feet.
October.....	Normal flow, about 250 second feet.
November.....	Normal flow, about 300 second feet.
December.....	Normal flow, about 400 second feet.

Mean annual..... 1,120

POLLUTION OF WATERS WHICH REACH THE NORTH FORK OF YUBA RIVER.

The water of the north fork of Yuba River at Alabama Bar is always turbid; sometimes it is very muddy. Above Sierra City the water of this stream is clear at ordinary low water stages.

Turbidity of the lower sections of the river is due mainly to mining operations. No discussion of this stream as a source of supply for domestic water for San Francisco would be complete without some reference to the extent of this pollution from the waste discharge of mines, from hydraulic mining operations and from human activity in other directions throughout the river's watershed. The result of a study of this matter will be briefly presented. The examination in the field was extended only to the vicinity of the principal settlements. It could not be made complete for the entire area of 417 square miles tributary to the river at Alabama Bar.

The population of Sierra County in which the drainage basin of this fork of Yuba River is located is still gradually decreasing. It was 11,387 in 1860, 5,619 in 1870, 6,623 in 1880, 5,051 in 1890 and 4,017 in 1900. It is estimated that about three-fourths of this population or 3,000 are within the drainage basin under consideration.

About one-half of this population lives in towns or in small villages of which the following may be enumerated:

Downleville with a population of.....	500
Sierra City, estimated population of.....	350
Portwine, estimated population of.....	150
La Porte, estimated population of.....	300
Gibsonville, estimated population of.....	200
Goodyear's Bar, estimated population of.....	40

The principal occupation of the people in this district is mining. Population has decreased as placer ground was worked out and hydraulic mining operations were scaled down under the attempts that have been made to prevent the discharge of mining detritus into the rivers.

The direct effect of mining operations upon the water—in the degree of discoloration—is more marked in summer at the low stages of the river than in winter.

Most of the mining detritus which reaches the river is brought in from mines worked by the hydraulic process, in the more elevated portions of the drainage basin. These mines are generally operated while the snows are melting in February, March, April and May. There is no comprehensive water storage or ditch system in this district, so that when streams begin to fall to their low stages, the hydraulic mining operations are speedily terminated for the season on account of lack of water.

Within this drainage basin are 54 hydraulic mines which have applied to the California Debris Commission for permission to continue operations by the hydraulic process, of which fourteen seem to have been in active operation in 1900.

The following table will give some idea of the extent of deposits yet to be worked:

APPROXIMATE AMOUNT OF GRAVEL MINED AND STORED.

WATER RATES.

NAME OF MINE.	No.	1895.	1896.	1897.	1898.	1899.	1900.	TOTAL.	AMOUNT PROPOSED TO MINE.
		Cu. yds. 7 000	Cu. yds. 150	Cu. yds. 1 500	Cu. yds. 2,000	Cu. yds. 650	Cu. yds. 440	Cu. yds. 11,740	Cu. yds. 12,000
Corblar and Bean.....	9	7 000	150	1 500	2,000	650	440	11,740	12,000
Phoenix.....	10	.....	.....	.....	.....	.....	.....	.....	1,680,000
Eureka.....	11	3,000	41,000	5,120	10,000	.....	7,000	66,120	558,000
Craycroft.....	12	13,000	17,000	.....	24,000	.....	.....	54,000	140,000
Excelsior.....	13	10,000	21,000	.....	.....	.....	.....	31,000	.....
Nevada.....	18	.....	.....	.....	.....	.....	.....	.....	10,000*
First Chance.....	22	700	126	8	.....	.....	.....	834	200,000†
Mateos.....	24	.....	.....	.....	.....	.....	.....	.....	†
Davis.....	25	837	3,203	8,333	.....	.....	.....	12,373	.....
Noonday.....	31	.....	4,750	4,025	.....	.....	.....	8,775	40,000‡
Cleveland.....	52	.....	10,010	90	.....	10,000	.....	20,100	125,000‡
Mugginsville.....	72	.....	12,000	10,000	10,000	.....	4,500	36,500	450,000
O'Keefe.....	135	.....	.....	.....	.....	.....	.....	.....	6,000
Charcoal Ranch.....	136	.....	312	500	.....	.....	.....	812	150,000†
Sharp.....	137	.....	.....	.....	.....	.....	.....	.....	200,000‡
Willow Placer.....	146	.....	462	8,000	3,000	4,200	.....	15,662	11,000
Canada.....	147	.....	12,500	30,000	.....	.....	.....	42,500	12 000
King Sayre.....	148	.....	1,200	.....	.....	.....	.....	1,200	18,000†

* Will not be worked. † Worked out. ‡ Mine worked out. § Worked out—suspended. ¶ No permit.

GRAVEL MINED AND STORED—CONTINUED.

NAME OF MINE.	No.	1895.	1896.	1897.	1898.	1899.	1900.	TOTAL.	AMOUNT PROPOSED TO MINE.
		Cu. yds.	Cu. yds.	Cu. yds.	Cu. yds.	Cu. yds.	Cu. yds.	Cu. yds.	Cu. yds.
Argentine.....	149	.....	.....	.....	.....	.....	9,000	9,000	4,000
Dutch.....	158	.....	38,700	2,000	.....	6,000	5,000	46,700	12,000
Pacific.....	166	.....	.....	.....	.....	.....	.....	.....	4,639
Sacket Gulch Claim.....	226	.....	.....	4,440	3,000	.....	.....	7,440	27,000
Hilda.....	331	.....	.....	.....	3,500	.....	7,500	11,000	.....
Craycroft.....	241	.....	.....	.....	.....	.....	.....	.....	90,000
Burlington.....	245	.....	.....	.....	1,244	3,756	4,500	9,500	20,000
Linda.....	249	.....	.....	.....	1,100	.....	3,496	4,596	12,500
Preacher's Ravine.....	258	.....	.....	.....	.....	2,400	800	3,200	11,111*
Crawford.....	259	.....	.....	1,000	.....	.....	.....	1,000	20,000†
Montre.....	273	.....	.....	3,000	.....	.....	.....	3,000	†
Morristown.....	307	.....	.....	.....	.....	.....	.....	.....	10,000
Willow Placer (Extension)...	318	.....	.....	.....	3,000	4,200	18,200	25,400	25,000
California.....	319	.....	.....	.....	.....	200	.....	200	8,000
Taber.....	322	.....	.....	.....	1,890	.....	.....	1,890	10,000†
Barnhard Biggim.....	328	.....	.....	.....	.....	.....	.....	.....	10,000
Emerton.....	333	.....	.....	.....	.....	.....	.....	.....	5,000
Doherty.....	334	.....	.....	.....	.....	.....	.....	.....	16,000
Gold Nugget.....	335	.....	.....	.....	1,000	120	1,000	2,120	15,000

* Mine worked out.

† License revoked.

GRAVEL MINED AND STORED—CONCLUDED.

WATER RATES.

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NAME OF MINR.	No.	1895.	1896.	1897.	1898.	1899.	1900.	TOTAL.	AMOUNT PROPOSED TO MINR.
		Cu. yds.	Cu. yds.	Cu. yds.	Cu. yds.	Cu. yds.	Cu. yds.	Cu. yds.	Cu. yds.
Sockets.....	386				2,700			2,700	25,000
Canada.....	387 ²								4,000
Mosquito.....	388				75			75	*
Mohler.....	343				5,200	200		5,400	†
Last Chance.....	364								29,000
Imperial.....	388								
Fair Play.....	392						14,000	14,000	30,000
Morristown.....	397								20,000
Corsica.....	399								15,000
Cleveland No. 2.....	401								50,000;
Spanish Flat.....	421						737	5,237	42,000
Yankee Hill.....	425						2,000	2,000	8,349
Klondike.....	429						1,000	1,000	16,000
French Claim.....	436								
Rifle Point.....	451								9,270
Lucky Point.....	432								20,833
Gardner's Point.....	470								800
		34,538	157,413	78,016	71,709	36,226	79,173	457,074	4,157,492

* License revoked.

† Worked out.

‡ Suspended.

§ Same as No. 147.

It appears from these figures that about 80,000 cubic yards of gravel are mined per year and that the estimated aggregate deposit of auriferous gravels in the gravel mines of this region exceeds 4,000,000 cubic yards. It also appears that hydraulic mining may be expected to continue for many years.

It is understood to be the policy of the U. S. Debris Commission to permit storage of mining detritus only on small streams in favorable sites not on the main rivers, so as to reduce to a minimum the danger of destruction of storage works by freshets. But wherever constructed, these works do not clarify the water which has been used to tear down the gravel banks and carry the gravel and soil through long stretches of bedrock cut and sluice boxes. At their best, they re-strain gravels and sand and that part of the finer silt which is readily dropped by water, the rest mostly fine, red clayey material and finely divided siliceous particles, are carried into the main stream.

The policy of the Debris Commission as above indicated may, in a measure, reduce the ultimate output of the mines, in cubic yards of material washed, for the reason that storage facilities may fall short of the estimated amount yet to be mined, and mining operations may have to cease when this storage is exhausted.

On the other hand there are many other mining claims which would be worked by the hydraulic process if their debris could be stored at a reasonable expense. It may be that in some of these cases means will yet be found to permit additional operations.

Quartz mining in this region is limited, and is confined almost entirely to the eastern portion of the drainage basin. The principal quartz mine is at the Sierra Buttes near Sierra City. This mine sends its tailings to the river where they pass through arastras, of which five are in operation. The resulting pulp is discharged into the river and contributes in no small degree to the discoloration of the river water. All of the tailings from the quartz mines, whose mill capacity is in the aggregate about equivalent to a single mill of 70 stamps, send their tailings into the river or so deposit them that they are liable to be swept in by freshets.

To a small extent pasturage may contribute to the pollution of the river water. Although the area over which stock ranges is large, the number of animals pastured is very small. It takes many acres of ground to supply food for each horse or cow, so that objection to such use of a collecting ground for water is of minor importance.

The most important of the towns in this drainage basin is Downville, the County Seat of Sierra County. As above stated, its population in 1900 was 500. It is located on the north fork about 25 miles by river from Alabama Bar. Most of the 136 buildings in the town are near the banks of the main river or near those of the north fork which flows into the larger stream at this point. The hotels of the town and many residences discharge waste water and sewage directly into the river, otherwise vaults are used for sewage proper.

At Sierra City, about 35 miles above Alabama Bar, the situation is similar to that of Downville, except that the town is all upon one bank of the river and elevated above the same 90 to 100 feet. Most of the buildings front upon a main street parallel with the river. Very little sewage is discharged directly into the stream; most of it flows into vaults, which are generally shallow. Seepage waters from these and their overflows during storms in winter reaches the river.

Of the other settlements it is not necessary to make any extended mention. La Porte and Portwine are located on the headwaters of Slate Creek, a north side tributary of the north fork. These villages, as well as a number of smaller settlements, are located on gravel formations. Sewage disposal is effected by delivery into vaults. Kitchen waste is either sent into vaults or into any near-by ravine or depression.

Except in the case of Sierra City and Downville there is no water carriage of fecal matter.

Although the mining industry is lagging in this region and further decrease of population is anticipated, the fact remains that this region is one from which it

is not to be hoped that all sources of possible pollution of the river water can be removed. Under these circumstances the water from this source should not be delivered in San Francisco without being filtered.

Special precautions are therefore assumed to be necessary to make this water acceptable for domestic use.

FILTRATION OF NORTH YUBA RIVER.

On the main canal leading from the north fork of Yuba River to the Oregon House Reservoir, there should be arranged one or more small settling basins to remove from the water sand and heavy silt or any other material that would otherwise accumulate in the canal.

In the large Oregon House Reservoir the water will be at rest for months, and lighter sediment will be deposited. The water will leave this reservoir very slightly, if at all turbid.

But in order to prepare the water for domestic use, and to remove from it any objectional excess of bacterial life, filtration through sand is assumed to be necessary.

The filter plant will preferably be arranged on the English plan of slow sand filtration and may be located either somewhere near the power station at the pipe intake or nearer San Francisco at some point on the route of the pipe line.

For estimate purposes a location near the power station is assumed. It is not intended to enter at this time into a discussion of the merits of slow sand filtration as compared with the American system of mechanical filtration. Both of these methods have their advocates. Local conditions will often determine which is to be used.

In either case the cost per million gallons of water filtered would be about the same, and in each case the filtered water would be quite acceptable for domestic use in a large city.

LAKE TAHOE PROJECT.

The utilization of Tahoe water would involve the establishment of works for a complete control of the lake surface. It would be necessary to so arrange the outlet from the lake that the lake surface could be lowered, if demands upon the lake at any time made this necessary, about four feet lower than it can now be lowered.

The outlet structure must be substantial with gates easy to manipulate and with an overflow section at about the height of extreme high water.

The diversion of the water to San Francisco would be either as proposed by the Lake Tahoe and San Francisco Water Company, down Truckee River about four miles, thence by canal to a tunnel through the main ridge of the Sierra Nevada to near Soda Springs on American River, or by tunnel direct from the lake near McKinney's to the Rubicon fork of American River, thence by tunnel or by conduits and tunnel to Gerle Creek and down the Georgetown Divide to a large reservoir at Greenwood a few miles west of Georgetown.

In the light of present information the second or alternate tunnel and canal line location—that is, the one down the Georgetown Divide—seems to offer the greatest advantages and has been made the basis of the preliminary cost estimate.

TAHOE WATER COMPANY'S LINE.

Should the route suggested by Colonel A. W. von Schmidt be followed, the water for the City would be turned down the river about four miles, in which distance the river falls about 25 feet, thence by canal down the left bank of Truckee River, skirting the mountains and gradually attaining an elevation of a few hundred feet above the water surface of the river 6.2 miles to a point on

Deep Creek where the water would be turned into a tunnel 5.5 miles long. From this tunnel the water would emerge just above Soda Springs in the North Fork of the American River.

The canal location in the Truckee River Valley is favorable. The canal would, however, need some protection from drifting and sliding snow if it were required to be kept open throughout the winter months.

The tunnel location is fairly favorable. An alternate location from Cold Creek to Soda Springs was also examined. This is somewhat shorter, but the difference in length is not sufficient to justify the extension of the canal to Cold Creek, a distance of about four miles.

The water discharged by tunnel into the North Fork of the American River is to flow in this stream about twelve miles, dropping from an altitude of over 6,000 feet to about 3,500 feet. It would be again diverted from this stream just above Sailor Ravine, from which point a canal location would apparently encounter fewer serious obstacles than from any other point on the river, and would be above points where polluted tributary waters are to be feared, and it would be high enough to bring water out upon the Auburn Divide.

A canal in this location to an acceptable reservoir site near Auburn would have a length of about 45 miles. It is very probable that some power development would be possible both above and below Auburn, but this matter has not been further investigated, as it was thought advisable to give more attention to the other route.

It is not believed possible to secure on this route favorable locations for sufficient power development by the falling water to make the pipe line route by way of Livermore Pass feasible. The pipe line location would therefore be by way of Sacramento to near Davisville, and by way of Benicia under Carquinez Straits to Oakland, to Yerba Buena Island and by tunnel under San Francisco Bay.

GEORGETOWN DIVIDE LINE.

It is extremely desirable to keep the upper sections of the water works, if any be established with Lake Tahoe as a source, protected from the extreme cold and from the drifting and sliding snows of the high Sierra Nevada Mountains.

Such selections of a canal route as that along Truckee River would be, are extremely undesirable when, as in the case of a city water supply and possibly power development, uninterrupted and reliable service are of the first importance, unless storage below the snow line will afford a supply for four or five months of the year to serve in case of stoppage of the upper sections of the canal.

It has, therefore, seemed preferable to start from the lake by tunnel and to bring the water as speedily as possible to the summit of one of those long, gently sloping ridges or spurs which extend far toward the west between the high mountain streams. It was found by survey that a tunnel a little over five miles long would connect the lake with the Rubicon branch of American River, and that a second three to five mile tunnel would carry the lake water on to Gerle Creek.

Two routes for these tunnels were found to be feasible. The first from Meeks Bay by canal, which would be covered, 4,100 feet, thence by tunnel 5.12 miles long to the Rubicon River and direct to the point where the tunnel emerges to Gerle Creek. A second and preferred location from a point about one-half mile north of McKinney's by tunnel 5.87 miles long to Rubicon River at Miller's Creek, across the Rubicon about 3,700 feet in a covered pipe siphon, and thence by tunnel three and three-tenths (3.3) miles to Gerle Creek, which point would be reached at about 80 feet below the proposed low-water plane of the lake.

The water is to flow down Gerle Creek about (7) miles, thence by canal a little above the route of the California Water Company's ditch across the Little South Fork of the Rubicon, along the south canyon wall of this stream and of the Rubicon to Pilot Creek, the last 14,100 feet of this section would again be in tun-

rel. The Pilot Creek basin would be reached near the head of that stream, and the route thence down the Georgetown Divide is practically along the backbone of the ridge, with here and there a tunnel, a siphon or a sudden drop in a chute, as may be made necessary by the irregularity and discontinuity of the ridge summit and by its rapid fall toward the west. This summit of the ridge is for the most part favorable for canal construction. There will be but little hillside drainage to keep out of the canal, land and snow slides are much less to be feared than in locations far down on steep hillsides and the canal will be fairly accessible.

A long canal line at altitudes of 4,000 to 6,000 feet is exposed to lower temperatures and increased danger of service interruption by formation of ice than if located in the deep gorges far down on the canyon slopes, which offset in a measure the other advantages of this location.

It is possible that there would never be any interruption of service from this cause, but only actual experience with the large volume of water proposed—60 to 150 second feet—would demonstrate this fact.

The danger from cold weather and from drifting and sliding snow is to be minimized by the recourse to long tunnels as already explained, and the canal can be covered at all exposed points when experience has demonstrated this to be necessary.

From Gerle Creek 43.5 miles of canal and between four and five miles of tunnel will be required to deliver the water to a small reservoir which is to serve as the intake for a pipe to a proposed power station at the Greenwood reservoir, where a drop of 600 feet can be utilized to generate power for transmission by electricity. This section of the canal has not been surveyed, as the California ditch gave a fair indication of canal location and feasibility of construction.

No difficulty is anticipated in keeping this section of the canal open at all times, so long as water reaches it from above.

The Greenwood reservoir site is on Greenwood Creek and embraces the site of the village of Greenwood.

It was found by survey that for heights of dams upward of 100 feet storage capacity would be as follows:

Dam 100 feet high.....	2,721 million gallons
Dam 125 feet high.....	5,535 million gallons
Dam 150 feet high.....	9,522 million gallons
Dam 170 feet high.....	14,800 million gallons
Dam 200 feet high.....	21,516 million gallons

Good rock is available for the construction of a masonry dam and the dam site is favorable—exposed solid rock.

The storage at this point should be about 9,500 million gallons. Less would do, but only the largest storage lessens the danger of an interruption of service. It will not carry the supply over a winter in which an accident to the upper system may have thrown that portion of the canal out of service, but would also furnish an excess over the City supply to be liberated at a lower power station, in order to generate sufficient power to lift the water for the City over Livermore Pass.

To protect this reservoir from the suspicion of possible pollution, it will be necessary to intercept the water naturally draining into it, and to pass the same around its margin to a point below the dam. About four miles of ditches will be required for this purpose.

Water from Greenwood Reservoir would be carried by canal 6.5 miles long in a southerly direction to the South Fork of the American River, where a second power station would be arranged. At this point the available fall is about 700 feet.

From the power house the water would be carried over the South Fork of the American River, and thence by canal fifteen miles to a small reservoir at the

proposed main pipe intake. New York Ravine, where a dam 75 feet high would store about 440 million gallons of water, has been selected as the site for this reservoir.

The dam is planned as an earthen embankment. The head of the pipe line at this reservoir is to be about altitude of 600 feet.

The course of the pipes from here will preferably be southerly not far from the easterly margin of the valley, on fairly high ground, to near the Mokelumne river; thence southwesterly to the eastward of Stockton and across the San Joaquin river east of Banta to a suitable elevation about 150 to 200 feet on the eastern slope of the Coast Range, where a number of electrically driven pumps are to raise it over the Livermore Pass, which has an altitude of 740 feet.

From this point the route will be the one common to all Sierra Nevada Mountain projects, through Livermore Valley, around the upper end of the Bay to San Francisco by gravity, with a delivery at an elevation of about 200 feet.

The pipes across San Joaquin Valley from New York Ravine Reservoir to the pumping station near Livermore Pass are to be two or three in number. For preliminary estimate purposes two 50-inch pipes with a combined capacity of somewhat in excess of 60,000,000 gallons per day have been assumed. They would have a length of about 86 miles.

The maximum thickness of iron required would be 0.4-inch.

QUANTITY OF WATER TO BE EXPECTED FROM LAKE TAHOE.

An estimate of the probable yield of Lake Tahoe if used as a source of water supply, must, by reason of incompleteness of data, necessarily involve some conjecture.

The lake area is known from reliable maps; its watershed also. The rainfall can be approximated from records at nearby stations. There is no continuous rainfall record for a long time period available for any point within the drainage basin of the lake. Evaporation records have been kept for a single summer season. The outflow from the lake has been estimated, no doubt, with a fair degree of approximation during the summer and fall months of 1900, for the U. S. Geological Survey. This flow is not known for other years.

The lake fluctuations have been recorded for the year 1900, and it is known in a general way to what limits these fluctuations have been confined in past seasons.

From such facts some opinion is to be formed of the annual outflow from the lake and of the possibility of so controlling the lake surface by holding back its waters as to make it available as a source of supply for this City.

The lake is at an altitude of 6,225 feet. It has a water surface of 191 square miles, of which 135 lie in California and 56 in Nevada. The drainage basin tributary to the lake, not including lake surface, is 306 square miles, of which 228 square miles are in California and 98 square miles in Nevada.

The drainage basin on the west is the rugged precipitous eastern slope of the main ridge of the Sierra Nevada Mountain Range. Parts of this area are lightly timbered. The portion of the drainage basin on the east is less rugged and was originally fairly well timbered. Much of the timber has been felled and marketed.

The rainfall distribution to this drainage ground is not well-known, but as there is a general well-known decrease from west toward east from 26.5 inches per year at Truckee to only 11.0 at Carson—it must be assumed that this decrease also obtains in the lake basin. It is so indicated by the rainfall curves which are, however, all based on records, as stated, outside of the drainage basin. Taking general decrease indicated by these curves are applicable to this district, it follows that the rainfall west of the lake may be assumed at about 50 per cent greater than that on eastern portions of its watershed.

In the absence of better information it is to be assumed that the average rainfall on the water surface of the lake is the same as at Truckee.

The rainfall at Truckee for the season 1899-1900 which contributed the water reaching the lake in the year 1900 was 23.35 inches.

The rainfall at Truckee for the year 1900 was 17.56 inches.

The rainfall at Tahoe City from June to November inclusive, was 5.10 inches and at Truckee at the same time 4.53 inches.

The stage of the lake throughout 1900 is indicated by the following figures which are from the records of J. U. Haley as kept by him for the U. S. Geological Survey.

The record was kept at Glenbrook and Tahoe City. It has been reduced to gage readings at Tahoe City where the gage is attached to a pile of the wharf and its zero is understood to be at one foot below the elevation of the sill of the outlet gates in the Truckee River dam.

This record is as follows:

Reading on Gauge.		Reading on Gauge.	
1900—January 1.....	3.44 feet	November 1.....	3.11 feet
February 1.....	3.53 feet	December 1.....	3.51 feet
March 1.....	3.48 feet	1901—January 1.....	3.42 feet
April 1.....	3.82 feet	February 1.....	3.74 feet
May 1.....	4.10 feet	March 1.....	4.33 feet
June 1.....	4.54 feet	March 18.....	4.65 feet
June 17.....	4.70 feet	April 1.....	4.75 feet
June 30.....	4.70 feet	May 1.....	5.08 feet
July 15.....	4.56 feet	June 1.....	5.88 feet
August 1.....	4.51 feet	July 1.....	6.25 feet
September 1.....	3.82 feet	August 1.....	6.17 feet
October 1.....	3.32 feet		

Additional information relating to lake stages was obtained from Captain E. Pomein who has been on the lake for over 30 years, and from Mr. McKinney, who kept a record of rain and snow fall and of the lake stages for many years, which was, however, lost by fire.

Captain Pomein indicated marks that show an extreme fluctuation of lake surface of a little over eight feet from low water to extreme high water.

Mr. McKinney reports from memory over six hundred inches of snow for the season 1889-90, and besides this 18.5 inches of rain. (This is so far in excess of the precipitation at Truckee that no use has been made thereof in calculating probable watershed yield.) He places the range from low to extreme high water at seven feet. He says that the water ordinarily rises four inches per week in June. The high water of 1861-62 exceeded that of 1868 by about four inches. The rise of the water surface due to rain and snow in 1889-90 was 5.75 feet.

WATER RATES.

The amount of snow which falls in the portion of the Sierra Nevada near Lake Tahoe at altitudes of 5,000 to 7,000 feet is indicated by the following compilation from the records of the Southern Pacific Railroad Company at Summit and at Truckee:

SEASON.	DEPTH OF SNOW. INCHES.	
	SUMMIT.	TRUCKEE.
1878-79.....	445.5	127.5
1879-80.....	783.0	329.3
1880-81.....	153.5	147.5
1881-82.....	492.5	305.0
1882-83.....	299.0	95.5
1883-84.....	481.5	316.0
1884-85.....	292.0	63.0
1885-86.....	462.5	129.0
1886-87.....	422.0	195.0
1887-88.....	345.0	109.0
1888-89.....	261.0	117.0
1889-90.....	776.0	439.3
1890-91.....	335.0	164.9
1891-92.....	380.5	161.7
1892-93.....	634.0	237.5
1893-94.....	511.0	251.2
1894-95.....	712.0	298.5
1895-96.....	544.0	186.5
1896-97.....	560.5	215.0
1897-98.....	262.0	94.0
1898-99.....	481.0	198.0
1899-00.....	406.0	163.0

The outflow from the lake has been estimated by the U. S. Geological Survey, this work being in charge of Mr. L. H. Taylor.

WATER RATES.

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He reports as follows:

FOR THE YEAR 1900.

DAY OF MONTH.	June.....	July.....	August.....	September.....	October.....	November.....	December.....
1.....		236	260	211	177	155	100
2.....		236	260	211	165	155	100
3.....		236	260	200	165	155	100
4.....			248	200	165	155	
5.....		236	260	200	177	155	
6.....		236	248	200	177	155	
7.....		236	248	224	165	155	
8.....			248	211	165	155	
9.....		236	236	211	165	155	
10.....		236	236	213	155	155	
11.....		236	236	200	155	155	
12.....		236	236	200	155	155	
13.....		236	236	200	155	155	
14.....		236	236	200	155	155	
15.....		92	236	200	155	155	
16.....		248	236	188	155	155	
17.....	92	236	236	177	155	155	
18.....	92	248	236	211	155	155	
19.....	92	236	224	200	155	155	
20.....	92	248	236	211	155	155	
21.....		248	224	200	155	177	
22.....	92	248	224	200	155	200	
23.....		248	224	177	155	116	
24.....		248	224	177	155	116	
25.....	155	248	224	177	155	116	
26.....		248	224	177	155	116	
27.....	236	236	224	177	155	116	
28.....	236	236	224	177	155		
29.....	236	248	224	177	155		
30.....	236	248	211	177	155		
31.....		260	211	.....	155		

This represents a total outflow from June 17th to December 3rd of 2,613,250,000 cubic feet per second, or six inches over the entire lake surface.

In the year 1900 there was a direct rainfall upon the lake estimated at 18.00 inches.

In making this estimate the rainfall record at the lake at Tahoe City, which covered only the months of June to November inclusive, was supplemented with the record at Truckee, and the amounts falling at these points were assumed to represent averages for the entire lake surface.

The water in the lake was one inch higher at the close of 1900 than at the beginning of the year.

Evaporation this year from the lake surface was about 30 inches.

The water account of Lake Tahoe for the year 1900, may therefore be stated as follows:

OUTGO—

Lost by evaporation.....	30 inches
Outflow, Truckee River.....	6 inches
Rise of water surface.....	1 inch
	<hr/>
Total	37 inches

INFLOW—

Rainfall upon lake surface.....	18 inches
Contribution of tributary land area.....	19 inches
	<hr/>
Total	37 inches

In the absence of other information than a general knowledge of rainfall distribution about as indicated by the rainfall maps already referred to, it may be assumed that in 1899-1900 the rainfall over the watershed east of the lake was a little less than at Truckee or about 20 inches, and that west of the lake averaged about 30 inches.

These amounts applied to the respective areas indicate a 41 per cent runoff which does not seem unreasonable. The percentage of runoff would, however, be less for smaller amounts of rain and greater for seasons of heavy rainfall, as has heretofore been shown in a general discussion of rainfall and runoff.

In the case of Lake Tahoe storage capacity exceeds, or can be made to exceed the yielding capacity of the tributary watershed, consequently it is permissible to discuss its productiveness on the basis of rainfall averages. The surplus of any season can be retained to tide over deficiencies in others.

As more than one-third of the basin is water surface which full depth of rainfall without deduction for loss to soil is added there will be very little, if any, additional errors introduced by assuming a uniform percentage of runoff to be applied to normal rainfall in the calculation of probable average yield instead of attempting to determine for each its effect upon the lake.

Again, having recourse to the State Engineer Department rainfall map as a general guide, and bearing in mind that rainfall records since publication of the map reduced the normal annual rainfall at Truckee from 28.64 inches as determined for the 17 years on which the map was based, to 26.56 inches, and that the rainfall at Summit for the longer period is 43.87 as against 46.42 inches for the 17 years, and at Carson 11.92 as against 12.45 inches and that rainfall on the lake is to be determined from the records at Truckee instead of from the curves on the map, it may be assumed that the mean annual rainfall on the watershed west of the lake is about 33 inches and east of the lake about 22 inches, somewhat less than the rainfall map indicates.

It is probable that the runoff with these amounts of rain will exceed 41 per

cent. It is thought safe to assume not less than 45 as reaching the lake when dealing with rainfall averages of a number of seasons.

This percentage is based solely upon the determination of 41 per cent for the special case of an estimated fall of rain of 30 inches west of the lake and 20 inches east of the lake as heretofore noted. It is used for application to a rainfall which is largely conjectural, the points at which precipitation records are available being located at some distance from the lake's drainage basin. This percentage is larger than would ordinarily be applied if actual measurement of water surface elevation of the lake in 1900 had not afforded an opportunity for approximating a relation between the available records of precipitation and runoff. It is probable that normal precipitation in the drainage basin exceeds the amounts above assumed and that the runoff percentage is in reality less than here noted. It is probable, however, that the results obtained are fair approximations.

Estimated on this basis the lake surface would be raised annually by runoff from tributary land areas due to normal rainfall conditions, about 22.7 inches. It would be raised by rainfall upon its water surface 26.5 inches.

The mean evaporation as elsewhere shown may be expected to be about 32 inches. The annual outflow of the lake due to a normal rainfall is therefore to be assumed at about 17 inches. This amount of water (about 56,420,000 gallons) is approximately the average amount per year which has been carried out of the lake by Truckee River. This is nearly three times the amount which would be drawn off at 60,000,000 million gallons per day.

If it now be required that such an amount, equal to about one-third of the total yield of the lake be drawn off without disturbing established rights to water, then this must all be obtained by restraining the natural flow of the river in years when the rainfall exceeds the normal.

It is believed that no damage would result to vested rights to water if the lake outflow were so controlled that in each season of less than normal rainfall as much water were allowed to flow down Truckee River as would naturally take that course; and that in all seasons of normal or greater than normal rainfall, only so much water was sent down the river as would flow down naturally in a season of normal rainfall, and that all interests would be benefited if this water were allowed to flow down the river in uniform amounts each year, that is to say, equivalent each year to a certain predetermined depth to be drained from the lake surface. The excess over this amount could then be held available for such use as a city water supply.

About 14 years out of 31 would, under such an arrangement, contribute to the available stored supply.

From 1870 to 1900 inclusive, the aggregate amount of surplus that would have thus become available would have been equivalent to the yield of a rainfall of about 114 inches on the lake, about 95 inches on its east side watershed and about 140 inches on its west side watershed. Estimated as above indicated, this represents in the aggregate about 211 inches on the lake surface, which is equivalent to 6.8 inches per year, or about 22,500,000,000 gallons per year, a little more than required to effect a continuous delivery of 60,000,000 gallons per day.

The draft of 60,000,000 gallons per day upon the lake would lower its surface 6.6 inches per year.

The productiveness of the lake since 1870 for all seasons of normal or less than normal rainfall, if estimated from rainfall as heretofore indicated, has averaged 3.3 inches per year in depth drained off.

The estimated yield under conditions of normal rainfall, as already shown, would be about 17 inches per year.

On the assumption above indicated that all surplus due to rainfall in excess of the normal be stored for use of San Francisco, there would, since 1870, have been 14 years which would have yielded 17 inches in depth over the lake to Truckee River.

Combining this with the average for the 17 years of deficient rainfall gives 9.5 inches as the approximate annual depth to be turned into the river, or nearly 60 per cent more water than is estimated to have been received by the river from the lake in 1900.

This water would be liberated under control and each year the river would get its full quota.

In considering the lake fluctuations which would result if all the water reaching the lake were re-restrained to be sent either to San Francisco or down the river in amounts as above indicated, it will again be necessary to have recourse to the rainfall records of the past.

The average annual depth of the water layer that will be drained off under control and that will be lost by evaporation, will be about 47.5 inches,

The maximum precipitation of snow and rain of about 45 inches at Truckee (1871-72 and 1889-90 gave nearly this amount), runoff being estimated at 50 per cent, would cause the lake surface to rise about 7.4 feet.

Five seasons of less than normal rainfall, similar to those from 1884-85 to 1888-89 inclusive, would leave the lake surface at the end of the period $6\frac{1}{2}$ feet lower than at the beginning thereof, and two seasons very deficient in rain like 1887-88 and 1888-89, would reduce it at the rate of a little more than 27 inches per year.

These considerations would seem to indicate about ten to eleven feet as the required fluctuation range, with a probability that the same can be kept at about eight feet.

The dam now in Truckee River at the lake has a weir or overflow section, the top of which is about six feet above the gate sills. The range of water surface fluctuations has been from point about gate sill elevation to about two feet above weir crest, a total of eight feet. To bring the lake under complete control it would be necessary to check the waste which now occurs at its highest stages when the weir is overtopped.

From an investigation made of the interference by a change in the lake water level with established interests on the lake shore, it appears that very little damage would be done if the extreme low stage were a foot or two below the lower stage of the past, but that elevations of the water above the old high water marks would not only do considerable damage to the properties on the lake shore, but would also convert considerable areas of low marginal lands into marshy flats, detracting from some of the beauties of the lake's surroundings.

LAKE SHORE PROPERTIES AND USES OF WATER FROM TRUCKEE RIVER.

Should water from Lake Tahoe be diverted for use in San Francisco, it must be expected that some damage to vested rights and to lake shore properties, by reason of a modification of river and lake stages, will be claimed. It is probable that better control of the lake outflow would result in permanent benefit to the established industries along the river and to the users of its waters for irrigation. This is indeed indicated by the data now at hand, but unfortunately in interpreting these data, which are incomplete, it was necessary to adopt methods of approximation and some conjecture, and the results obtained are not as conclusive as might be desired.

It will therefore not be out of place to indicate briefly what interests will be affected by water surface changes on the lake and by a modification of the river's flow.

An examination was made for this purpose, also some surveys of low areas.

The lake shore line has a length of about 110 miles. Except where rocky points break off steep toward the water's edge, there is a sandy beach at the water margin. The inflowing creeks have nearly all built sand barriers across their mouths, behind which are areas of flat land that are wet and somewhat swampy at high stages of the lake.

Tahoe City lies on the northwestern lake shore just north of the point where Truckee River leaves the lake. Glenbrook is on the eastern lake shore.

Hotel Tallac is the most pretentious summer resort on the lake. It is located in a beautiful grove of pines on the southeastern lake shore.

There are many cottages, cabins, boarding houses and lesser hotels around the lake. These are occupied only in the summer months.

The lake is almost devoid of human life from December to April.

A moderate rise of the water surface above extreme high water of the past would prove of but slight inconvenience. Should it, however, be thought desirable to force lake surface four or five feet above the old high water mark, then more or less damage would result to some 22 wharf structures having a combined surface area of about 110,000 square feet. These wharves are of various kinds. Some are very light structures, others well built. These would have to be raised and extended.

Most of the 70 to 80 buildings near the lake shore which are now but slightly above the high water plane would have to be set back upon higher ground and in a few cases the selected locations would have to be abandoned. Between Idlewild and McKinney's it would be necessary to make a road change and to condemn a strip of land which has been subdivided into small lots.

At Glenbrook and at Tahoe City some damage would result to the Lake Tahoe Transportation and Railway Company's property; trestles and crib work for track support would have to be reconstructed, and the ways on which the steamers are annually drawn out of the water would have to be extended.

At 20 to 25 points around the lake the increased water elevation would occasionally put strips of land under water which have never been submerged.

The total area which would thus be affected is about 1,000 acres, of which the largest single tract lies at the extreme southern end of the lake. At that point is a low swampy meadow about 1,000 acres in extent on which, at ordinary stages of the lake, water stands in small pools. This tract is submerged at high stages of the lake, and its area would be increased to about 1,425 acres at the extreme elevation of the lake surface as above indicated.

Lowering of the lake surface below its lowest stage, on the other hand, would do practically no damage to any property, except to wharf structures and boat landings.

It would be necessary to extend the wharves into deeper water. The beach exposed by the receding waters would be clean sand. The lands now swampy at ordinary stages of the lake would be submerged for shorter periods of time.

It is therefore to be assumed that if the lake be ever made a source of supply for this City, its surface will be kept between the highest stages known in the past and a point about twelve feet below the same, which would be about four feet below the sills of the outlet gates in the Truckee River dam. With this modification of the natural range of about eight feet, the damage to lake properties would be at its minimum.

On Truckee River the first point where water is used is at Truckee about twelve miles below the lake, where water is used by the Truckee Lumber Company to generate power required by their saw mill.

The 2,000 miner's inches (about 40 second feet) claimed to be in use by them is diverted into a flume 11 feet wide and seven feet deep. It is returned to the river after use.

The supply from Truckee River is supplemented with water from Donner Creek. This lumber company controls the dam and at present regulates the outflow from Lake Tahoe.

At Floriston, about 14 miles below Truckee, the Floriston Pulp and Paper Company claim to require for use at their works, that is for the generation of power, 450 second feet. The water is there used at the paper mill, then at an

electric plant, and is then returned to the river. The capital invested at this point in these plants is said to be about one million dollars.

Before reaching Floriston the river has been swelled by Prosser Creek and by Little Truckee River, besides a number of small tributaries.

At Boca and a few other points small quantities of river water are used in various ways, chiefly to supply water power to sawmills, but in each case the water is returned to the river. So long as the river's flow is so regulated as to do no damage to the large establishments, these smaller ones will be amply provided for. There are also interests at Verdi and Reno which use water to generate power, but which for the same reason need not be further considered at this time.

Near the State line, about 22 miles below Truckee, the river canyon widens and strips of bottom land and low mesas appear upon both sides of the river. These are cultivable, but dependent upon the river for irrigation water. These irrigable tracts broaden considerably as Reno is approached. They are located principally within ten miles above and seven miles below Reno. They have a combined area of 25,000 to 30,000 acres and are watered by upwards of forty ditches.

The principal ditches in this district are enumerated in the following table, which gives the name of the ditches, their approximate length and capacity claimed for each. It has not been possible to verify these capacities and they are referred to merely to give some idea of the requirements of irrigation.

NAME OF DITCH.	LENGTH.	CAPACITY.
	MILES.	SECOND-FEET.
Steamboat Canal.....	31	65
Maybury Ditch.....	22	40
Truckee Meadows Ditch.....	14	44
South Side Irrigating Canal.....	8	38
Indian Flat Ditch.....	2	5
Corcoran Ditch.....	8	74
Scott Ranch Ditch.....	2	38
Abbey Ditch.....	3	14
Wilson Ditch.....	1	5
Pioneer Ditch.....	53	38
Merrill Ditch.....	5	10
Highland Ditch.....	14	32
Hogan Ditch.....	3	10
Mayberry and Carr Ditch.....	1	10
Mayberry North Side Ditch.....	2	5
Our Ditch.....	16	76
Countryman Ditch.....	2	5
Sullivan Ditch.....	4	34

NAME OF DITCH.	LENGTH.	CAPACITY.
	MILES.	SECOND-FEET
Auburn Ditch.....	5	60
Asylum Ditch.....	1	3
N. Truckee Irr. Ditch.....	7	39
Sessions Ditch.....	1	29
Mitchell & Cormack Ditch.....	1	24
Glendale Ditch.....	4	33
Murphy Ditch.....	1	2
Tom Hill Ditch.....	4	15
McCain Ditch.....	2	5
Murphy South Side Ditch.....	3	40
Hermann Ditch.....	3	20
Fell Nagle Ditch.....	1	10
O'Brien Ditch.....	3	20
Wadsworth Irr. Ditch.....	3	20
Olinghouse Ditch.....	2	20
Proctor Ditch.....	3	20
Hill Ditch.....	2	10
Reiner Ditch.....	4	2
Crane and Bullock Ditch.....	3	20
Alexander Ditch.....	2	10

The aggregate capacity claimed for these ditches exceeds 900 second feet. This is probably far in excess of the amount of water actually diverted and used.

The irrigation season is from June to the end of September. In this time 900 second feet would cover 30,000 acres to a depth of about seven feet. This is far in excess of any probable irrigation requirement.

Water for irrigation is reported to be abundant in the summer months, particularly in June, while all the tributaries of Truckee River are high. It is generally short of requirements in the latter part of the irrigating season, although the deficiency is in part supplied by the water then liberated from Lake Tahoe.

It is claimed that the irrigated area could be nearly trebled if the necessary water were available.

At about seven miles below Reno the river is again in a canyon and flows therein for some 27 miles. Its flow in this section is rather more reliable than at points near Reno, because the stream is fed by the sub-surface flow from Reno Valley.

More complete regulations of the lake would undoubtedly be beneficial rather than detrimental to the irrigators of the small patches of bottom lands which here and there flank the river, as well as to the broader areas below the canyon.

Residents of this section have not been inconvenienced by a scarcity of water. The impression prevails that so long as lands near Reno are supplied with water there will never be a scarcity in the lower country, as the drainage from the upper valley has been enough and to spare for all users of water in the district below.

In the autumn of 1900 the river had a much greater discharge at Wadsworth than at Reno. The following estimate of the discharge of the river has been made by Mr. L. H. Taylor for the United States Geological Survey at State Line Mills, from which point the river's drainage basin, including Lake Tahoe, is estimated at 955 square miles:

September, 1899.....	276 second feet
October, 1899.....	330 second feet
November, 1899.....	570 second feet
December, 1899.....	267 second feet
January, 1900.....	371 second feet
February, 1900.....	292 second feet
March, 1900.....	811 second feet
April, 1900.....	927 second feet
May, 1900.....	1,529 second feet
June, 1900.....	966 second feet

TUOLUMNE RIVER PROJECT.

The Tuolumne River is one of the rivers which carries the run-off waters of the western slope of the Sierra Nevada into the San Joaquin Valley. Its drainage ground lies between that of the Stanislaus on the north and the Merced on the south. Including the region drained by its lowest foothill tributary, Dry Creek, the river's drainage basin has an area of 1,501 square miles. The eastern limit of this watershed is the summit of the Sierra Nevada, of which about 45 miles from Grizzly Peak on the north to Mounts Lyell and McClure on the south send their western flow into feeders of this river.

The drainage toward the west from the southerly 20 miles of this summit line from Mount Lyell northward almost to Mount Conness, is collected by a number of creeks which converge toward Tuolumne Meadows. Among these may be named Delaney Creek, the Dana Fork, the Mount Lyell Fork, Rafferty Creek, Unicorn Creek and Budd Creek, giving to the river as it leaves the meadows a drainage area of about 100 square miles.

The general course of the river below Tuolumne Meadows is westerly through a grand canyon which, 25 miles below Tuolumne Meadows, widens out, forming the famous Hetch Hetchy Valley, a Yosemite on a somewhat smaller scale.

The river below Tuolumne Meadows in its course to this valley receives Cathedral Creek from the south and Dingley, Return, Register, Piute, Rancheria, Tiltill and Falls Creeks from the north, the last three entering the valley itself.

The river below Hetch Hetchy Valley and above the point where water would most probably be diverted in case of the utilization of this river as a source of supply, receives two additional tributaries from the north, Cherry Creek, whose drainage basin includes Lake Eleanor, and a much lesser stream known on the maps as Jawbone Creek.

On the southerly side of the main branch of Tuolumne River, the summit of the ridge which separates its drainage ground from that of the Merced and from that of the South Fork of the Tuolumne, is close by, affording no opportunity for the collection of much water in any south-side feeder of this portion of the river.

This is not an objectionable but on the contrary an extremely favorable feature.

because it is desirable to restrict the collecting ground for water for domestic use as much as possible to the high uninhabitable regions, and the inclusion of the South Fork would add a larger area which, though favorable, is much more accessible, quite generally soil covered and well timbered and nearer to the zones of human activity.

The drainage basin of the entire upper section of Tuolumne River is of the very best character as a collecting ground for a City water supply. This region is in large part a bare granitic, glaciated formation. Much of it is inaccessible except to the bold mountain climber. Here and there it is sparsely timbered; it is dotted with crystal clear lakes: is absolutely devoid of human life from November to May, except for the occasional wintering of an old settler at some such spot as Lake Eleanor. Except a few square miles on Jawbone Creek, the lower portions of the cliffs and slopes to the river in the lower portion of its canyons and the floor of Hetch Hetchy Valley, all of this drainage basin is above an altitude of 5,000 feet, and, finally, it has a fair and reliable precipitation, almost exclusively snow.

Some of the lakes of this region, Lake Eleanor, Granite or Kibbee Lake, Lake Ellen, Spotted Fawn, Huckleberry and Twin Lakes, have been visited, and the water of each was found to be crystal clear and, except in the matter of visible volume of water, even more attractive as sources of supply than Lake Tahoe. The appearance of the waters in these lakes, the granitic sandy character of the lake beds, beaches and marginal lands, and the absence of mud deposits, such as characterize the lakes formed by collection by the waters from soil covered regions, all are confirmatory of the favorable opinion above expressed of the drainage basin of the main branch of Tuolumne River as a collecting ground for the water supply of this City.

A glance at the map shows another advantage which diversion of water from Tuolumne River would have over that from some of the other Sierra Nevada sources. The point of diversion can be low down on the main stream at an altitude of 2,000 feet or less without including in the tributary watershed any land that is habitable throughout the year. The limit of the watershed area is close to the stream along its south side, and where on the north it breaks away from the main stream to include the drainage area of the north side tributaries already named, it rises rapidly to altitudes of 5,000 and more feet, thence continuing to the north and east as far as the summit of the range, including only such rugged, uninhabitable country as has already been described. In this upper region there are only a few flats as are on Cherry Creek in Hetch Hetchy Valley, at Lake Eleanor, McGill Meadows and the like, where stockmen have been accustomed to maintain their camps during summer.

All of this drainage ground, except its most northerly portion and a narrow strip along its westerly limit, is in the Yosemite National Park, which gives additional assurance that it will always remain as favorable for production of water of City use as to-day.

The natural low-water flow of the river in Hetch Hetchy Valley has not been determined. It is probably about 30 second feet.

The low water from Lake Eleanor is insignificant. The discharge almost ceases soon after the snows in its drainage basin have all melted.

The mean annual rainfall in the drainage basin tributary to Hetch Hetchy Valley and to Lake Eleanor may be noted at about 36 inches and the minimum at about 18 inches.

These figures are not determinable from records, as no record of rainfall or snowfall has been kept at any point of the drainage basin. They are based upon the rainfall diagrams prepared by the State Engineer in 1886, checked by recent records at Sequoia, which lies about twelve miles to the southward of Hetch Hetchy Valley.

The mean annual run-off from the watershed tributary to Lake Eleanor is about 24,000 million gallons and the minimum about one-half of this amount.

The mean annual run-off of the watershed tributary to Hetch Hetchy Valley is about 120,000 million gallons and the minimum about one-half of this amount.

Storage capacity of Lake Eleanor, with a dam raising the water surface fifty feet, would be about 15,500 million gallons.

Storage capacity of Hetch Hetchy Reservoir, with a dam 150 feet high, would be 35,000 million gallons.

There is no question as to the efficiency of the rainfall upon the tributary areas to supply to these reservoirs the water required by the City, even though vested right, such as those which may have been acquired by Turlock and Modesto Irrigation districts, be respected without question. The snow melts rapidly in the spring and early summer, nearly all within three to four months, generally April, May and June, and during this period of melting snow the river is always at a high stage, far exceeding any possible use by established canals and ditches.

The run-off due to melting snows from the drainage areas above and tributary to the reservoir sites, which is probably in excess of 75 per cent. of the total annual run-off, could therefore in large part be stored without in anywise interfering with vested rights. That this run-off is probably in excess of 75 per cent. of the total annual run-off follows from an examination of the discharge tables, which for the whole river, including the run-off from the lower portion of drainage basin where the rainfall is greatest earlier in the season, show that two-thirds of all the river's discharge is to be accredited to the three months named. It is therefore to be assumed that a high mountain subdivision of this watershed, in which the run-off is practically all due to melting snow and which did not contribute materially to the winter freshet stages of the lower river, will have a still greater proportion of the run-off fall into a period of about 90 days. A knowledge of the conditions which there prevail, but without actual stream measurements to serve as a basis therefor, fully justifies the assumption that the proportion to be accredited to such a period will, as above suggested, exceed 75 per cent.

As the immediate needs of the City will not reach 30,000,000 gallons per day or 10,950 million gallons per year, and as the storage will be replenished without question each year, the drain upon the reservoirs will not exceed this amount at the outset, gradually increasing, however, with the City' growth.

Yield of the watersheds tributary to the reservoirs and reservoir capacities being both covered, and without recourse to further storage development, which is easily obtainable, this project can safely be considered as one that will yield 150 to 200 million gallons per day whenever this water may be required. At seventy-five gallons per day per inhabitant, enough for a population of over 2,000,000.

But should it be suggested, in the absence of positive information relating to minimum annual precipitation, that the drainage basin of Lake Eleanor is smaller than desirable, when compared with storage capacity, then attention may be called to the fact that a very large additional drainage ground can be added and that a reconnaissance examination of this feature of the project has already been made. It is desirable to make storage in both Lake Eleanor and the Hetch Hetchy Valley a feature of an ultimate water supply project from the Tuolumne River, but it can also be said that it is not essential that both sides be at once improved. Even if it should happen that the City could obtain control of one of these storage propositions only, in connection with the river supply project, then an ultimate expansion would be quite feasible by increasing the lake capacity in the tributary regions and by taking advantage of such storage facilities as are offered in Tuolumne Meadows. The tributary area offers unusual advantages in this respect, and these have in a measure been verified by a special preliminary exploration.

Whether it would be most economic to select Lake Eleanor or the Hetch Hetchy Valley at the outset is a question that need not be answered at this time.

Some further investigation will, indeed, be required to treat this question in a satisfactory manner.

The Hetch Hetchy Valley as a suitable site for storage having been fully reported upon in the Twenty-first Annual Report of the United States Geological Survey by Mr. J. P. Lippincott, it has been thought advisable for preliminary discussion of the features of a water supply project from Tuolumne River to accept that locality as the one in which storage is to be effected.

Mr. Lippincott, in his description of the valley and discussing its availability as a reservoir site, says:

"The valley proper is about three and one-half miles long and of a width varying from one-quarter to three-quarters of a mile. The rugged granite walls, crowned with domes, towers, spires and battlements, seem to rise almost perpendicularly upon all sides to a height of 2,500 feet above this beautiful emerald meadow. * * * It was visited in May, when the snows on the glacier meadows on the higher altitudes were rapidly melting, and the river was bank full and overflowing the lower part of the valley. The water is here dammed up, owing to the narrow outlet between high mountains of granite rock."

Based upon a plane table survey of the reservoir site made by Mr. Henry Remmel in 1899, it is estimated by Mr. Lippincott that storage capacity is as follows:

Dam 50 feet high.....	4,670 million gallons
Dam 100 feet high.....	17,900 million gallons
Dam 150 feet high.....	35,000 million gallons
Dam 200 feet high.....	54,900 million gallons

The dam proposed is of the overfall or weir type, 150 feet high. It would be constructed of rubble masonry. Large irregular blocks of stone would be imbedded in concrete. Two outlet tunnels are proposed by Mr. Lippincott and a high foot bridge across the river just above the dam. The towers which are to cover the inlets to the tunnels will serve as support for the bridge. It is not necessary to attempt a modification of this project nor to attempt a revision of the selected type of dam. It will suffice to say that it would contain about 65,000 cubic yards of masonry, and has been estimated by Mr. Lippincott to cost \$607,057, including an allowance of \$20,000 for a wagon road and \$5,000 for a new bridge over one of the forks of the river and for road repairs.

Although it is possible that the dam can be constructed at this cost, this estimate being based on the use of minimum amount of cement, it was found necessary, in view of the remoteness of the location and the short season annually available for work, to assume a higher unit cost for the masonry in the structure. A more liberal allowance for contingencies and for road building has also been made.

The water liberated at the Hetch Hetchy dam would flow down Tuolumne River a distance of about 16 to 18 miles. The river in this distance receives only two tributaries worth naming—Cherry Creek with a high mountain drainage area of 242 square miles and Jawbone Creek with a drainage basin 25 miles in extent, both of which drain regions already described as favorable for the collection of water for a city supply. Practically none of the drainage ground tributary to these streams, except the narrow gorges in which they lie, is at less elevation than 4,000 feet, nearly all lies above 6,000 feet.

Tuolumne River can safely be counted upon for 100 to 150 million gallons of water per day if Hetch Hetchy Valley is used for storage. The surplus flow of the river would in every season not only fill the reservoir but would keep the canal full during several months. Assuming this surplus to be available for three months, then the reservoir, when the city consumption shall have reached 120,000,000 gallons, would be called on for a nine months' supply, or about 22,000 million gallons, which is about two-thirds of its proposed capacity.

But as a project for the delivery of 60,000,000 gallons per day would serve this City for 30 to 40 years, the present supply being entirely disregarded, it at once becomes apparent that sufficiency of supply from this source is unquestioned, and that works for an immediate diversion of 60,000,000 gallons, with storage in Hetch Hetchy Valley as indicated, could be carried out without the slightest danger of any interference with established rights.

The required delivery of water from this source is assumed at 60,000,000 gallons per day.

The works for the utilization of this water and of the surplus which is to be sent down the natural channel of Tuolumne River may be varied according to final requirements that may be prescribed. It is thought desirable at this time to project the canal system which is to bring water to the point where power is developed, at a capacity of 200 cubic feet per second or about 130,000,000 gallons per day, some of which would be lost in transit by seepage and evaporation from open canals and reservoirs.

It is proposed to effect diversion about 16 to 18 miles below Hetch Hetchy Valley, thence by canal, south of the river to avoid crossings of large broad canyons which enter from the north about 26 miles to a mountain spur, to the eastward of Moccasin Creek. At this point power is to be developed by a fall of about 800 to 900 feet, and electricity is to be generated with this power for use in pumping the water over Livermore Pass and for transmission to San Francisco.

At this power station a little more than one-half of the water is to be returned to the river, the rest, 60,000,000 gallons or such part thereof as may from time to time be required, will be sent over the river and by canal and tunnels and short sections of pipe will reach a point about six miles northerly from La Grange, at which a second drop of about 360 feet can be used for generating power.

A power station would there be equipped from which water would be delivered into a small intake reservoir at an altitude of about 580 feet. This would be at the head of the main pipe line, which, with a length of 60.5 miles, would cross the San Joaquin Valley. Two pipes, each 48 inches in diameter, would be required. These would be carried down the valley of Dry Creek, across the sandy east side plains of the San Joaquin Valley, over the Stanislaus River about four miles west of Salida and under the San Joaquin River about five miles down stream from the mouth of Stanislaus River.

This location is assumed for preliminary estimate purposes. As an alternate, not requiring further discussion at this time, a route along the left bank of the river to Red Mountain Bar, thence across the river, is to be considered, and in crossing the San Joaquin Valley a location somewhat further south adding length to the line but avoiding the crossing of Stanislaus River.

At the base of the hills, eastward from Livermore Pass, would be a pumping station, at which about 6,100 effective horse power would be required to pump the water from an elevation of about 200 feet to an elevation of 740.

Only one-half of this power would be required at the outset, while the City's water consumption is in the neighborhood of 30,000,000 gallons per day. It would gradually increase, however, to this limit. The installation of motors and pumps would at once be for the full service.

The water from the pumps would be carried about 7.5 miles in two pipes, each 48 inches in diameter, across the summit of the Coast Range at Altamont, at an elevation of about 740 feet. It would be discharged just west of the summit into a small reservoir having an estimated capacity of 230,000,000 gallons. From this reservoir two 48-inch pipes would carry the water westerly into Livermore Valley and across this Valley to the southward of Livermore; thence over the hills between Arroyo Valle and Vallecito, flowing for a distance of about 1.5 miles in a tunnel; thence continuing westerly to and across the Sunol Valley and over the hills into the Santa Clara Valley near Mission San Jose. An additional tunnel

about one mile long would be required at the summit of the ridge between Sunol and Santa Clara Valleys.

The course of the pipes after reaching Santa Clara Valley would be southerly and southwesterly around the upper end of San Francisco Bay and northerly on the west side thereof to an entrance into the City by way of the summit near Colma.

SUPPLEMENTARY POWER DEVELOPMENT —TUOLUMNE RIVER PROJECT.

As the water which leaves Lake Eleanor drops over 2,500 feet and that from Hetch Hetchy Valley over 1,500 feet before the point in the river is reached where it would be desirable to divert the water from the river that is to be brought to the City, and as the distance in the one case is only 10 to 11 miles, in the other 16 to 18 miles, it is quite apparent that some opportunity here exists for power development. Constancy of flow and the high fall and moderate length of required conduit combine to lend attractiveness to such a project in combination with the water supply of this City. On the other hand it is far removed from San Francisco or any other large market for power and therefore not likely to be favorably considered except in combination with this water supply project. A power station at Moccasin Creek, with a long pole line, is required, as elsewhere explained under the plan recommended for utilization of Tuolumne River water, and there is a possibility of making the installation of machinery at this station such that power not required in pumping water can be made available in San Francisco for other purposes.

It is impossible to more than indicate utilization of these water powers as a possibility and to indicate what in the light of present information and general knowledge of the country seems to be the most feasible method of effecting diversion from the natural channels and concentrating the fall for power generation. The full utilization of the aggregate amount of fall above indicated would require construction of two long canals in extremely difficult ground and at altitudes that would make it very doubtful whether they could be kept open. One of these, that from Eleanor Creek, would be at a much higher altitude than the other, and for its utilization a separate power station would have to be located in an accessible region near the mouth of Cherry Creek.

It appears at this writing better to disregard the fall in the upper sections of Eleanor and Cherry Creeks and to effect diversion from both Cherry Creek carrying Lake Eleanor water, and from Tuolumne River at an altitude of 3,200 to 3,500 feet. The water from Cherry Creek would be carried by tunnel, about two miles long, to and across Tuolumne River and would there enter the main canal bringing Tuolumne River water from above.

The most desirable location for a power station would be near the proposed diversion of water from the river for San Francisco.

The power canal should be located high enough to give water at the proposed power station a drop of about 900 feet. The canal from the river should be located on the south side of the stream and should have a capacity of about 250 second feet, down to a point about three miles above the mouth of Cherry Creek. It should there receive water from Cherry Creek brought through the point of the mountain between the streams as above stated in a tunnel about two miles long, and carried over Tuolumne River in a pipe. The Cherry Creek conduit should have a capacity of about 100 second feet. The power canal below the feeder from Cherry Creek should have a capacity of about 275 second feet. The power canal should consist in the main of a succession of short tunnels each less than one mile in length. It would be located on the broken mountain slope south of the river and would have a length of about 15 to 18 miles according to selected location of head-works and of the power station.

It seems reasonable on the basis of available map information and results of reconnoissance to assume that a drop of 900 feet can thus be made effective. A

little over 25,000 horse power could be developed by the falling water, of which possibly 15,000 could be delivered in San Francisco over a transmission line having a total length of about 175 miles.

The arrangement of canals and of trailrace at this upper power station should be such that the lower or water supply canal can be supplied with water either direct from the Tuolumne River or from the wheels of the power house. It follows from this that the upper installation, for power only, would save nothing in the cost of the water works and that the additional expense thereby engendered would be chargeable entirely to power development.

Reliability of water supply is essential to any project for power development on which mines, manufacturing establishments, electric roads, and electric light systems are to become dependent; consequently every reasonable precaution should be taken to make such a power installation safe from accident. It will be desirable to protect the upper canal from drifting and sliding snow, and to put a considerable portion thereof into tunnel. It may, in fact, be found advisable upon a final examination of this project to put nearly the entire canal into tunnel.

This would, however, make the installation an unusually expensive one and the cost of power, delivered to San Francisco, relatively high.

It is assumed for the purpose of forecasting possibilities that one-half of the length of the canal would be in tunnel.

On this assumption it is estimated that the probable cost of this supplementary power installation for the utilization of the power in the stored waters of Lake Eleanor and Hetch Hetchy Valley, together with the natural flow of Cherry Creek and Tuolumne River, would be in the neighborhood of \$4,750,000.

The capital invested per horse power delivered in San Francisco would be about \$317.

STANISLAUS RIVER PROJECT.

A reconnaissance examination of the middle fork of Stanislaus River has been made with the following result:

The upper portion of this river's watershed is of that class of high, rocky, uninhabitable mountain region which makes the Sierra Nevada so desirable as a collecting ground for water for domestic use. It is less glaciated and there are fewer of the high mountain lakes in this drainage basin than on the headwaters of Tuolumne River. The area in which bald granite domes and bare mountain sides predominate, is much less than in corresponding areas on the latter river; but being a little further to the northward it is probable that it generally has a little advantage in the matter of rainfall.

This fork of the river is quite well known to all who have travelled over the Mono road, across Sonora Pass. The road, after leaving the south fork of the river at Strawberry, climbs the dividing ridge between the south and middle forks and for a dozen miles or more hangs upon the steep northern mountain slopes which drop down to the middle fork, and finally descends to the floor of a narrow valley and up the same along the river past Baker's station and to the final ascent across the granite backbone which separates this river from the eastern slopes of the Sierra Nevada. This road is impassable in winter. The last stragglers come down over it, as a rule, after the first snow late in October or early in November. It is no longer a stage road, even the roadhouses are untenanted, except possibly for a brief period each season by stockmen.

The most feasible point for the diversion of water would probably be a short distance below Donnell's Flat, which lies about four and one-half miles below the main river's junction with Clark's Fork.

This location has the advantage of storage facilities higher up the stream, notably at Donnell's Flat and at Kennedy Meadows. A high dam, possibly in excess of 200 feet (the proponents of a water supply project from this river based

on storage in Donnell's Flat suggest 275 feet), would be necessary to store the desired amount of water. Here, as on most of the other Sierra Nevada streams, it will be well to assume that little if any of the streams low water flow can be made available without some interference with vested rights, and enough storage capacity should be provided for a six or seven months' supply.

Should this project be considered as one supplemental to the established water works, bringing in an additional supply for delivery into existing storage reservoirs, then a considerable modification of the storage features might result to its advantage. In this presentation it is treated as an independent source of supply with an immediate pipe line and yielding capacity of sixty million gallons of water per day.

Donnell's Flat would at the outset be used as the only storage site. It is estimated by the engineers presenting the project that 21,000 million gallons of water could there be stored. These figures could not be verified and it does not seem safe to accept more than 15,000 million gallons as the probable storage. This is sufficient water at 30,000,000 gallons per day for sixteen months, and at 60,000,000 gallons for eight months.

The watershed area tributary to Donnell's Flat is about 228 square miles. The mean annual rainfall is here about 40 and the minimum about 20 inches. The runoff in an ordinary year from this watershed will approach in the aggregate 6,900 million gallons and in a year of minimum rainfall 24,000 million gallons, representing an average depth of water drained from the entire drainage basin of 17 and 6 inches respectively.

In the preceding discussion of the availability of the Sierra Nevada as a collecting ground for a City supply, it was shown that this minimum for the headwaters of Stanislaus River did actually fall in 1898 to about 8.3 inches, which represents an amount of about 32,000 million gallons reaching the reservoir site and the proposed point of diversion. This having occurred in a season so exceptionally unproductive of water as 1898, and still representing so large a margin over what is immediately required for storage, there is good ground for admitting the sufficiency of this supply for the immediate needs of the City, even though it be necessary to return the entire low water flow of about fifty second feet to the river during the five or six months of low river stages.

Donnell's Flat is at an altitude of about 4,800 feet. It is about one and one-quarter miles in length and has a maximum width of about one-half mile. Its area is about 300 acres.

The river enters the valley over a vertical fall about 40 feet high and descends between 80 and 90 feet more in its course to the lower end of the flat.

It leaves the flat through a gorge into which huge boulders up to 20 feet and more in greatest dimension, have been crowded, and fine gravel in deep pools lies between them. The water surface width of the river at the dam site is about 130 to 140 feet. Solid rock slopes rise to the south and the north, vertically at the south over 100 feet; thence rising at a slope of 2 on 1 to about 275 feet above the water surface; toward the north the rise is continuous at about 45 degrees high above any possible dam.

At the elevation, 275 feet on the south, is the top of a spur of granite projecting from the main mountain side which can be cut into any depth or width for a waste way.

The question as to the economic height for a dam in this location must for the present remain unanswered, as the consideration of this question would involve a much more careful exploration of the drainage ground of the river above the site for the diversion of its waters, than it has thus far been possible to make. It is only to be said in this connection that the examination of Kennedy Meadows and Kennedy Lake in 1889 by Mr. Luther Wagoner, then assistant in the U. S. Geological Survey, indicates possible storage to the extent of 4,415 million gallons in the former and 657 million gallons in the latter at a reasonable cost, and there

may be other reservoir sites, cost of storage in which would have to be compared with the cost of storage in Donnell's Flat.

Below Donnell's Flat the middle fork of Stanislaus River lies between rugged, often vertical walls of granite or diorite, such as are to be seen at some points on nearly all the high rivers of the high Sierra Nevada. Through this gorge the river falls at the rate of about 100 to 200 feet per mile so that in a comparatively short distance a canal with four to eight feet fall per mile would be high above the stream and thereafter for the most part on soiled covered gentle sloping mountain side. The cost for the diverting canal is fairly well defined by an old ditch which left Donnell's Flat about 130 feet higher than the water surface of the river. This old ditch was constructed on the slopes on the south side of the river for a distance of about 24 miles, except in the upper sections, which were in flume in part of the north side and bracket supported from the vertical canyon walls, then was carried by tunnel to the south fork of Stanislaus River, across the same by flume and along the mountain slopes south of the south fork until at a point about eight miles east of Columbia. It was on top of the ridge and could be carried westward wherever required. This old ditch is reported to have been in service for a very short time, probably only during one season. It was built by the Columbia and Stanislaus River Water Company and ownership subsequently passed to the Tuolumne County Water Company. It has no value in connection with any project for the supply of this City with water except that it has facilitated reconnaissance examination in the middle fork project and may stand for what it is worth as an indication of the feasibility of effecting the diversion.

Works for the City water supply would follow substantially the same general route, but on a different gradient. The new headworks would be at less altitude, but the gradient would, in the new and larger canal, be much reduced so that the penetration of the ridge between the middle and the south forks would be effected somewhere near the old tunnel. The canal would, after crossing south fork of Stanislaus River, be carried parallel with, but above the Tuolumne County Water Company's ditch, and its water would, from some outlying spur, of which many are suitable, be dropped from an altitude of about 3,200 feet to about 2,000 feet. In this fall power would be generated for transmission by electricity to the pumping station at the eastern base of Livermore Pass.

Open canal and pipe would convey the water thence westerly to a pipe intake located about six miles west of Chinese Camp.

From this point the project involves the usual pipe lines across the San Joaquin Valley, the pumping station at the base of the hills east of Livermore Pass and the conduits, thence to the City with supplemental storage as already described for all Sierra Nevada projects.

It has not been possible nor indeed has it seemed desirable to examine minutely the route to be selected for that portion of the conduit for this system below the point where the canal reaches the ridge summit about 8 miles east of Columbia. It is known from map studies as well as from actual survey made some years ago, that convenient sites for power development can be found and that there are no difficult obstacles to be overcome in conveying the water westward to the proposed pipe intake.

Cost estimates are therefore to serve rather as a general guide to a conclusion relating to the availability of this project than for close comparison with cost estimates of other projects based on more definite selections of alignment.

This project has some disadvantages when compared with some of the others based upon Sierra Nevada sources of supply. The required dam at Donnell's Flat will necessarily be very high—in excess of 200 feet. It should be a masonry structure. This will make it expensive. In dimensions it would exceed any established precedent. This, though perhaps not objectionable, may still lead to unfavorable criticism, and to a possible preference of those projects in which structures can be kept within ordinary engineering practice. The diversion of water from the

river would be effected at an altitude of 4,800 feet, in a gorge upon both sides of which the mountain ridges rise to heights of 6,000 to 7,000 feet. The diverting canal for many miles of its course in this gorge would be exposed more or less to accident by formation of ice and by drifting and sliding snow. Portions of the conduits would be almost inaccessible during the winter storms and continuity of service could not be guaranteed.

These objections, except that relating to a high dam, would have much less weight if this water were to be added to that of the established water works, in which case even long interruptions of service would be of no serious consequence.

SACRAMENTO RIVER AS A SOURCE OF WATER FOR SAN FRANCISCO.

About four miles above Red Bluff Sacramento River enters Sacramento Valley. Its elevation at this point is in the neighborhood of 300 feet. The river brings into the valley the drainage from a large portion of Northeastern California collected in the upper Sacramento, McCloud and Pit Rivers, the combined area thus drained being 9,900 square miles. (This drainage area includes 1,300 square miles of country tributary to Goose Lake which sends overflow water into the river only after seasons' of extraordinary rainfall.)

Through Sacramento Valley the Sacramento River flows in a southerly direction dividing the valley into two almost equal portions. The total length of the river from the head of the Sacramento Valley to Suisun Bay is 260 miles. The fall of the water surface of the river in this portion of its course is practically one foot per mile, but this fall is not uniformly distributed from the upper to the lower end of the valley. The gradient is light in the lower sections of the river, very much greater near the head of the Valley.

The river discharges into Suisun Bay so close to the point where the San Joaquin River discharges that the two streams may also be said to have a common mouth.

In its flow through Sacramento Valley the river receives from the east the water draining from the western slope of a long section of the Sierra Nevada Mountains. Waters running from this slope, which has an area of 8,995 square miles, are collected in the Feather River and its tributaries; Yuba and Bear Rivers and in American River; also in the small streams—Big Antelope, Little Antelope, Salt, Dry, Deer, Pine, Rock, Mud and in part Chico Creek, which flow directly into the main river, besides Butte, Table Mountain and other streams which have no direct outlet to the river but discharge their waters into an east side valley depression or through which they flow southerly—sometimes in channels of sloughs, again in broad swale without well-defined channels to a passage just west of the Sutter Buttes, and still southerly over broad low valley lands to an entry into the river just above its junction with Feather River.

The small streams which drain the low foothill region between Honcut Creek and Yuba River discharge into a pocket between Feather and Yuba Rivers just to the north and northeast of Marysville, and at falling stages of the river the runoff from this pocket finally reaches Feather River. Bear River, one of the principal tributaries of Feather River, after passing the point in its lower course generally referred to as "The Narrows" spreads over the bank lands of Feather River and has no well-defined mouth.

All the foothill drainage collected by Coon Creek, Auburn Ravine, Arcade Creek and other small water courses between Bear and American Rivers, is discharged into the great flat basin of the east side of Sacramento River just north of American River, and finds its way thence across the river banks, or through sloughs into Sacramento River.

The Coast Range tributaries of Sacramento Valley (and either directly or indirectly of Sacramento River), have a combined drainage area of 4,316 square miles. Reeds Red Bank, Thoms and Stony Creeks, together with a few small water

courses north of Stony Creek are directly tributary, all streams south of Stony Creek are indirectly tributary to Sacramento River. The latter streams, of which Cache and Putah Creeks are the most notable examples, discharge into great west side depressions, the one north of the Cache Creek ridge being known as Colusa Basin, the other south thereof as Yolo Basin. From these basins the drainage waters flow into Sacramento River through Sycamore Slough at Knight's Landing in the one case, through Cache Slough above Rio Vista in the other.

The lands, naturally subject to flooding in the Sacramento Valley, have a combined area of 1,254 square miles. More or less of this land is annually submerged by the drainage waters as above noted. In the southerly portions of the valley, notably—in Yolo Basin, large areas are overgrown with tule. The land drainage of the entire valley including these tule regions all finds its way into Sacramento River.

The area of Sacramento Valley is 4,252 square miles. About 3,000 square miles of this area are high plain lands of which a small portion is subject to periodical overflows from tributaries of the main river. These plain lands are suitable for agriculture. They support a fair population and have their allotment of cities, towns and villages. Sacramento, Wheatland, Marysville, Oroville, Chico, Red Bluff, Willows, Maxwell, Williams, Colusa and Woodland may be noted. Either directly or indirectly the sewage from the valley population so far as it mingles with runoff waters, may contaminate the waters of the Sacramento River. In the Sierra Nevada mountain regions drained by the river, notably—on American, Bear, Yuba and Feather Rivers, also in some portions of the river's basin above Red Bluff, the runoff waters are to a considerable extent affected by mining. All of these facts are of importance if Sacramento River be seriously considered as an available source of water supply for this City.

The area of the entire drainage basin of Sacramento River is 26,187 square miles.

The river has a low water flow of about 4,000 second feet. In times of flood its discharge approaches 200,000 second feet. The mean annual discharge of the river into Suisun Bay is probably about 20,000 second feet, although in some seasons, as in 1898, it may have fallen to less than one-half of this amount.

It remains to be stated that when in flood the river has always sent a large portion of its waters over bank, and through crevices in levees into the flood basins already referred to as flanking the stream. These basins at such times become great shallow sluggish flowing lakes full of vegetable matter, and unattractive as sources of water supply for domestic use.

Under certain conditions, notably, when these basins are well filled with water and the river begins to fall, the volume of discharge from basins to river becomes very large and may, for considerable periods of time, amount to more than one-half of the river's total flow.

Cache Slough, the outlet of Yolo Basin, discharges into Sacramento River a few miles above Rio Vista. It delivers to the river the discharge of Cache and Putah Creeks, the over-bank flow into Yolo Basin from Sacramento River, and the natural runoff from the lands of Yolo Basin and tributary areas. The submersible lands in the basin have a length of about 40 miles and an average width of about five miles.

The outflow of Cache Slough hugs the westerly shore of the river, so that it is to be assumed that for long periods of time each season any pump works located near Rio Vista would be compelled to take from the river water which is in the main that which has flowed through Yolo Basin.

Having in the above brief outline presented the essential facts relating to Sacramento River, means may now be considered of utilizing its water for the supply of this City.

The lowest point on the river and the nearest to this City at which the location of the pumping plant for the delivery of the water would be feasible is at or near

Rio Vista. To this location the objection above noted is to be made that there will be times when the least desirable waters of the river will be presented to the pumps. It is possible that a location for the the pumping plant on old river three or four miles above the mouth of Cache Slough would in the end be found to be more desirable. This location would add to the cost of the works. The length of the conduit from pumps to the City would be increased somewhat and it would be necessary to cross Sacramento River with submerged pipes and to give the delivery pipes trestle support over about four miles of submersible lands. The pumping plant would have to be protected against high water and the river bank near it would require adequate protection against attack by the river. But even in this location no water would be obtainable from the river that would be acceptable without filtration.

The water taken from the river at any selected point would be delivered into settling basins. It would be passed from these through filters and would thereupon by high pressure pumps be sent through two 48-inch pipes across Montezuma Hills, across the Suisun marshes to the Straits of Carquinez, crossing the same in a deep iron-lined tunnel as indicated for the Yuba River project.

Near Vallejo Junction there would be a second pumping station.

Pinole Reservoir would be connected with the system as an emergency storage reservoir. An auxiliary pumping station would be established near this reservoir to be put into service whenever the reservoir is to be drawn upon to an extent exceeding pipe capacity by gravity flow.

Further investigation may demonstrate the desirability of combining these two pumping stations locating both at Pinole, but this combination would not in any great degree effect a cost estimate, and a final study of this matter has not therefore been attempted.

The pipe line route and crossing of San Francisco Bay with delivery at some point on Telegraph Hill would be substantially the same as indicated for the Yuba River project.

A modification of a project with pumping station located on old Sacramento River and alternate conduit location southwesterly across Brannan and Sherman Islands with submerged pipes under Three Mile Slough and under the San Joaquin River may be suggested.

The conduit would reach the south bank of San Joaquin River near Marsh's Landing, and its course would be thence by way of Antioch, Martinez and Port Costa to the proposed pumping station near Vallejo Junction. On this route it would not be necessary to cross Carquinez Straits; but this is offset by the necessity for submerged pipes under two navigable channels, one of which, San Joaquin River, is of the same width as the Straits of Carquinez.

Should preference be given to this location it is probable that the filter plant would be established at some point near Vallejo Junction instead of near Rio Vista. Both projects involve the maintenance of long lines of trestle support for pipe, over marsh land. Danger from fire would be somewhat greater for trestles crossing Brannan and Sherman Islands than for the trestle on the other line over the Suisun marsh.

There is no question that first cost of a Sacramento River project, if the crossing of the Carquinez Straits and of the Bay can be successfully carried out without serious accident, would be somewhat less than in the case of the projects for the utilization of water from the Sierra Nevada Mountains, but there will be an added cost of operation due to the fact that all water is taken from a low elevation and must be pumped to a height represented by the head or pressure required to force it through the pipes added to the altitude of the receiving reservoir in the City.

Compared with Lake Tahoe and similar projects the fact is also to be taken into account that the water must be filtered and that the cost of operating the filter is an additional expense.

To enable a comparison with the other projects, it may be stated that for a daily capacity of 60,000,000 gallons its first cost would fall into the neighborhood of \$20,000,000, electrical power for pumping would cost about \$7,000 per year per million gallons of daily delivery, and that cost of filtration may be noted at about \$1,100 per year per million gallons of daily delivery.

At thirty million gallons of water delivered per day, the capital investment interest taken at 3½ per cent. per year, represented by this added cost of filtration and pumping, would be \$7,000,000. It would be twice this amount, or \$14,000,000, when the amount of water actually delivered reaches 60,000,000, the full capacity of the works.

It appears from the foregoing that in comparison with the projects involving the bringing of water from the Sierra Nevada Mountains, the chief merit of Sacramento River as a source of supply would lie in the lesser first cost of works.

The project has the same disadvantage as any other project with source of supply to the northward of this City—the water must be brought under the Bay and in this case under the Straits of Carquinez as well. This, as already stated, is an undesirable feature involving as it does the introduction of structures, with whose construction and maintenance there is always involved an element of uncertainty which cannot be entirely eliminated by human ingenuity. Furthermore, the water would remain subject to the possibility of being at times supplied without perfect filtration and finally the nearest auxiliary storage to safeguard the continuity of service would be separated from the City by the Bay crossing.

This project has not therefore seemed to justify a full examination.

SAN JOAQUIN RIVER AS A SOURCE OF WATER FOR SAN FRANCISCO.

The lower portion of San Joaquin River as a source of water supply for San Francisco was quite fully reported upon by Colonel G. H. Mendell in 1877, on the basis of a proposal made at that time by the San Joaquin and San Francisco Water Works. The conditions are no longer the same and this river needs only passing notice. As foreshadowed in the earlier report, irrigation in the San Joaquin Valley has made considerable demand upon the waters of the streams entering the valleys from the east, and when its requirements are fully met there will not be sufficient flow in the low reaches of the San Joaquin River during the summer and autumn months to afford the water which this City should have at its disposal.

Rights already vested and made of vital importance to the lands now served with water, deprive the San Joaquin River above its junction with Merced River of its entire low water flow. The Merced River feeds one large and a number of small canals and ditches whose aggregate capacity far exceeds the river's flow at its low water stages. On Tuolumne and Stanislaus Rivers irrigation canals take nearly all the water in summer and autumn. The same is true of Mokelumne River, except that in the case of this stream there has been difficulty for some years in effecting diversion, by reason of repeated failures of canal headworks. Costumnes River and Calaveras River, which discharge into the San Joaquin River, are practically dry in summer and autumn.

The Calaveras and Mokelumne Rivers enter the San Joaquin so far below the point where water could be taken for use in this City that they are moreover of but little importance as feeders of the main stream in this connection.

No water from Kern, Kaweah and Tule Rivers has reached the San Joaquin for many years past. Kings River sends it but very little water by way of Fresno swamp. It is not likely that this condition of non-contribution by the rivers of the upper portion of San Joaquin Valley will soon be changed. Certainly not until the occurrence of another season of excessible rainfall like 1861-62 or 1867-68, and even then only for a brief time period.

To make the river a reliable source of supply it would therefore be necessary to store water preferably in the high mountain regions of the Sierra Nevada and

this water would have to be successfully carried past the headworks of irrigation canals. It would flow in undesirable natural channels. It would mingle with the runoff from a large farming and horticultural district, in which many small towns are located. After reaching a point from which it could be sent by pumps over Livermore Pass, it would have to be treated in settling basins and filters.

From the river the conduit course would be over Livermore Pass, and around the southern extremity of San Francisco Bay.

It is needless to discuss the details of this project of this subject as the shortage of supply, remoteness of storage from point of diversion and the disadvantages of a filter system and of the pumping requirement, involving as it does the purchase of fuel or of power, render it too unattractive to come under consideration as an available source of supply.

FEATHER RIVER AS A SOURCE OF WATER FOR SAN FRANCISCO.

The Resolution which directs the Board of Public Works to include Feather River among the sources of water supply to be examined does not indicate any specific project. This river drains an area of about 7,000 square miles. Its drainage basin embraces broad stretches of the western slope of the Sierra Nevada which fall into the foothill region into the well timbered and into the rugged high mountain belt.

It is a region of copious rainfall with a mean annual fall of rain and snow at some points in excess of 70 inches per year. But this drainage basin is fairly populous in its lower section and there is considerable human activity even in some of the most remote portions of the watershed, as for example in Sierra Valley.

The watershed of the river in its entirety is to be considered less desirable than those of some of the other Sierra Nevada streams.

As any scheme for a water supply from this source would necessarily involve greater length of conduits by reason of its remoteness than in the case of other at least equally favorable Sierra Nevada sources, and as there has no specific scheme been suggested for examination and none is known that would be likely to compare at all favorably with others that are under consideration, it has been thought that even a reconnaissance examination of this river would not at this time be justified.

In the report of Colonel Mendell of the year 1877 there will be found a reference to a proposition then made to bring Feather River water to San Francisco.

THE DISTRIBUTING SYSTEM.

In this discussion of a water supply for San Francisco, the prime object in view has been the comparison of the sources of supply. No attempt has been made to project a new and complete distributing system with its receiving and service reservoirs, its pumps and pipe lines.

It seems unnecessary at this stage of the inquiry to have this information, and it may suffice to say that the cost of the water distribution will be practically the same whatever source of supply be adopted.

The probable cost of the distributing system is readily forecast when it is considered when the inhabitants are at present fairly well served; that an amount probably not in excess of \$1,000,000 would add to the established pipe and reservoir system, the much needed larger mains and a number of additional service tanks and the Market Street Reservoir.

The appraised value of the Spring Valley Water Works distributing system, including pumping stations within the City, its three large receiving reservoirs, lands held for reservoir and yard purposes and its pipe system, but not its office property and building, is \$6,000,000. This increased by \$1,000,000 indicates \$7,000,000 as a proper sum to add to the several projects for the distribution plant.

QUALITY OF WATER AND WATER ANALYSIS.

San Francisco needs and should have the best water that can be obtained at a reasonable cost. The major portion of the present supply comes from storage reservoirs into which the runoff waters from soil covered hills and low mountain areas find their way. These reservoirs are fed by streams which flash up quickly during rainstorms but which are dry or nearly dry during the months of summer and fall.

It is all from nearby sources of supply. It does not come from uninhabited mountain sources. Only about one-third, that from Sunol gravels, may be called filtered. The wholesomeness of the water delivered has been established by long continued use.

Most of this water is the surface runoff from areas which are to some extent inhabited, farmed and pastured. As the water in the reservoirs moreover fluctuates within wide ranges, alternately covering and uncovering large areas of marginal lands and is at times drawn down until the reservoirs are nearly empty, it will readily be understood that its quality is not uniform and that in planning enlargement of yielding capacity care should be exercised to bring in only such new supplies as will improve that which is already available.

Attention may therefore be called to the large areas which are required as collecting ground when water is to be obtained from any nearby coast range source.

About 35 square miles are tributary to the peninsula reservoirs; nearly 600 square miles to the Sunol Valley, of which about 100 square miles would be cut off by the construction of the Calaveras dam. These are large areas from which it cannot be hoped to entirely exclude habitations and to entirely eliminate the danger of pollution. Their permanent selection as the sole source of supply would probably within a decade or two lead to a filtration requirement.

If conclusions as to the filtration requirement had to be based entirely upon the appearance of the natural flow of streams, turbid in winter during rainstorms, full of vegetable and animal life and uninviting in summer, and upon the physical characteristics of the watershed areas, the conclusion would probably be unfavorable for nearby Coast Range waters. Fortunately their actual use for half a century is a strong argument in their favor and their quality as determined when stored in large reservoirs and brought long distances in pipes under pressure is a much better guide than any examination of the living stream before its water is given an opportunity of becoming clear and freed from original impurities.

It has therefore appeared desirable to carefully examine the quality of the water now being delivered and to extend this examination to the source of supply. Samples were taken from month to month from August, 1900, to March 1901. They were taken from the storage reservoirs, from the collecting aqueduct in the Sunol Valley, from Lake Merced, from the receiving reservoirs in this City and from service taps.

Analyses have also been made of water from Lake Tahoe and from Yuba River.

Samples for bacteriological examinations were, except as otherwise noted, carried by an assistant at once to the Bacteriologist. Those taken at points out of town were in many cases six to eight hours in transit. In rare cases examinations were delayed from one day to the next. All bacteriological samples were kept on ice from the time the samples were taken until they reached the Bacteriologist.

WATER RATES.

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ANALYSES OF WATER.

(Parts in 1,000,000.)

WATERS FROM SUNOL VALLEY, 1900-1901.

(FROM SUB-SURFACE AQUEDUCT AT DAM.)

DESIGNATION.....	6	38 (31)	62 (59)	76 (73)
Date.....	Aug. 30..	Nov. 12.....	Jan. 12.....	Feb. 13.
Color.....	None.....	None.....	None.....	None.
Odor—Cold.....	None.....	None.....	None.....	None.
Odor—Hot (60 deg. C.)....	None.....	None.....	None.....	None.
Sediment.....	Very slight.....	None.....	None.....	Very slight.
Turbidity.....	None.....	None.....	None.....	Very slight.
Total solids.....	312	305	249	
Loss on ignition.....	55	60	70	
Fixed residue.....	257	245	179	
Behavior on ignition—				
Charring.....	Slight.....	None.....	None.	
Odor.....	None.....	None.....	Trace	
Phosphoric acid (as P2O5)	None.....			
Chlorine.....	23.6		11.7	
Nitrogen as nitrites.....	None.....	None.....	None.....	None.
Nitrogen as nitrates.....	0.090		0.24	
Nitrogen as free ammonia	0.024	0.002	0.002	0.018
Nitrogen as albuminoid....	0.052	0.046	0.028	0.064
Rate of liberation.....	0.030	0.036	0.020	0.032
(First three portions.)	0.012	0.008	0.004	0.012
	0.006	0.002	0.002	0.008
Oxygen consumed.....	0.84	0.175	0.81	0.37
Hardness—				
Temporary, as CaCO3..	209.0		159.4	
Permanent, as CaCO3..	0.0		3.6	
Free alkali (as CaCO3)....	12.1		0.0	
No. of bacteria per c. cm.		64,640	380	165

WATER RATES.

ANALYSES OF WATER—Continued.

WATERS FROM SUNOL VALLEY, 1900-1901.

(Parts in 1,000,000.)

(FROM CONDUIT AT SCREEN HOUSE.)

DESIGNATION.....	20 (12)	21 (13)	27 (30)	51 (44)	65 (62)
Date.....	Oct. 11	Oct. 11	Oct. 25	Dec. 12....	Jan. 12.
Color.....	None.....	None.....	(Sample 27 lost)	None	None.
Odor—Cold.....	None.....	None.....	.....	None.....	None.
Odor—Hot (60 deg. C.)....	Very slightly marshy.	Very slightly marshy.	.....	None.....	None.
Sediment.....	Very slight....	Very slight....	.....	None.....	None.
Turbidity.....	Very slight....	Very slight....	.....	None.....	None.
Total solids.....	325	324	.....	326	250
Loss on ignition.....	84	78	.....	89	76
Fixed residue.....	241	246	.....	237	174
Behavior on ignition—					
Charring.....	None.....	None.....	.....	None.....	None.
Odor.....	Very slight....	Very slight....	.....	Very slight	None.
Chlorine.....	19.2	19.7	.....	18.2	
Nitrogen as nitrites.....	None.....	None.....	.....	None.....	None.
Nitrogen as nitrates.....	0.20	0.23	.....	0.41	
Nitrogen as free ammonia	0.022	0.026	.....	0.002	0.006
Nitrogen as albuminoid....	0.050	0.058	.....	0.040	0.054
*Rate of liberation.....	0.028	0.030	.....	0.032	0.040
-First three portions.)	0.010	0.012	.....	0.006	0.012
	0.006	0.006	.....	0.002	0.002
Oxygen consumed.....	0.66	0.60	.....	0.63	0.385
Hardness—					
Temporary, as CaCO ₃ ..	214.0	211.5	.....	174.0	
Permanent, as CaCO ₃ ..	2.4	0.5	.....	22.5	
Free alkali (as CaCO ₃)....	0.0	0.0	.....	0.0	
No. of bacteria per c. cm.	1,025	348	2,798	490	163

*Each 50 cubic centimeters.

WATER RATES.

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ANALYSES OF WATER—Continued.

(Parts in 1,000,000.)

WATERS FROM ALAMEDA CREEK AND SUNOL VALLEY, 1900-1901.

DESIGNATION.....	FROM ALAMEDA CREEK AT NILES DAM.	FROM LAGUNA CREEK.		FROM CALAVERAS CREEK.
	5	36 (29)	63 (60)	64 (61)
Date.....	Aug. 30	Nov. 12.....	Jan. 12.....	Jan. 12.
Color.....	None.....	None.....	None.....	None.
Odor—Cold.....	None.....	None.....	None.....	None.
Odor—Hot (60 deg. C.).....	None.....	None.....	Slightly allia- ceous.	Very slightly alliaeous.
Sediment.....	Very slight.....	None.....	Considerable..	Decided.
Turbidity.....	None.....	None.....	Decided.....	Decided.
Total solids.....	323	341	471	203
Loss on ignition.....	92	70	109	48
Fixed residue.....	231	271	362	155
Behavior on ignition—				
Charring.....	Slight.....	None.....	Slight.....	Trace.
Odor.....	None.....	None.....	Slight.....	Very slight.
Phosphoric acid (as P2O5)..	None.			
Chlorine.....	19.3		30.5	
Nitrogen as nitrites.....	None.....	None.....	None.....	None.
Nitrogen as nitrates.....	None.....		0.62	
Nitrogen as free ammonia	0.022	0.008	0.048	0.012
Nitrogen as albuminoid....	0.042	0.076	0.332	0.126
Rate of liberation.....	0.020	0.058	0.184	0.080
(First three portions.)	0.010	0.014	0.026	0.024
	0.006	0.004	0.038	0.014
Oxygen consumed.....	0.73	0.58	6.09	3.225
Hardness—				
Temporary, as CaCO3..	196.2			
Permanent, as CaCO3..	0.0			
Free alkali (as CaCO3)....	17.1			
No. of bacteria per c. cm.		6,947	11,180	3,190

ANALYSES OF WATER—Continued.

(Parts in 1,000,000.)

WATER FROM CRYSTAL SPRINGS RESERVOIR, 1900-1901.

DESIGNATION.....	10 (2)	23 (15)	42 (35)	53 (50)	67 (64)	78 (75)
Date.....	Sept. 20...	Oct. 24....	Nov. 21....	Dec. 19....	Jan. 23....	Feb. 20.
Color.....	None.....	None.....	None.....	None.....	None.....	None.
Odor—Cold.....	None.....	Slightly marshy.	None.....	None.....	Slightly marshy.	None.
Odor—Hot (60 deg. C.)....	Slightly marshy.	Slightly marshy.	Marshy ...	Slightly marshy.	None	V. slightly marshy.
Sediment.....	V. slight ..	Slight.....	Slight.....	Decided ...	Slight.....	V. slight.
Turbidity.....	None.....	Slight.....	Distinct...	Slight.....	V. slight..	Slight.
Total solids.....	205	211	254	223	221	
Loss on ignition.....	86	79	88	97	100	
Fixed residue.....	119	132	166	126	121	
Behavior on ignition—						
Charring.....	Slight.....	V. slight..	Slight.....	Slight....	Slight.	
Odor.....	Slight.....	V. slight..	V. slight..	Slight.....	Slight.	
Phosphoric acid (as P2O5) ..						
Chlorine.....	20.9	25.2	24.2	23.9		
Nitrogen as nitrites.....	None.....	Trace.....	None.....	None.....	None.....	Trace.
Nitrogen as nitrates.....	None.....	None.....	0.16	0.48		
Nitrogen as free ammonia	0.066	0.078	0.062	0.020	0.066	0.042
Nitrogen as albuminoid....	0.236	0.164	0.292	0.194	0.240	0.220
Rate of liberation.....	0.140	0.106	0.184	0.132	0.136	0.108
	0.054	0.024	0.056	0.034	0.048	0.032
(First three portions.)	0.020	0.010	0.022	0.014	0.024	0.026
Oxygen consumed.....	2.895	2.755	2.062	2.285	2.045	2.295
Hardness—						
Temporary, as CaCO3..	127.2	109.9	128.7	121.9		
Permanent, as CaCO3..	8.8	0.0	0.0	0.0		
Free alkali (as CaCO3).....	0.0	20.5	2.8	7.5		
No. of bacteria per c. cm.	740	1,291	4,526	166	5,167	404

WATER RATES.

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ANALYSES OF WATER—Continued.

(Parts in 1,000,000.)

WATER FROM SAN ANDRES RESERVOIR, 1900-1901.

DESIGNATION.....	12 (4)	13 (5)	25 (17)	26 (18)
Date.....	Sept. 20.....	Sept. 20.....	Oct. 24.....	Oct. 24.
Color.....	None.....	None.....	None.....	None.
Odor—Cold.....	None.....	None.....	None.....	None.
Odor—Hot (60 deg. C.).....	None.....	Slightly marshy...	Slight, of green veget'ble m'tt'r	None.
Sediment.....	Very slight.....	Very slight.....	Slight.....	Very slight.
Turbidity.....	Very slight.....	Very slight.....	Slight.....	Very slight.
Total solids.....	174	181	200	194
Loss on ignition.....	68	71	71	62
Fixed residue.....	106	110	129	132
Behavior on ignition—				
Charring.....	Slight.....	Slight.....	Slight.....	Slight.
Odor.....	Slight.....	Slight.....	Slight.....	Slight.
Phosphoric acid (as P2O5).....				
Chlorine.....	23.9	24.05	27.3	27.0
Nitrogen as nitrites.....	None.....	None.....	None.....	None.
Nitrogen as nitrates.....	None.....	None.....	None.....	None.
Nitrogen as free ammonia.....	0.048	0.036	0.014	0.012
Nitrogen as albuminoid....	0.320	0.316	0.192	0.156
Rate of liberation.....	0.184	0.170	0.128	0.114
(First three portions.)	0.066	0.030	0.028	0.020
	0.034	0.026	0.016	0.008
Oxygen consumed.....	2.80	2.715	2.635	1.37
Hardness—				
Temporary, as CaCO3..	96.9	100.9	104.2	103.2
Permanent, as CaCO3..	1.4	8.0	0.0	0.3
Free alkali (as CaCO3)....	9.0	0.0	0.1	0.0
No. of bacteria per c. cm.	1,440	103	630*	278*

*A few small white crustaceans.

ANALYSES OF WATER—Continued.

(Parts in 1,000,000.)

WATER FROM SAN ANDRES RESERVOIR, 1900-1901—Continued.

DESIGNATION.....	40 (33)	52 (49)	68 (65)	77 (44)
Date.....	Nov. 21.....	Dec. 19.....	Jan. 23.....	Feb. 20.
Color.....	None.....	None.....	None.....	None.
Odor—Cold.....	None.....	None.....	None.....	None.
Odor—Hot (60 deg. C.)....	Slightly marshy....	None.....	None.....	Slightly m'rshy
Sediment.....	Very slight.....	Very slight.....	Very slight....	Slight.
Turbidity.....	Very slight.....	Very slight*.....	Very slight....	Slight.
Total solids.....	202	213	181	
Loss on ignition.....	69	76	70	
Fixed residue.....	133	137	111	
Behavior on ignition—				
Charring.....	Slight.....	Slight.....	Slight.	
Odor.....	Slight.....	Decided; carbona- ceous.	Very slight.	
Phosphoric acid (as P2O5).....				
Chlorine.....	27.1	27.8		
Nitrogen as nitrites.....	None.....	None.....	None.....	Trace.
Nitrogen as nitrates.....	None.....	0.56		
Nitrogen as free ammonia	0.032	0.022	0.036	0.066
Nitrogen as albuminoid....	0.214	0.190	0.198	0.166
Rate of liberation.....	0.120	0.124	0.104	0.080
(First three portions.)	0.042	0.036	0.044	0.040
	0.032	0.018	0.024	0.020
Oxygen consumed.....	2.425	2.21	2.015	1.955
Hardness—				
Temporary, as CaCO3..	102.4	101.0		
Permanent, as CaCO3..	1.7	2.0		
Free alkali (as CaCO3)....	0.0	0.0		
No. of bacteria per c. cm.	5,975	664	1,225	490

*A few (four or five) white crustaceans.

WATER RATES.

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ANALYSES OF WATER—Continued.

(Parts in 1,000,000.)

WATER FROM PILARCITOS RESERVOIR, 1900-1901.

DESIGNATION.....	11 (3)	24 (16)	41 (34)	54 (51)	66 (63)	79 (76)
Date.....	Sept. 20 ...	Oct. 24 ...	Nov. 21 ...	Dec. 19 ...	Jan. 23 ...	Feb. 20 ...
Color.....	None	None	None	None	None	None
Odor—Cold.....	None	None	None	None	None	Slightly marshy.
Odor—Hot (60 deg. C.).....	None	None ..	Slightly marshy.	None	V. slightly marshy.	Marshy.
Sediment.....	Slight	None	Slight. ...	Slight	V. slight..	Slight.
Turbidity.....	V. slight..	Decided*..	Slight	V. slight ..	Slight	Slight.
Total solids.....	114	131	150	122	125	
Loss on ignition.....	36	37	47	44	45	
Fixed residue.....	78	94	103	78	80	
Behavior on ignition—						
Charring.....	Slight	None	V. slight..	V. slight..	V. slight.	
Odor.....	Slight	None	V. slight..	V. slight..	Slight.	
Phosphoric acid (as P1O5).....						
Chlorine.....	15.8	18.7	18.7	19.2		
Nitrogen as nitrites.....	None	None	None	None	None	0.015
Nitrogen as nitrates.....	None	None	None	0.38		
Nitrogen as free ammonia	0.024	0.012	0.024	0.024	0.028	0.072
Nitrogen as albuminoid....	0.228	0.194	0.272	0.144	0.180	0.156
Rate of liberation.....	0.130	0.132	0.164	0.096	0.100	0.072
(First three portions.)	0.050	0.028	0.056	0.028	0.040	0.044
	0.020	0.012	0.022	0.012	0.020	0.020
Oxygen consumed.....	1.74	3.605	2.645	1.44	1.655	1.725
Hardness—						
Temporary, as CaCO3..	57.8	58.7	57.6	59.9		
Permanent, as CaCO3.	0.8	0.0	0.0	0.0		
Free alkali (as CaCO3)....	0.0	3.5	1.7	3.2		
No. of bacteria per c. cm.	350	3,845	12,150	268	800	863

*Probably due to brownish algae.

ANALYSES OF WATER—Continued.

(Parts in 1,000,000.)

WATER FROM UNIVERSITY MOUND RESERVOIR, 1900-1901.

DESIGNATION.....	3	14 (6)	28 (20)	43 (35)
Date.....	Aug. 27	Sept. 26	Oct. 31	Nov. 27.
Color.....	None.....	None.....	None.....	None.
Odor—Cold.....	None.....	None.....	Slight, of decaying vegetable matter.	None.
Odor—Hot (60 deg. C.)....	None.....	None.....	Very slight, ditto...	V. slightly marshy.
Sediment.....	Very slight....	Very slight....	Slight.....	Decided.
Turbidity.....	None.....	Very slight....	Decided*	Slight.
Total solids.....	250	277	263	244
Loss on ignition.....	91	79	109	88
Fixed residue.....	159	198	154	156
Behavior on ignition—				
Charring.....	Slight.....	V. slight.....	Slight.....	Slight.
Odor.....	None.....	Slight.....	Slight.....	Slight.
Phosphoric acid (as P2O5) ..				
Chlorine.....	21.65	22.9	25.0	23.8
Nitrogen as nitrites.....	None.....	None.....	None.....	None.
Nitrogen as nitrates.....	None.....	None.....	None.....	0.17
Nitrogen as free ammonia	0.028	0.026	0.036	0.016
Nitrogen as albuminoid....	0.142	0.138	0.302	0.280
Rate of liberation.....	0.076	0.086	0.180	0.052
(First three portions.)	0.026	0.026	0.076	0.052
	0.016	0.012	0.028	0.048
Oxygen consumed.....	1.935	1.945	2.945	2.515
Hardness—				
Temporary, as CaCO ₃ ..	145.3	162.3	157.3	139.9
Permanent, as CaCO ₃ ..	0.0	14.1	0.0	0.8
Free alkali (as CaCO ₃)....	18.4	0.0	8.7	0.0
No. of bacteria per c. cm.		24	750	260

*Probably greenish algae.

ANALYSES OF WATER—Continued.

(Parts in 1,000,000.)

WATER FROM UNIVERSITY MOUND RESERVOIR, 1900-1901—Continued.

DESIGNATION.....	55 (52)	72 (69)	83 (80)	87 (84)
Date.....	Dec. 27.....	Jan. 30.....	Feb. 27.....	Mar. 27.....
Color.....	None.....	None.....	None.....	None.....
Odor—Cold.....	None.....	None.....	V. slightly marshy.	
Odor—Hot (60 deg. C.)....	None.....	Slightly marshy....	Slightly marshy.	
Sediment.....	Very slight ...	Very slight.....	Slight.....	Very faint.
Turbidity.....	Slight.....	Very slight	Slight.....	Very faint.
Total solids.....	275	245		
Loss on ignition.....	52	73		
Fixed residue.....	223	172		
Behavior on ignition—				
Charring.....	Trace.....	Trace.		
Odor.....	Very slight....	Very slight.		
Phosphoric acid (as P2O5) ..				
Chlorine.....	18.4			
Nitrogen as nitrites.....	None.....	None.....	None.....	None.....
Nitrogen as nitrates.....	0.36			
Nitrogen as free ammonia	0.010	0.014	0.020	Lost.
Nitrogen as albuminoid....	0.086	0.094	0.102	0.124
Rate of liberation.....	0.058	0.046	0.046	0.068
(First three portions.)	0.016	0.024	0.022	0.024
	0.008	0.016	0.012	0.018
Oxygen consumed.....	1.375	1.03	1.14	1.10
Hardness—				
Temporary, as CaCO3..	154.7			
Permanent, as CaCO3..	10.5			
Free alkali (as CaCO3)....	0.0			
No. of bacteria per c. cm.	76	260	1,203	480

WATER RATES.

ANALYSES OF WATER—Continued.

(Parts in 1,000,000.)

WATER FROM COLLEGE HILL RESERVOIR, 1900-1901.

DESIGNATION.....	2	15 (7)	29 (21)	46 (39)
Date.....	Aug. 27.....	Sept. 26.....	Oct. 31.....	Nov. 27.
Color.....	None.....	None.....	None.....	None.
Odor—Cold.....	None.....	None.....	Slight, of green vegetable matter	None.
Odor—Hot (60 deg. C.)....	None.....	None.....	Very slight ditto...	V. slight marshy.
Sediment.....	Slight.....	Slight.....	Very slight.....	Slight.
Turbidity.....	None.....	Slight.....	Slight.....	Slight.
Total solids.....	170	199	182	197
Loss on ignition.....	68	59	77	64
Fixed residue.....	102	140	105	133
Behavior on ignition—				
Charring.....	Slight.....	Very slight....	Slight.....	Very slight.
Odor.....	None.....	Slight.....	Slight.....	Very slight.
Phosphoric acid (as P ₂ O ₅).....				
Chlorine.....	23.1	24.5	27.4	27.1
Nitrogen as nitrites.....	None.....	None.....	None.....	None.
Nitrogen as nitrates.....	Trace.....	None.....	None.....	0.29
Nitrogen as free ammonia	0.032	0.022	0.006	0.002
Nitrogen as albuminoid...	0.150	0.166	0.212	0.180
Rate of liberation.....	0.080	0.096	0.136	0.104
(First three portions.)	0.026	0.044	0.050	0.048
	0.016	0.010	0.016	0.018
Oxygen consumed.....	2.135	3.23	2.49	2.14
Hardness—				
Temporary, as CaCO ₃ .	96.4	101.1	93.3	100.8
Permanent, as CaCO ₃ ..	0.0	13.4	0.0	0.0
Free alkali (as CaCO ₃)....	1.3	0.0	6.4	1.4
No. of bacteria per c. cm		51	396	212

WATER RATES.

ANALYSES OF WATER—Continued.

(Parts in 1,000,000.)

WATER FROM COLLEGE HILL RESERVOIR, 1900-1901—Continued.

DESIGNATION.....	58 (55)	71 (68)	81 (78)	89 (86)
Date.....	Dec. 27.....	Jan. 30.....	Feb. 27.....	Mar. 27.
Color.....	None.....	None.....	None.....	None.
Odor—Cold.....	None.....	Slightly marshy	V. slightly marshy.	
Odor—Hot (60 deg. C.)....	Slightly marshy	Slightly marshy	Slightly marshy.	
Sediment.....	Slight.....	Very slight....	Very slight	Decided.
Turbidity.....	Very slight....	Slight.....	Very slight.....	Decided.
Total solids.....	223	177		
Loss on ignition.....	99	69		
Fixed residue.....	124	108		
Behavior on ignition—				
Charring.....	Trace.....	Very slight.		
Odor.....	Very slight....	Very slight.		
Phosphoric acid (as P ₂ O ₅)..				
Chlorine.....	27.4			
Nitrogen as nitrites.....	None.....	None.....	None.....	None.
Nitrogen as nitrates.....	0.56			
Nitrogen as free ammonia	0.038	0.032	0.032	0.044
Nitrogen as albuminoid...	0.238	0.186	0.180	0.216
Rate of liberation.....	0.136	0.092	0.096	0.108
(First three portions.)	0.044	0.038	0.040	0.048
	0.024	0.028	0.020	0.028
Oxygen consumed.....	1.93	2.235	2.14	2.595
Hardness—				
Temporary, as CaCO ₃ ..	102.8			
Permanent, as CaCO ₃ ..	0.0			
Free alkali (as CaCO ₃)....	0.8			
No. of bacteria per c. cm.	260	159	462	155

ANALYSES OF WATER—Continued.

(Parts in 1,000,000.)

WATER TAKEN AT LAKE HONDA, 1900-1901.

DESIGNATION.....	7	18 (10)	35 (28)	48 (41)	(45)
Date.....	Sept. 7....	Oct. 3....	Nov. 7....	Dec. 6.....	Dec. 17.....
Color.....	None.....	None.....	None.....	None.....	None.
Odor—Cold.....	None.....	None.....	None.....	None.....	
Odor—Hot (60 deg. C.)....	None.....	None.....	Very slightly marshy.	Slightly m'rshy	
Sediment.....	Very slight	Slight....	None.....	Very slight.	
Turbidity.....	None.....	Slight....	Very slight....	Slight.	
Total solids.....	147	168	188	176	
Loss on ignition.....	51	61	77	48	
Fixed residue.....	96	107	111	128	
Behavior on ignition—					
Charring.....	Slight....	Very slight	Slight.....	Trace	
Odor.....	None.....	Slight....	Slight.....	Very slight.	
Phosphoric acid (as P2O5)..					
Chlorine.....	19.4	24.6	27.3	22.6	
Nitrogen as nitrites.....	None.....	None.....	None.....	None.	
Nitrogen as nitrates.....	None.....	None.....	None.....	0.08	
Nitrogen as free ammonia	0.024	0.034	0.004	0.002	
Nitrogen as albuminoid....	0.110	0.208	0.184	0.194	
Rate of liberation.....	0.056	0.132	0.110	0.128	
(First three portions.)	0.024	0.046	0.052	0.036	
	0.014	0.012	0.114	0.020	
Oxygen consumed.....	1.73	2.38	2.375	1.785	
Hardness—					
Temporary, as CaCO3..	75.2	100.2	102.3	78.3	
Permanent, as CaCO3..	3.5	11.2	6.6	0.0	
Free alkali (as CaCO3).....	0.0	0.0	0.0	0.0	
No. of bacteria per c. cm.		140	806		614

WATER RATES.

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ANALYSES OF WATER—Continued.

(Parts in 1,000,000.)

WATER TAKEN AT LAKE HONDA, 1900-1901—Continued.

DESIGNATION.....	60 (57)	75 (72)	84 (81)
Date.....	Jan. 3.....	Feb. 7.....	Mar. 6.
Color.....	None.....	None.....	None.
Odor—Cold.....	Green veg. matter, slightly peppery.	None.....	Very slightly marshy.
Odor—Hot (60 deg. C.)....	Very slight.....	Slightly alliaceous.	Marshy.
Sediment.....	Very slight.....	Slight.....	Decided.
Turbidity.....	Very slight.....	Slight.....	Slight.
Total solids.....	149	143	
Loss on ignition.....	53	52	
Fixed residue.....	96	91	
Behavior on ignition—			
Charring.....	Very slight.....	Very slight.	
Odor.....	Very slight.....	Very slight.	
Phosphoric acid (as P ₂ O ₅)..	.....	.....	.....
Chlorine.....	22.4		
Nitrogen as nitrites.....	None.....	None.....	None.
Nitrogen as nitrates.....	0.46		
Nitrogen as free ammonia	0.008	0.026	0.016
Nitrogen as albuminoid....	0.148	0.150	0.142
Rate of liberation.....	0.092	0.076	0.076
(First three portions.)	0.036	0.036	0.030
	0.014	0.020	0.018
Oxygen consumed.....	1.70	1.65	2.173
Hardness—			
Temporary, as CaCO ₃ ..	74.7		
Permanent, as CaCO ₃ ..	1.4		
Free alkali (as CaCO ₃)....	0.0		
No. of bacteria per c. cm.	120	290	3,000*

*Plated 30 hours late.

WATER RATES.

ANALYSES OF WATER—Continued.

(Parts in 1,000,000.)

WATER FROM TAP ON COLUMBIA SQUARE, 1900-1901.

(UNIVERSITY MOUND RESERVOIR.)

DESIGNATION.....	1	17 (9)	31 (23)	45 (38)	57 (54)
Date.....	Aug. 28.....	Sept. 26.....	Oct. 31.....	Nov. 27....	Dec. 27.
Color.....	None.....	None.....	None.....	None.....	None.
Odor—Cold.....	None.....	None.....	None.....	None.....	None.
Odor—Hot (60 deg. C.)....	None.....	None.....	None.....	None.....	None.
Sediment.....	Very slight....	None.....	None.....	None.....	None.
Turbidity.....	None.....	None.....	None.....	Very slight	Very slight
Total solids.....	254	260	257	235	285
Loss on ignition.....	88	81	92	81	73
Fixed residue.....	166	179	165	154	212
Behavior on ignition—					
Charring.....	Slight.....	Very slight ...	Very slight....	Very slight	Trace.
Odor.....	None.....	Slight.....	Very slight....	Slight.....	Trace.
Phosphoric acid (as P ₂ O ₅)..	None.				
Chlorine.....	20.98	22.1	24.7	24.1	17.6
Nitrogen as nitrites.....	None.....	None.....	None.....	None.....	None.
Nitrogen as nitrates.....	0.066	0.16	0.20	0.09	0.36
Nitrogen as free ammonia	0.030	0.012	0.006	0.006	0.010
Nitrogen as albuminoid....	0.074	0.074	0.114	0.156	0.094
Rate of liberation.....	0.046	0.050	0.080	0.088	0.052
(First three portions.)	0.012	0.012	0.022	0.044	0.016
	0.004	0.006	0.008	0.016	0.014
Oxygen consumed.....	1.195	0.335	1.445	1.80	1.005
Hardness—					
Temporary, as CaCO ₃ ..	132.1	165.9	147.6	139.4	158.5
Permanent, as CaCO ₃ ..	0.0	7.0	0.0	0.5	6.1
Free alkali (as CaCO ₃)....	26.4	0.0	15.5	0.0	0.0
No. of bacteria per c. cm.		40	230	569	148

WATER RATES.

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ANALYSES OF WATER—Continued.

(Parts in 1,000,000.)

WATER FROM TAP ON COLUMBIA SQUARE, 1900-1901—Continued.

UNIVERSITY MOUND RESERVOIR.)

DESIGNATION.....	82 (79)	88 (85)
Date.....	Feb 27.....	Mar. 27.....
Color.....	None.....	None.
Odor—Cold.....	Very slightly marshy.	
Odor—Hot (60 deg. C.).....	Slightly marshy.	
Sediment.....	None.....	Very faint.
Turbidity.....	Very slight.....	Very faint
Nitrogen as nitrites.....	None.....	None.
Nitrogen as nitrates.....	None.....	None.
Nitrogen as free ammonia.....	0.012	0.026
Nitrogen as albuminoid.....	0.102	0.134
Rate of liberation.....	0.056	0.056
(First three portions.)	0.026	0.032
	0.012	0.020
Oxygen consumed.....	0.995	0.99
No. of bacteria per c. cm.....	347	264

WATER RATES.

ANALYSES OF WATER—Continued.

(Parts in 1,000,000.)

WATER FROM TAP ON CITY HALL GROUNDS, 1900-1901.

(COLLEGE HILL SYSTEM.)

DESIGNATION.....	4	16 (8)	30 (22)	.44 (37)
Date.....	Aug. 28.....	Sept. 26.....	Oct. 31.....	Nov. 27.
Color.....	None.....	None.....	None.....	None.
Odor—Cold.....	None.....	None.....	Slight, of green veg. matter.	None.
Odor—Hot (60 deg. C.)....	None.....	None.....	Very slight, of decaying ditto.	Very slightly marshy.
Sediment.....	Very slight..	Very slight...	Slight.....	Slight.
Turbidity.....	None.....	Very slight...	Very slight.....	Slight.
Total solids.....	171	193	179	212
Loss on ignition.....	61	55	73	74
Fixed residue.....	110	138	106	138
Behavior on ignition—				
Charring.....	Slight.....	Very slight...	Slight.....	Very slight.
Odor.....	None.....	Slight.....	Slight.....	Very slight.
Phosphoric acid (as P ₂ O ₅)..	None.			
Chlorine.....	23.7	25.6	27.4	26.7
Nitrogen as nitrites.....	None.....	None.....	None.....	None.
Nitrogen as nitrates.....	None.....	None.....	None.....	0.11
Nitrogen as free ammonia	0.022	0.014	0.008	0.008
Nitrogen as albuminoid....	0.120	0.144	0.192	0.196
Rate of liberation.....	0.068	0.080	0.120	0.128
(First three portions.)	0.018	0.040	0.040	0.048
	0.14	0.14	0.020	0.014
Oxygen consumed.....	1.995	2.235	2.345	2.055
Hardness—				
Temporary, as CaCO ₃ ..	84.3	101.6	96.9	97.2
Permanent, as CaCO ₃ ..	0.0	12.0	0.0	2.4
Free alkali (as CaCO ₃).....	13.2	0.0	3.8	0.0
No. of bacteria per c. cm.		367	430	1,240

WATER RATES.

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ANALYSES OF WATER—Continued.

(Parts in 1,000,000.)

WATER FROM TAP ON CITY HALL GROUNDS, 1900-1901—Continued.

(COLLEGE HILL SYSTEM.)

DESIGNATION.....	56 (53)	70 (67)	80 (77)	86 (83)
Date.....	Dec. 27.....	Jan. 30.....	Feb. 27.....	Mar.'27.
Color.....	None.....	None.....	None.....	None.
Odor—Cold.....	None.....	Slightly m'rshy	Very slightly marshy.	
Odor—Hot (60 deg. C.).....	Very slightly marshy.	None.....	Slightly marshy.	
Sediment.....	Very slight.....	Very slight....	Slight.....	Very slight.
Turbidity.....	Very slight.....	Slight.....	Slight.....	Very slight.
Total solids.....	203	178		
Loss on ignition.....	53	66		
Fixed residue.....	150	112		
Behavior on ignition—				
Charring.....	Trace.....	Very slight.		
Odor.....	Very slight.....	Very slight.		
Phosphoric acid (as P2O5).....				
Chlorine.....	28.3			
Nitrogen as nitrites.....	None.....	None.....	None.....	None.
Nitrogen as nitrates.....	0.56			
Nitrogen as free ammonia.....	0.010	0.026	0.038	0.030
Nitrogen as albuminoid....	0.188	0.152	0.180	0.186
Rate of liberation.....	0.012	0.092	0.086	0.096
(First three portions.)	0.040	0.028	0.046	0.038
	0.018	0.020	0.022	0.024
Oxygen consumed.....	1.89	2.03	2.13	2.33
Hardness—				
Temporary, as CaCO3..	102.0			
Permanent, as CaCO3..	0.0			
Free alkali (as CaCO3).....	3.9			
No. of bacteria per c. cm.	402	240	408	420

WATER RATES.

ANALYSES OF WATER—Continued.

(Parts in 1,000,000.)

WATER FROM TAP ON HAMILTON SQUARE, 1900-1901.

(LAKE HONDA SYSTEM.)

DESIGNATION.....	8	19 (11)	33 (26)	47 (40)	(48)
Date.....	Sept. 7.....	Oct. 3.....	Nov. 7.....	Dec. 6.....	Dec. 17.
Color.....	None.....	None.....	None.....	None.....	
Odor—Cold.....	None.....	None.....	None.....	Slightly marshy.	
Odor—Hot (60 deg. C.).....	None.....	Very slight bad odor.	Slightly marshy.	Marshy.	
Sediment.....	Slight.....	Very slight.....	None.....	None.	
Turbidity.....	Very slight	Very slight.....	Decided*.....	Slight.	
Total solids.....	145	167	193	173	
Loss on ignition.....	54	58	84	58	
Fixed residue.....	91	109	109	115	
Behavior on ignition—					
Charring.....	Slight.....	Slight.....	Slight.....	Very slight.	
Odor.....	None.....	Slight.....	Slight.....	Slight.	
Phosphoric acid (as P ₂ O ₅)..	None.				
Chlorine.....	19.0	23.7	27.1	22.6	
Nitrogen as nitrites.....	None.....	None.....	None.....	None.	
Nitrogen as nitrates.....	None.....	None.....	None.....	0.14	
Nitrogen as free ammonia	0.036	0.038	0.006	0.016	
Nitrogen as albuminoid....	0.132	0.152	0.386	0.136	
Rate of liberation.....	0.070	0.080	0.228	0.088	
(First three portions.)	0.028	0.032	0.094	0.024	
	0.014	0.016	0.035	0.016	
Oxygen consumed.....	1.455	1.86	3.305	1.755	
Hardness—					
Temporary, as CaCO ₃ ..	77.3	94.2	102.2	77.8	
Permanent, as CaCO ₃ ..	2.8	0.0	6.6	0.0	
Free alkali (as CaCO ₃)....	0.0	1.6	0.0	2.6	
No. of bacteria per c. cm.		185	2,108		71.30

*Probably brownish algae.

WATER RATES.

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ANALYSES OF WATER—Continued.

(Parts in 1,000,000.)

WATER FROM TAP ON HAMILTON SQUARE, 1900-1901—Continued.

— (LAKE HONDA SYSTEM.)

DESIGNATION.....	59 (56)	69 (66)	74 (71)	85 (82)
Date.....	Jan. 3.....	Jan 30.....	Feb. 7.....	Mar. 6.
Color.....	None.....	None.....	None.....	None.
Odor—Cold.....	Slightly marshy and disagreeable.	Slightly marshy ..	None.....	Very slightly marshy.
Odor—Hot (60 deg. C.).....	Marshy .	Marshy.....	Slightly alliaceous.	Marshy.
Sediment.....	Slight.....	Slight.....	None.....	Slight.
Turbidity.....	Slight.....	Slight.....	Slight.....	Slight.
Total solids.....	166	152	142	
Loss on ignition.....	53	54	55	
Fixed residue.....	112	96	87	
Behavior on ignition—				
Charring.....	Trace.....	Very slight.....	Very slight.	
Odor.....	Very slight ..	Very slight.....	Very slight.	
Phosphoric acid (as P2O5).....				
Chlorine.....	22.4			
Nitrogen as nitrites.....	None.....	None.....	None.....	None.
Nitrogen as nitrates.....	0.46			
Nitrogen as free ammonia	0.028	0.042	0.025	0.016
Nitrogen as albuminoid....	0.196	0.212	0.126	0.130
Rate of liberation.....	0.120	0.128	0.051	0.070
(First three portions.)	0.044	0.030	0.034	0.023
	0.020	0.024	0.016	0.014
Oxygen consumed.....	1.32	1.90	1.56	2.145
Hardness—				
Temporary, as CaCO3..	74.6			
Permanent, as CaCO3.	2.1			
Free alkali (as CaCO3) ...	0.0			
No. of bacteria per c. cm.	440	331	545	4,200*

*Plated 30 hours late.

WATER RATES.

ANALYSES OF WATER—Continued.

(Parts in 1,000,000.)

WATER FROM LAKE MERCED, 1900-1901.

DESIGNATION.....	9 (1)	27 (19)	34 (27)	49 (42)	(47)
Date.....	Sept. 19.....	Oct. 25.....	Nov. 7.....	Dec. 6.....	Dec. 17.
Color.....	None.....	Sample No. 27 lost...	None.....	None.	
Odor—Cold.....	None.....	None.....	None.....		
Odor—Hot (60 deg. C.).....	Green vegetable matter.*		None.....	None.	
Sediment.....	Considerable...		Considerable...	Decided*.	
Turbidity.....	Slight.....		Considerable..	Considerable.	
Total solids.....	290		341	326	
Loss on ignition.....	96		80	72	
Fixed residue.....	194		261	254	
Behavior on ignition—					
Charring.....	Slight.....		Trace.		
Odor.....	Slight.....		None.....	Very slight.	
Phosphoric acid (as P ₂ O ₅).....	0.04				
Chlorine.....	59.2		66.0	63.6	
Nitrogen as nitrites.....	None.....		0.11	None	
Nitrogen as nitrates.....	0.16		0.34	0.48	
Nitrogen as free ammonia.....	0.070		0.006	0.038	
Nitrogen as albuminoid.....	0.616		0.320	0.212	
Rate of liberation.....	0.360		0.086	0.044	
(First three portions.)	0.120		0.086	0.044	
	0.060		0.030	0.021	
Oxygen consumed.....	3.19		3.70	2.745	
Hardness—					
Temporary, as CaCO ₃	109.8		104.2	110.7	
Permanent, as CaCO ₃	21.1		0.0	0.3	
Free alkali (as CaCO ₃).....	0.0		5.0	0.0	
No. of bacteria per c. cm	325	12,720	708		416

*Probably fine clay. †Apparently alliaceus.

WATER RATES.
ANALYSES OF WATER—Continued.

(Parts in 1,000,000.)

WATER FROM LAKE MERCED, 1900-1901—Continued.

DESIGNATION.....	FROM SOUTH LAKE.		FROM NORTH LAKE.	
	61 (58)	73 (70)	50 (43)	
Date.....	Jan. 3.....	Feb. 23.....	Dec. 6.....	Dec. 17.....
Color.....	None.....	None.....	None.....	
Odor—Cold.....	Slight, of muddy water.	None.....	None.....	
Odor—Hot (60 deg. C.)....	None.....	None.....	Slight.....	
Sediment.....	Decided.....	Slight.....	Slight.....	
Turbidity.....	Considerable, like fine clay	Decided, like fine clay.	Distinct.....	
Total solids.....	299	269	327	
Loss on ignition.....	70	73	96	
Fixed residue.....	229	196	231	
Behavior on ignition—				
Charring.....	None.....	None.....	Very slight.....	
Odor.....	Very slight.....	Very slight.....	Very slight.....	
Phosphoric acid (as P2O5).....				
Chlorine.....	63.0		68.4	
Nitrogen as nitrites.....	None.....	None.....	None.....	
Nitrogen as nitrates.....	1.58			
Nitrogen as free ammonia	0.020	0.036	0.038	
Nitrogen as albuminoid....	0.204	0.190	0.418	
Rate of liberation.....	0.120	0.092	0.264	
(First three portions.)	0.044	0.038	0.068	
	0.022	0.028	0.044	
Oxygen consumed.....	2.175	2.01	2.36	
Hardness—				
Temporary, as CaCO3..	107.3		114.2	
Permanent, as CaCO3..	7.9		0.0	
Free alkali (as CaCO3)....	0.0		2.3	
No. of bacteria per c. cm	472	320		476

WATER RATES.

ANALYSES OF WATER—Continued.

(Parts in 1,000,000.)

WATERS FROM MISCELLANEOUS SOURCES, 1900-1901.

DESIGNATION	SAN MATEO CREEK.	(25)	22 (14)	LAKE TAHOE.	YUBA RIVER.
	32 (24)			(A) (B) (C) (D)	33 (32)
Date.....	Nov. 3.....	Nov. 3.....	Oct. 16 ..		Nov. 15.
Color.....	None.....		None.....		None.
Odor—Cold.....	None.....		None.....		None.
Odor—Hot (60 deg. C.)....	V slightly marshy.		V. slightly marshy.		V. Slightly marshy.
Sediment.....	Slight.....		None.....		Decided.
Turbidity.....	Slight.....		None.....		Decided, like first class.
Total solids.....	165.....		65.....		166
Loss on ignition.....	52.....		15.....		28
Fixed residue.....	113.....		50.....		138
Behavior on ignition—					
Charring.....	V. slight.....		None.....		None.
Odor.....	None.....		V. slight.....		V. slight.
Chlorine.....			1.42.....		2.0
Nitrogen as nitrites.....	None.....		None.....		None.
Nitrogen as nitrates.....	None.....		Trace.....		None.
Nitrogen as free ammonia	0.006.....		0.006.....		0.006
Nitrogen as albuminoid...	0.072.....		0.034.....		0.064
Rate of liberation.....	0.048.....		0.024.....		0.040
(First three portions.)	0.018.....		0.008.....		0.014
	0.004.....		0.002.....		0.004
Oxygen consumed.....	0.905.....		0.10.....		0.44
Hardness—					
Temporary, as CaCO ₃ ..			45.1.....		48.2
Permanent, as CaCO ₃ ..			8.8.....		0.0
Free alkali (as CaCO ₃)....			0.0.....		0.0
No. of bacteria per c. cm.	683.....		60.....	1,000	*

*A, 114; B, 606; C, 446; D, 474; E, 960; F, 440; G, 460; H, 2,760.

Remarks—Bacteriological samples A, B, C and D from Lake Tahoe were taken at Glenbrook and immediately plated; A 100, B 200, C 300 and D 500 yards off shore.

WATER RATES.

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ANALYSES OF WATER—Continued.

(Parts in 100,000.)

WATER ANALYSES BY DEPARTMENT OF PUBLIC HEALTH.

SOURCE	COLLEGE HILL RESERVOIR.	UNIVERSITY MOUND RESERVOIR.
	1246	1247
Date.....	May 20.....	May 20.
Total solids.....	18.00	24.00
Loss on ignition.....	7.2	8.4
Chlorin as chlorides.....	2.2	2.0
Ammonia, free.....	0.0074 No. 1—50 c.c., .54 No. 2—50 c.c., .27 No. 3—50 c.c., .19	0.004 No. 1—50 c.c., .75 No. 2—50 c.c., .25
Ammonia albuminoid.....	0.03 No. 1—50 c.c., .60 No. 2—50 c.c., .20 No. 3—50 c.c., .13 No. 4—50 c.c., .07	0.014 No. 1—50 c.c., .67 No. 2—50 c.c., .20 No. 3—50 c.c., .13
Oxygen consumed, 10 in. min.....	0.57	0.135
Nitrates.....	0.005	0.005
Nitrites.....	0.00004	0.00008
Color.....	Yellowish gray	Light y'llwish gray
Odor—Cold.....	Normal.....	Normal.
Odor—Hot (60 deg. C.).....	Normal.....	Normal.
Odor—on ignition.....	Non-nitrogenous...	Non-nitrogenous.
Sediment.....	Slight.....	Slight.
Turbidity.....	Clear.....	None.

ANALYSES OF WATER—Continued.

(Parts in 100,000.)

WATER ANALYSES BY DEPARTMENT OF PUBLIC HEALTH—Continued.

SOURCE	SCREEN HOUSE ABOVE LAKA HONDA.	HAMILTON SQUARE.
	1292	1293
Date.....	June 7, 1901.....	June 7, 1901.
Color.....	Very light yellow gray.	Very light yellow gray.
Odor—Hot.....	Normal.	Normal.
Odor—Cold.....	Normal.....	Normal
Sediment.....	None	None.
Turbidity.....	Clear.....	Clear.
Total solids.....	17.2	17.6
Loss on ignition.....	6.8	7.2
Fixed residue.....	10.4	10.4
Behavior on ignition.....	No nitrogenous odor.	No nitrogenous odor.
Chlorine.....	2.43	2.42
Nitrogen as nitrites.....	0.00006	0.000059
Nitrogen as nitrates.....	0.0080	0.0081
Nitrogen as free ammonia.....	0.002 No. 1—50 c.c., .75 No. 2—50 c.c., .25	0.002 No. 1—50 c.c., .75 No. 2—50 c.c., .25
Nitrogen as albuminoid.....	0.014 No. 1—50 c.c., .71 No. 2—50 c.c., .21 No. 3—50 c.c., .08	0.014 No. 1—50 c.c., .71 No. 2—50 c.c., .21 No. 3—50 c.c., .08
Oxygen consumed.....	0.186	0.182
Hardness—Temporary.....	2.21	2.17
Hardness—Permanent.....	1.36	1.30
Free alkalies.....	2.21	2.17

WATER RATES.

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ANALYSES OF WATER—Continued.

(Parts in 100,000.)

WATER ANALYSES BY DEPARTMENT OF PUBLIC HEALTH—Continued.

SOURCE	COLLEGE HILL BETWEEN AERATOR AND RESERVOIR.	PIPE EAST OF HALL OF RECORDS.
	No.....	1296	1297
Date.....	June 14, 1901.....	June 14, 1901.
Color.....	Light yellow.....	Light yellow.
Odor—Hot.....	Normal.....	Normal.
Odor—Cold.....	Normal.....	Normal.
Sediment.....	Slight.....	Slight.
Turbidity.....	Slight.....	Very slight.
Total solids.....	18.8	18.8
Loss on ignition.....	6.0	5.6
Fixed residue.....	12.8	13.2
Behavior on ignition.....	No nitrogenous odor.	No nitrogenous odor.
Chlorine as chlorids.....	1.81	1.80
Nitrogen as nitrites.....	0.000061	0.0000605
Nitrogen as nitrates.....	0.020	0.020
Nitrogen as free ammonia.....	0.001	0.001
	No. 1—50 c.c., 100	No. 1—50 c.c., 100
	No. 2—50 c.c., 0	No. 2—50 c.c., 0
Nitrogen as albuminoid.....	0.021	0.021
	No. 1—50 c.c., .62	No. 1—50 c.c., .62
	No. 2—50 c.c., .23	No. 2—50 c.c., .23
	No. 3—50 c.c., .10	No. 3—50 c.c., .10
	No. 4—50 c.c., .05	No. 4—50 c.c., .05
Oxygen consumed.....	0.255	0.270
Hardness—Temporary.....	2.10	2.00
Hardness—Permanent.....	1.20	0.86
Free alkalies.....	2.10	0.200

The samples for chemical and bacteriological examination were numbered separately. The numbers of identification relating to the bacteriological samples have been put in brackets.

The points at which samples of water were taken may be described as follows:

SUNOL VALLEY GRAVELS.—Samples No. 6, 38 (31), 62 (59) and 76 (73), were taken from the forebay at the right bank end of the dam across Alameda Creek at Sunol, where the subsurface aqueduct discharges into the conduit leading through the dam. Samples Nos. 20 (12) and 21 (13) were taken from the screen house at the Alameda pipe intake near Niles and represent water at which about one-half was contributed by sub-surface conduit and one-half was admitted unscreened direct from the creek. Nos. 37 (30) 51 (44) and 65 (62) were from the screen house near Niles.

The Laguna Creek samples, Nos. 63 (60) were taken near the steel bridge above Sunol Valley about one mile from Verona. The creek was quite high and muddy. The samples were taken near the bank.

The Calaveras Creek samples, Nos. 64 (61) were taken just below the Mission San Jose road bridge. The creek was high and water muddy. The samples were taken near the bank.

CRYSTAL SPRINGS RESERVOIR.—Samples Nos. 10 and 23 were taken over outlet, about 4 feet below water surface. All other samples from this reservoir were taken from a 2-inch pipe connected with the main outlet pipe from the reservoir, about 30 feet below the gate house. In sample No. 23 a few small white crustaceans and a very little green algae were noted by the Chemist.

Bacteriological sample No. (35) was noted as doubtful, an inspection disclosed a slight film of sediment in bottle before sample was taken.

SAN ANDRES RESERVOIR.—All samples were taken from the flume at the lower end of the outlet tunnel just above the screen house, except 13 and 26, which were the same water as Nos. 12 and 25, but were taken just below the screen. The screens are of cloth.

PILARCITOS RESERVOIR.—All samples were taken from the flume just below the outlet tunnel.

UNIVERSITY MOUND RESERVOIR.—Sample No. 3 was dipped from the reservoir in a well rinsed bucket at reservoir outlet. No. 14 was taken at 3 feet below the surface, just over outlet pipe; No. 28 and No. 43 at 2 feet below surface; Nos. 55, 72 and 82 from conduit after water had passed the cloth screens of the screen house just before dropping into the reservoir.

COLLEGE HILL RESERVOIR.—All samples were taken from conduit between aerator and the reservoir at the point where the water drops into the reservoir. In the case of sample No. 58, bacteriological sample No. 55, the aerator was not in use.

LAGUNA HONDA.—All samples were taken from the conduit leading to main pipe after passing the screens, just above Laguna Honda. This water is generally a mixture of water from San Andres and from Pilarcitos Reservoirs. Lower Crystal Springs water may also be added. Sample No. 7, reported to be two-thirds from Pilarcitos, one-third from San Andres; sample No. 18, bacteriological sample No. 10, about 98 per cent. from San Andres, the rest from Pilarcitos; Nos. 35 (28) all from San Andres.

COLUMBIA SQUARE.—All samples were taken from a drinking faucet on the

central walk leading from Folsom to Harrison streets and a few feet south of the south line of Cleveland street, extended. This is the water from University Mound Reservoir. In the case of sample No. 31 there was some doubt as to whether the nitrate determination had been properly assigned to the sample analysed. There was a possibility that it should have been accredited to No. 30. Other analyses of the same waters indicate that it has been correctly assigned.

CITY HALL GROUNDS.—All samples were taken from a faucet just north of the east steps leading to the Hall of Records. This water comes from College Hill Reservoir.

HAMILTON SQUARE.—Samples 8 and 19 (11) were taken from the drinking faucet on the north side of the square opposite Pierce street. Nos. 33 (26), 47 (40), (48), 59 (56) and 69 (66) were taken from irrigating hydrants near the drinking faucet. Nos. 74 (71) and 85 (82) were taken from the tap in the Fire Engine House on Post street, between Webster and Fillmore streets. This water comes from the Laguna Honda screen house, and from Laguna Honda.

LAKE MERCED.—Samples from South Lake were all taken near the pumping station outside of the log-boom, about two to three feet below surface. At no time that above samples were taken was any lake water being pumped into the City. In sample No. 9 considerable green algac were floating on the surface.

The samples from North Lake were taken about 200 feet off shore near the boat house at the site of the original lake pump.

SAN MATEO CREEK.—Samples Nos. 32 (24) were taken from a quiet pool in the creek, about 40 feet above the entrance to the Davis Tunnel which takes the creek water into the San Andres Reservoir. No. (25) was taken from the creek about one mile below the Oakland Dairy (Fairfields.) There was very little water in the creek.

LAKE TAHOE.—Samples 22 (14) were taken 200 to 300 yards off shore opposite the lake outlet, near Tahoe City. Bacteriological sample (14) was ignored because immediately after the water was admitted into the sterilized bottles a light flaky substance was noticed in the water, and because a delay in transportation occurred, making the time two days before the samples reached the Laboratory.

Bacteriological samples (A) (B) (C) (D) were taken at Glenbrook, 200, 300, 400 and 500 yards off shore, and immediately plated. The results noted for these are therefore reliable.

YUBA RIVER.—The samples were taken from the river near Bullard's Bar, about 40 feet above Willow Creek. The river, although low, was reported to be unusually muddy. Apparently this was due to mining. It had commenced to rain at Bullard's Bar at 3 P. M. The samples were take between 3:45 and 4 o'clock P. M.

THE PUMPING OF SALT WATER.

The City Engineer is directed by Resolution No. 1386 of the Board of Supervisors to estimate "The cost of an auxilliary Salt Water System for Fire Protection and flushing the streets and sewers."

Neither time nor means have permitted any examination of this matter this fiscal year. Further instructions will be awaited before plans are elaborated for a salt water plant.

Something on this subject seems, however, to be required by the Resolution above quoted, and some light can be thrown upon the advantage or disadvantage of such an auxilliary supply.

In order that the salt water may become available for general sewer flushing purposes it should be carried to all street summits. Sewers need flushing by introduction of flushing waters at their upper ends only. Lower sections, when properly aligned and built on suitable gradients, will be kept clean without the introduction of any flushing water by their natural flow, or by a periodical stoppage of this flow and its sudden liberation.

To reach all high points where flushing water is required would mean that the Salt Water Distributing System should in large part duplicate the fresh water pipe system.

To make fire protection with salt water general, also means duplication of pipes and the use of large mains in a very extended net work of pipes.

The advantages of sprinkling streets with salt water, though admitted for macadamized roadways, are more or less offset by disadvantages and are to some extent disputed when other pavements are to be wet.

The introduction of salt water for these purposes, unless it becomes imperative, owing to scarcity of fresh water supply, or too great cost of bringing in other water, must therefore be expected to become an unprofitable financial burden.

Should water be brought into this City now by works having a capacity of 60,000,000 gallons per day, which amount will not be in full demand for thirty to forty years, it will follow that a great surplus of fresh water will be available for flushing sewers, extinguishing fires, and sprinkling and washing streets; that this water can be delivered in large mains to meet every reasonable demand in any section of the City; and that duplication of mains will be avoided, and introduction of salt water can be indefinitely postponed.

PROPOSALS SUBMITTED.

A number of proposals made to the Board of Supervisors to sell water properties or to construct water works for the City, and other communications containing advice or recommendations, have been referred to the Board of Public Works and the City Engineer for investigation and report.

These proposals have been made in response to calls by the Supervisors, as contained in Resolutions Nos. 207 and 257, heretofore referred to. (See p. 8 and 9.)

PROPOSAL OF THE LAKE TAHOE AND SAN FRANCISCO WATER WORKS.

The Lake Tahoe and San Francisco Water Works, through its President, A. W. von Schmidt, and its Secretary, Holland Smith, make the following proposition in a communication addressed to the Mayor and Board of Supervisors:

1. A water right to the stored waters of Lake Tahoe, secured by contract with the Donner Lumber and Boom Company in 1871, by the construction of a dam at the outlet of Lake Tahoe in 1871, and by the continuous operation of the dam since 1871 in storing flood waters and controlling its flow from the lake.
2. A dam at the outlet of Lake Tahoe.
3. A contract for a deed to 2½ acres of land at the outlet of Lake Tahoe, which includes the dam site and other land adjacent, convenient for its operation and maintenance.
4. A diverting dam in the Truckee River.
5. A patent to the S. W. ¼ of the S. W. ¼ of Sec. 34, Twp. 16 N., R. 16 E., M. D. B. and M., being 40 acres of land on which the diverting dam is built.
6. Maps, surveys and estimates in connection with the development of Lake Tahoe water for San Francisco.
7. The books of this corporation, tax receipts, contracts, deeds and other legal papers showing title to the above rights and property.

The approximate line of works necessary to bring the stored waters of Lake Tahoe to San Francisco is as follows:

- Dam at outlet of Lake Tahoe, now built, to be reconstructed.

Canal from diverting dam to tunnel.
 Tunnel through the Sierra Nevada Mountains.
 Diverting dam in the American River.
 Canal from diverting dam to an intake reservoir in the foothills of the Sierras, elevation 800 to 1,000 feet above sea level.
 Intake reservoir for pipe lines to San Francisco.
 Riveted steel pipe line or lines from the intake reservoir to some point in the City and County of San Francisco.

We have the following propositions to make; in each of them the delivery of water is to be made at some point in the City and County of San Francisco at a pressure of 300 feet above the sea level; the material and all workmanship is to be first-class in every particular, and the completed works will be delivered to the City and County of San Francisco free of all liens and incumbrances. Should any of these propositions meet your approval, they will be reduced to more definite specifications.

PROPOSITION NO. 1. We will construct the works as above outlined, of a capacity of 30,000,000 gallons daily, single pipe line, for the sum of seventeen million nine hundred and sixty thousand (\$17,900,000) dollars, gold coin of the United States.

PROPOSITION NO. 2. Same as No. 1, except that two pipe lines from the intake reservoir, for the sum of twenty million four hundred and five thousand (\$20,405,000) dollars, gold coin of the United States.

PROPOSITION NO. 3. Same as No. 2, except that the capacity of the works above the intake reservoir to be 100,000,000 gallons daily, for the sum of twenty-one million two hundred and fifteen thousand (\$21,215,000) dollars, gold coin of the United States.

PROPOSITION NO. 4. We will construct the works as above outlined, of a capacity of 100,000,000 gallons daily above the intake reservoir and a capacity of 60,000,000 gallons daily to San Francisco, single pipe line, for the sum of twenty-nine million seven hundred and seventy-two thousand (\$29,772,000) dollars, gold coin of the United States.

PROPOSITION NO. 5. Same as No. 4, except that two pipe lines from the intake reservoir, for the sum of thirty-two million six hundred and sixty thousand (\$32,660,000) dollars, gold coin of the United States.

The time in which we will bind ourselves to finish the works under any of these propositions will be five (5) years. These propositions are based on the present price of pipe steel (2½ cents) at tide water on the Atlantic Coast. Should they be accepted in the future, we will make a reduction for a drop in price and expect a raise for any increase in price to correspond.

We have heretofore made the City and County of San Francisco a proposal bearing date September 23, 1889, to bring 30,000,000 gallons daily for the sum of \$15,000,000. The difference in that and these estimates is on account of increased thickness of metal used, the factors of safety being much higher than was then intended.

Very respectfully submitted,

[Signed:] THE LAKE TAHOE AND SAN FRANCISCO WATER WORKS.

By A. W. VON SCHMIDT, President, and HOLLAND SMITH, Secretary.

The same Water Company, under date of March 1, 1901, supplemented the foregoing proposal with the following:

We herewith make offer to sell for fifty thousand (\$50,000) dollars in United States coin or equivalent all the water rights, including dams on Lake Tahoe and Truckee River, together with the land adjoining and subjacent thereto, as hereunder described, comprising and being the property of the Lake Tahoe and San Francisco Water Works."

1. Lake Tahoe, the main source of supply of the Lake Tahoe and San Francisco Water Works, located in the Sierra Nevada Mountains at an elevation of

about 6,220 feet above sea level, and covers an area of some 240 square miles; its greatest depth being about 1,500 feet.

2. The quality of the water is, beyond doubt, the purest in the world, being produced by melting snows and mountain streams, the enclosing and surrounding mountains being mostly of granite formations and having watershed estimated at 500 square miles. The only outlet of the lake is the Truckee River, which flows during ordinary dry seasons of the year eight hundred million gallons of water per diem, and for some months during the floods more than three times that quantity.

3. To guard against dry seasons, a dam has been constructed by the company on Truckee River, at the outlet of the lake, with suitable gates, for the purpose of storing the waters by preventing the usual floods escaping out of the lake and running to waste, at the same time allowing the necessary and normal amount of water to flow down the Truckee River for the use of mills and manufactories. The lake will fill to the capacity of this dam in one ordinary season.

4. The quantity of water thus stored will be immense, and can be better understood and appreciated by stating that one foot of water drawn from the lake in a whole year would give a daily yield of one hundred and thirty-seven million gallons.

5. The lake can be raised by said dam some six feet above low-water mark or about one foot above high-water mark. It will then give six times 137,000,000, or eight hundred and twenty-two millions of gallons per diem, without interfering with the natural or ordinary flow of the Truckee River, that is, with the lake filled up to the full capacity of the dam of six feet.

Referring to this work in his report, Colonel Mendell says: "There can be no apprehension or risk of damage or injury from such dam or reservoir, the conditions being pre-eminently safe, and, further, that the lake may be regarded as a reservoir which can always be relied upon to furnish any amount of water desired, and its value as compared with other projects is to be studied in that light."

6. A second dam has been constructed on the Truckee River, at a point three and three-quarters ($3\frac{3}{4}$) miles below the dam at the lake, at which second dam the water is diverted from the river and taken into a canal.

The fall of the river between the first and second dams is twenty-four (24) feet.

7. Independent of the lake, there are several creeks or streams which the company can draw water from during the rainy season and while the snow is melting in the spring of the year, namely Bear Creek, Squaw Valley Creek, Deer and Hard Scramble Creeks, all of which are on the east side of the mountains and are tributaries to the Truckee River below the lake. On the west side of the Sierras the Company avails itself of several tributaries of the South Fork of the North Fork of the American River, which affords quite a large supply of water in the spring and early summer months. It will, therefore, be seen that water from Lake Tahoe need only be drawn when these streams fail to supply the amount of water required, and it is estimated that the Lake Tahoe and San Francisco Water Works would only require to draw from the lake about eight months out of the twelve. The water in these feeders and tributaries is of equal quality with that in the lake.

The season rain and snow fall was not gauged at the lake, but at Truckee, 600 feet lower down. The maximum was 63 inches, average 54, and minimum 37 inches.

8. The Company's title and ownership to the waters and right of way is acquired and confirmed under and by virtue of the incorporation laws of the State of California and by an act of Congress of the United States, passed July 23, 1866, entitled "An act granting the right of way to ditch and canal owners over the public lands, and for other purposes." At the second, heretofore referred to, the Company owned by location and purchase from the University of the State of California a patent to the southwest quarter of the southwest quarter of Section 34, Township No. 16 North, Range No. 16 East, Mt. Diablo Base and Meridian.

This location embraces the bed of the Truckee River for the distance of one-quarter mile.

9. The capacity of the canal to Auburn or Dutch Ravine Reservoir will be 100,000,000 million gallons per day for San Francisco supply alone, but may be increased to 500,000,000 millions if required for other cities and towns or for production of power by gravitation and from the great altitude afforded.

The water rights in full are now tendered to your Honorable Body at a price (\$50,000) which does not repay expenditure and interest thereon. In the possession of this certain basis of future water supply, of quality beyond question and of quantity exceeding possible requirements, San Francisco is assured of perfect immunity from any outside corporate or monopoly control.

The above offer must be accepted or rejected within ninety (90) days from the date hereof, after which time it will be null and void and of no effect.

LAKE TAHOE AND SAN FRANCISCO WATER WORKS.

(Signed.)

By A. W. VON SCHMIDT, President.

By HOLLAND SMITH, Secretary.

The availability of Lake Tahoe as a source of water supply for this City is discussed in the body of this report.

Concerning the water right offered by this company it is to be said that doubt exists as to what rights it could transfer to this City that would be of material benefit. Even admitting that the company has all that it claims and that for years past the outflow of the lake has been controlled by this company's dam, the fact still remains that all of the stored water has been allowed, sooner or later, to flow down Truckee River and that the rights which have been acquired to this water by users of water lower on this stream must be respected. There are, no doubt, occasional seasons, notably such as 1861-62 and 1889-90, in which the lake receives water greatly in excess of the annual outflow requirement, and improved storage control would enable the full utilization of this surplus. But in the absence of observations demonstrating the amount of this surplus it cannot be hoped that any project for its diversion to the western slope of the Sierra Nevada would be sanctioned without opposition by the present users of the lake's outflow and by the State of Nevada, into whose territory this outflow finds its way. Such opposition, whether grounds for it really exist or not, will have to be met in the courts and under most favorable circumstances would probably lead to delays that would come well nigh being fatal to any such project as that submitted by this company.

The dam at the outlet of the lake in Truckee River referred to as having been in continuous service "since 1871 in storing flood waters and controlling its flow from the lake," is a timber structure with gates at its right bank end. The left bank end of the dam is arranged as a weir, the top of which is about 6½ feet above the gate sills. The length of this overfall portion of the dam is about one hundred feet. When the lake water rises to about ordinary high stage, it overtops this weir and the outflow thereafter increases rapidly with additional elevation.

During the summer and autumn the outflow of the lake—when water surface is at less than weir top elevation—is controlled by the gates in the dam. There are three main gate openings of which the southerly one has a clear width of nine feet. The other two are each subdivided into two smaller openings of five feet each.

It is not known how much of the original dam remains at this point, it being stated, upon inquiry, that the dam has quite recently been rebuilt.

The crest length of the dam is about 155 feet. It is not located straight across the stream, but is built in two sections, which form an obtuse angle, with apex up stream.

The diverting dam in Truckee River referred to in the proposal was located about four and one-half (4½) miles below Lake Tahoe. This dam has been destroyed by fire. Its remnants would be of no value in connection with a diversion of water from the river.

The company has not submitted nor offered any maps or results of surveys that

The route suggested by the Lake Tahoe Water Company has already been compared with another along the Georgetown Divide, which is thought to be more practicable.

If carried out as suggested in the proposal, the upper portions of the works would, during the winter months—ordinarily from December to May—be inaccessible. The canal from the river to the tunnel inlet could not be relied upon for uninterrupted service, unless covered to protect it from drifting and sliding snow. The canal from the American River would be located along precipitous rugged broken marble slopes which confine the river in its gorge where canal repairs could only be made under favorable conditions of the weather, so that there would be danger of having this section out of service for months at a time.

Pipe line location is not indicated in the proposal, but is understood to be by way of Sacramento, to Benicia, across Carquinez Straits, across the Bay of San Francisco. This project should, however, as in fact all of the Sierra Nevada projects, have its merits considered first as an independent and comprehensive project intended to entirely supplant established works, and second as a project supplementing the established system.

If intended to replace the established system, nearby storage should be provided. Pinole Creek reservoir site may be suggested as available. Its utilization is elsewhere referred to in this report. With it in service as a supplement to the established water works, the situation would be much more favorable. In that event, the San Mateo Storage Reservoirs would be kept as nearly full as practicable, also Lake Merced, and in case of failure of any part of the Tahoe system, its output could at once be supplemented or replaced entirely for months at a time from the nearby sources which are now serving the City continuously.

All the main features bearing upon the availability of Lake Tahoe as a source of supply, location, extent, character of catchment area, quality of water and the like have been referred to in the general discussion of a Lake Tahoe project.

For comparison it may be stated that under the proposal, which is, however, to be regarded only as tentative and does not include nearby storage, the first cost of water would be for 30,000,000 gallons per day:

In a single pipe line, per million gallons, daily capacity....	\$598,700
In a double pipe line, per million gallons, daily capacity....	\$680,200
In a double pipe line, but with works above the pipe intake, at a capacity of 100,000,000 gallons per day, per million gallons, daily capacity.....	\$707,200

For 60,000,000 gallons per day:

Upper works, 100,000,000 gallons, per day, single pipe line, per million gallons, daily capacity.....	\$992,400
Double pipe line, per million gallons, daily capacity.....	\$1,088,700.

PROPOSAL OF THE MARYSVILLE AND NEVADA POWER AND WATER COMPANY.

Under date of May 21, 1900, the Marysville and Nevada Power and Water Company, in a communication signed by John Spaulding, President; Louis Conrath, Secretary, and James O'Brien Superintendent, make the following proposal:

As we understand, your City wishes to purchase or contract for a water supply. We are prepared to sell 10,000 inches of water on the North Yuba River, to be diverted from Section 12, T. 19 N., R. 8 E., Yuba County, Cal., elevation being 1,800 feet above tide water.

We will guarantee title to same and enclose herewith an abstract of our title, with the opinion of Attorney W. H. Carlin of Marysville, Cal., and endorsement of same by Hon. Niles Searls.

Also are prepared to sell you reservoir site of 2,000 acres in T. 17 N., N. R. E., at an altitude of 1,500 feet above tide water, or 27 miles from place of diversion, by line of ditch.

Reservoir is capable of holding water to the extent of average depth of 50 feet on whole area, by a dam 100 feet high.

Ditch can be constructed from reservoir site to T. 16 N., R. 5 E., and water will be there at an altitude of 500 feet above tide water. Source of supply being north of Yuba River, watershed of same being 430 square miles, average rainfall sixty inches, average depth of snow, on larger portion of watershed 3 to 20 feet. No snow to contend with on ditch line or any of the works.

We are prepared to contract with your City to deliver any amount of water required up to the ten thousand inches under one hundred feet pressure, or under three hundred feet pressure, in accordance with plans and specifications that your City may adopt or will furnish at a higher pressure according to plans and specifications submitted by your City.

The water is the purest in the State for the reason that the lakes connected therewith are free from tules or any decay vegetation of any kind, and is chiefly over granite country; there are several lakes connected with our water supply.

This proposal was, on July 10, 1900, supplemented by the following:

In compliance with our agreement to give you the figures that we would take for our water and water rights and storage on the Yuba River, on or before the 14th inst., we herewith submit to you two propositions:

First.—We will sell and guarantee 10,000 inches of water to be diverted at Alabama Bar on the North Yuba River; also the right of way for canals, conduits, tunnels, etc.; also two thousand acres of storage reservoir at the Oregon House Valley; also the storage obtained by us at the headwaters of the North Yuba River.

Two thousand inches of this water is to be discharged at a point nineteen miles from where diverted to satisfy all existing claims, and there can be used at a pressure of four hundred and fifty feet, giving about 2,000 horse power at that point.

At a point six miles down stream there can be four thousand inches of water discharged into the Yuba River under a pressure of 1,200 feet, giving about 12,000 horse power. This would still leave four thousand inches of water to be taken to the Oregon House Reservoir, which would be at an elevation of 1,300 feet above tide water.

With the construction of a short line of canal and conduits there can be five hundred feet pressure obtained, giving about 4,000 horse power and still leaving the water seven hundred feet above tide water, which would be ample pressure to conduct this water to the City of San Francisco.

We will sell, convey, and guarantee this property, and further expend \$50,000 on the construction and improvement of the same, any time within twelve months from this date, for the sum of five hundred thousand dollars.

Second.—We will fully build and construct canals, dams at a place of diversion, construct conduits, and discharge and deliver the water into the Oregon House Reservoir. The canals, dams, tunnels and masonry aqueducts will be built in the most permanent manner. And we will deliver to you the ten thousand inches of water as indicated above, and guarantee to you the free use of the same, the water, water rights, rights of way, and storage of 2,000 acres, and deed to you free of all incumbrances, this property for the sum of one million dollars.

We invite you to inspect our water, water rights and storage facility.

We are prepared to enter into a contract or agreement for either of these propositions when you notify us of the acceptance of the same.

Referring to the water rights of the Marysville and Nevada Power and Water

Company, Judge Niles Searls in a communication addressed to that Company, under date of April 17, 1900, says: I have carefully examined the copies of records of location of water rights on the Yuba River furnished me by you; the statement of facts and legal opinion of W. H. Carlin, Esq., based upon such records and statements of facts.

For convenience and certainty of reference, I have marked those documents "Exhibit A," "Exhibit B," respectively, signed "Searls." Upon the predicate of facts contained and stated in those documents, I fully concur in the opinion of Mr. Carlin, upholding your prior right to the diversion and appropriation of the waters of the Yuba River, except as to the prior appropriation of 2,000 inches under what is termed the Hibbert Appropriation.

Your location and diligent prosecution of the work essential to an appropriation of the water, gives you an inchoate right thereto, which will ripen into a title when, with like diligence you have completed your ditches, flumes or other conduits, and actually appropriated the water, and your title will then, under the doctrine of relation, date from the first act in the series necessary to such appropriation, viz: to the posting and record of intention to claim and appropriate the water.

Actual appropriation of water upon the public lands of California is the test of ownership and the extent of such ownership is confined to the quantity actually appropriated and used, or capable of being used, in consonance with the objects of the appropriation.

He who claims 1,000 inches of water under such circumstances and who fails within a reasonable time to perfect his claim beyond the appropriation of 100 inches, will, as against subsequent claimants who have actually appropriated the surplus, be confined to his prior right to 100 inches.

The question of due diligence in appropriating water after notice of location, is one fact to be determined by a jury or by the Court acting as such. It will depend upon the magnitude of the undertaking, the character of the work to be done, inclemency of the season, natural obstacles encountered, etc, etc.

In short, it is such diligence as reasonable men, in view of all the circumstances and surroundings, exercise in their own like affairs. It is a case in which "faith without works is dead."

Be diligent! be diligent! and your claim to the water of the Yuba River will ripen into a title paramount to all the others mentioned, save the exception of 2,000 inches mentioned by Mr. Carlin in his opinion and when consummated will date as to priority from January 26th, 1899, the date of your location.

I might proceed to reason out and illustrate the several propositions involved in the opinion of Mr. Carlin, but if I understand you aright, your main desire is to know if I concur in the conclusions enunciated by him. I therefore conclude by again saying, I do so most fully.

The statement of facts and legal opinion of W. H. Carlin referred to in the letter of Judge Searls, bears date of June 20th, 1899. The letter is addressed to the Marysville and Nevada Power and Water Company, and in it Mr. Carlin says:

I have examined into the status of yours and other water appropriations made upon the Yuba River under the provisions of Title VIII of Part IV, of Division 11, of the Civil Code of the State of California.

1. In 1899 one T. J. Hibbert recorded, and I presume posted a notice appropriating ten thousand inches of the water of the North Yuba.

This appropriation I understand and the rights secured thereby, was subsequently transferred to the Brown's Valley Irrigation District and has since furnished the district its water supply.

In due time after the appropriation, the district diverted 2,000 inches of this water, as I am informed, and since has used that amount, but no greater amount.

This condition of affairs leaves the district the owner of the right to divert 2,000 inches of water by virtue of the Hibbert location, but not more.

2. On December 3, 1897, one John Martin recorded in the Recorder's Office of

this County, a notice of appropriation of 10,000 inches of the North Yuba. From all the information I can derive, neither Mr. Martin nor any person in his behalf prior to the first of April, 1899, commenced the excavation or construction of the work in which he intended to divert the water or do any other thing in compliance with Section 1416 of the Civil Code, and it is clear that whatever rights said Martin sought to obtain by virtue of such appropriation have failed as to him, because of his failure to comply with the law; if they have not failed or lapsed, they have been superseded by the appropriation mentioned in the next paragraph.

3. On January 26th, 1899, James O'Brien and others, appropriated on the North Yuba 10,000 inches of water, and posted and recorded their notice in statutory form. Subsequently the appropriators transferred their rights to your company. I am informed that within sixty days from the 26th day of January, 1899, your company commenced the work of construction provided for by Section 1416 of the Civil Code, and began making surveys and doing such work as was necessary to locate your lines of diverting flumes and ditches and that you have since diligently and uninterruptedly continued to prosecute such work and are still engaged thereat.

Subsequently, on June 5th, 1899, the Yuba Electric Power Company filed of record a notice of appropriation of 15,000 inches of the water of the North Yuba, to be diverted as I understand from the description at the same place of diversion claimed by the said Hibbert appropriation owned by the Brown's Valley Irrigation District first mentioned.

4. In addition to the appropriations heretofore noted there appear three other appropriations, but they are located on the main Yuba River and whatever rights have been secured thereby have been by proper instruments of transfer transferred to your company.

The facts as here given to you in regards to the appropriations are correct as far as can be ascertained from the records in the office of the County Recorder of the County of Yuba.

The facts in regard to the amount of water which has been heretofore used and diverted by the Brown's Valley Irrigation District I believe to be correct, from all information that I can ascertain, but of course those matters are not of record and necessarily would not be.

What has been said in regard to the first mentioned location applies equally to that made by John Martin on December 3rd, 1897, and by your company on January 26th, 1899. I have stated here the facts not appearing of record in relation to the same according to all the information I can obtain and I believe them to be correct. They are matters that can easily be verified. Therefore, assuming that the situation and facts are as heretofore stated, then it is clear that under the law the owners of the Hibbert location or appropriation have the paramount right to the use of 2,000 inches of the water of the North Yuba. That next in order, the appropriation made by O'Brien and others on January 26th, 1899, and transferred to your company will prevail for the reason that the one made by John Martin in December, 1897, as aforesaid, failed to become of any force or effect prior to your appropriation because of the failure to do any work, etc.

You understand, however, that to preserve your now existing paramount right to the waters of the North Yuba, exclusive of said 2,000 inches, it will be necessary for you to continue complying with Section 1416 of the Civil Code, and in accordance therewith diligently prosecute the work. By so doing and upon the facts herein stated, the correctness of which are herein stated, I have no reason to doubt, but believe the same can be substantiated, you will have the paramount right to the use, to the extent to which you divert and use the same, of the waters of the said North Yuba, excepting the said 2,000 inches appropriated and used under the said Hibbert appropriation.

The notice of a claim to water under which rights are claimed by the Marysville and Nevada Power and Water Company, is as follows:

Location of Water Right.—Notice is hereby given to all whom it may concern

that the undersigned citizens of the State of California and of the United States, hereby claim and appropriate ten thousand (10,000) inches of the water flowing in the North Yuba River at the point where this notice is posted. Said waters to be measured under a 4-inch pressure. The point of diversion of said waters in said river situated near Alabama Bar, below Hampshire Creek, in Yuba County, at the point of diversion on said river and extending westerly through Yuba County State of California. The waters of said river hereby located and claimed are to be used for agricultural, manufacturing, milling, mining, irrigation, generation of power and electricity and domestic uses and purposes, and is to be for furnishing water for said purposes in the western portion of Yuba and Nevada Counties, and the several towns therein. Said waters are to be diverted by a ditch commencing at the point of diversion on said river and extending westerly through Yuba County to such points where the said waters can be utilized for the purposes aforesaid. Said ditch is to be 5 feet deep, 18 feet wide on top and 12 feet wide on the bottom, with a grade of 8 feet to the mile, and such flumes as are necessary to convey said waters are to be of equivalent dimensions. Dated and posted on this 26th day of January, A. D. 1899.

John Spaulding, James O'Brien, James K. O'Brien, William A. O'Brien, Louis Conrath, Hugh McGuire, W. H. Carlin, D. P. Donahue, Geo. L. Hughes, W. W. Waggoner, R. C. Walrath, W. F. Englebright, and Nicholas Coupe, Appropriators.

Witness: Fred M. Bentley, John E. Jones.

Recorded at the request of N. Coupe, January 25th, 1899, at 30 minutes past 9 o'clock, A. M.

Attorney George L. Hughes, in a letter dated June 21st, 1900, addressed to Mr. James O'Brien, Superintendent of the Marysville and Nevada Power and Water Company, says:

You have referred to me opinions of the Hon. Niles Searls and Mr. W. H. Carlin, regarding the water rights of the Brown's Valley Irrigation District, the Yuba Electric Power Company and the Marysville and Nevada Power and Water Company, copies of which locations accompany these opinions, with the request that I advise you regarding some questions which were not presented to Judge Searls and Mr. Carlin when their opinions were given. These questions are as follows:

First.—What rights do the Yuba Electric Power Company obtain by its lease from the Brown's Valley Irrigation District of the dam, ditches, flumes and rights of way of the district?

Second.—Had the Brown's Valley District any legal existence by which it could make said lease with the Yuba Electric Power Company?

Third.—What rights did the Yuba Electric Power Company obtain, if any, by said lease?

Fourth.—What is the effect of said lease, whether valid or invalid on the alleged claims of the Yuba Electric Power Company to the water or any portion thereof in the North Yuba River?

Fifth.—What effect would the repudiation of said lease by the Yuba Electric Power Company have on its alleged water rights on the Yuba River?

You state in connection with these matters that the Brown's Valley Irrigation District never made any location of a water right on the North Yuba River, and that it never at any time acquired from T. J. Hippert or his successors in interest by deed or otherwise any interest or title to the Hippert location. That it has never required any title or interest by deed or otherwise in any location of a water right in said river. That long before the Brown's Valley Irrigation District took any steps to appropriate or utilize any portion of the water in said river the Hippert location had lapsed and failed by reason of abandonment and by failure to commence the work necessary to complete said location and perfect the rights claimed thereunder, as required by the provisions of the Civil Code.

In compliance with your request, I herewith beg leave to report my conclusions on said matters as follows:

I.

If it is a fact that Hippert or his successors in interest made no attempt to comply with the provisions of the Civil Code relating to the performance of necessary work on a water right location and there were no conveyance or conveyances from Hippert to the Brown's Valley Irrigation District, it is my opinion that the Brown's Valley Irrigation District never acquired any right to any of the water flowing in the North Yuba.

In order to support its claims to any of the waters in said river, the district must show either that the rights under the Hippert location have been conveyed to it by a valid conveyance in writing or it must prove an independent location. As such independent location does not exist, the only source of title of the district is the Hippert location; if there be no conveyance of the Hippert location to the district, then in fact the district has no right to any of the water in the North Yuba River. Any conveyance of the Hippert location must be in the manner required for the transfer of real property, to wit, in writing. A mere entry of the district on the waters located by Hippert, with no conveyance of the same in writing, would be absolutely void and useless and the district could acquire nothing thereby.

Especially is this true if Hippert had failed to comply with the provisions of the Civil Code regarding work, etc., for in that case the Hippert location would have lapsed prior to the inception of the claim of the district. The conveyance of a void location could not transfer rights which did not exist at the time of the transfer. Under the provisions of the Civil Code no valid appropriation of the water in a stream is possible without a valid location of a water right being first made under the provisions of Sections 1415 and 1416 of the Civil Code. If your statements of the facts are correct the Brown's Valley Irrigation District, never having acquired any rights under the Hippert location and never having made any location of its own, has not now and never had any right to use any of the waters flowing in the North Yuba River.

As the Yuba Electric Power Company claims the right to a portion of the water in said river under a lease from the Brown's Valley Irrigation District of its water right under the Hippert location, it likewise has acquired no right to use or appropriate any water in said river under any claim based on its lease from the Brown's Valley Irrigation District or under the Hippert location.

Therefore, if the Yuba Electric Power Company has any claim to the water in the North Yuba River, it must of necessity base its claim on some source of title. But can the Yuba Electric Power Company, by reason of its lease from the Brown's Valley Irrigation District, avail itself of any location vested in itself which is antagonistic to the rights of the Brown's Valley Irrigation District?

Before answering your question, I desire to call your attention to some other facts in connection with the Brown's Valley Irrigation District.

The Brown's Valley Irrigation District was organized under what is known as the Wright Irrigation Law, for the purpose of irrigating the lands situated in the Brown's Valley Irrigation District. Recently, Judge Gray, Superior Judge of Butte County, has held that there was no legal organization of the district and it had no legal existence. It, therefore, could not make a valid lease of its property. It does not follow that the property of the invalid district is without ownership. As the district was attempted to be organized as a public corporation, the owners of the land comprising the district are the equitable owners of all properties acquired by the trustees for the purposes of the corporation. These properties consist not only of alleged water rights, but of numerous flumes, ditches and rights of way by which water is conveyed to the lands of the district.

The Yuba Electric Power Company, under its lease with the district, has at-

tempted to acquire the right to use these ditches and flumes, and over the same rights of way and ditch lines it proposes to build its own ditches and flumes. If the Yuba Power Company attempts to deny its landlord's title under the lease, it must of necessity lose all claim under the same lease to use the rights of way and ditch lines of the district. If it denies the validity of the lease, it then becomes a mere trespasser on the property of the district. For it must be remembered that having denied the right of the district to make a valid lease, it could not of course acquire any right to use any of the property. If then the Yuba Electric Power Company ignores the lease with the district, it has acquired no right of way for a ditch of its own over the right of way of the district, and consequently all the improvements placed on said right of way become not the property of the Yuba Electric Company, but are the property of the equitable owners of the rights, franchises and property of the irrigation district. Consequently, the Yuba Electric Power Company, in order to assert an independent claim to the water of the North Yuba River, must of necessity deprive itself of all rights to use the right of way which is absolutely requisite in order to utilize the independent claim to the water. The dam, ditches and rights of way of the Brown's Valley District are not subject to location. The mere fact that the Yuba Electric Power Company has made its locations at the same point as the alleged location of the district does not enable them to appropriate any property belonging to the district. The right to use this property can be acquired only by an agreement with the district or by prescription. It is not pretended that the Yuba Electric Power Company has used or claimed the property adversely to the district. The logical conclusion must be that the Yuba Electric Power Company must of necessity be compelled to stand by its lease with the district in order to retain any right to utilize the dam, rights of way and ditches of the irrigation district.

The opinion of Judge Searls and Mr. Carlin assume that the Brown's Valley Irrigation District and its lessee, the Yuba Electric Power Company, have a valid right to 2,000 inches of water on the statement of facts presented to them. But if the statements made by you are facts, the Brown's Valley Irrigation District or the Yuba Electric Power Company do not now nor have they ever owned the right to said 2,000 inches of water, and they or either of them have not acquired any right thereto.

II.

But what is the position of third parties regarding the lease of the Yuba Power Company with the Brown's Valley Irrigation District? Just simply this, that the lease is a mere nullity so far as it affects the rights of third parties.

Therefore, as regards the right of the Yuba Electric Power Company to the waters of the North Yuba River, as against the claims of the Marysville and Nevada Power and Water Company, the Yuba Electric Power Company is compelled to stand or fall on its own legal rights, which, of course, cannot spring from any rights derived from the Brown's Valley Irrigation District. It is conceded that up to the present time that neither the Brown's Valley District nor the Yuba Electric Power Company have at any time diverted in excess of 2,000 inches of water from the river. That the only water ever diverted by the district was 2,000 inches of water; that said Yuba Electric Power Company, as lessee of the district, has continued to divert only the same amount of water. The rights of the several claimants must depend upon the validity of the Hippert location and upon the subsequent locations, copies of which accompany the opinions of Judge Searls and Mr. Carlin.

It is manifest that the Brown's Valley Irrigation District and the Yuba Electric Power Company have not acquired any valid claims under the Hippert location. It had lapsed to begin with, and the district never owned any rights under it and had none to convey.

Through what source can the Yuba Electric Power Company derive its title?

It must depend either upon the Martin location of December 3, 1897, or its own location of June 7, 1899. It must depend upon either one or the other, it has no other source of title.

The Martin location of 1897 expressly concedes the rights of the Brown's Valley District. The notice of location expressly states that it is the intention of the locator to use the flumes, ditches, pipes and water ways of the district. In fact, to use another person's property. As the property then used by the district was carrying all the water which it was capable of carrying, this location lapsed if, within sixty days after posting the notice of location, the locator, or his successors in interest, fail to actually commence the work by which the said ditches were to be enlarged to convey the water claimed by the locator. There never was nor has there ever been any attempt to enlarge the ditch of the district until subsequent to the date of the location of the water right of the Marysville and Nevada Power and Water Company, and the Martin location could not ripen and never did ripen into a vested right. It has, therefore, lapsed, and the rights of the Yuba Electric Power Company, if it has any, must depend on a later and subsequent location made as follows:

On June 2, 1899, the Yuba Electric and Power Company made a location of 15,000 inches at the dam of the Brown's Valley Irrigation District on the North Yuba River. In this location the Yuba Electric Power Company attempts to make the right under this location relate back to former locations. This claim cannot be maintained; if the right to the water was perfected under any former location, this location was useless and absolutely of no value to the Electric Power Company. If this location was necessary, then all former rights have lapsed and the Yuba Electric Power Company's right to the water takes effect only from the date of this location.

There can be no application of the doctrine of relation to water right locations. Every water location stands or falls on its own merits or defects.

Rights acquired under it date only from the actual moment it was made. No inchoate right claimed under a former location can be fortified, strengthened or perfected by it. It must stand on its own foundations. From the moment of location only do rights ensue, and those rights are always subordinate and subsequent to the rights acquired under any prior existing and valid claim.

This location does not strengthen or perfect any prior location made by the Yuba Electric Power Company, but in fact concedes, first:

That the title obtained thereby is subsequent and subordinate to that of the Brown's Valley Irrigation District. It admits that it was made for the purpose of utilizing the rights of the district and to perfect the same.

Second—That it is for the purpose of strengthening former locations that statement admits and concedes that so far as all former locations are concerned no rights had been acquired.

It therefore admits the paramount title of the Marysville and Nevada Power and Water Company to 10,000 inches of water in the North Yuba River under the location made by O'Brien and others on January 26, 1899, which has been conveyed to your company.

III.

There fore from the facts stated, I draw the following conclusions:

First—That if the Yuba Electric Power Company cuts loose from their lease with the Brown's Valley Irrigation District, their rights must depend either on the Martin location of December 3, 1897, or on the location of June 2, 1899. The facts show that the location of December 3, 1897, lapsed.

Second—That the location of June 2, 1899, is expressly made subsequent and subordinate in its terms to prior locations and contains an express acknowledgment of the rights of the irrigation district. .

Third—The Yuba Electric Power Company cannot repudiate its lease with the irrigation district without conceding and admitting that it had no right to use the ditches, rights of way, etc., by which it is diverting or will attempt to divert water from the North Yuba River.

Fourth—If it repudiates its lease it becomes a mere trespasser on the property of the district, and has no dams, ditches, flumes, pipes, rights of way or conduits by which it can divert any water claimed by it.

Fifth—It can acquire no claims against the district by prescription until it does repudiate the lease.

Sixth—The lease is invalid. The Yuba Electric Power Company can acquire nothing under the lease, as the Brown's Valley District was never legally organized. As the lease is invalid, therefore it cannot acquire any right to use any water claimed by the district.

Seventh—If the district was a legal organization, the lease would be invalid in any event, as the transfer of its water rights to the Yuba Electric Power Company is repugnant to the objects for which the district was formed, to wit: irrigation of lands.

The character of the lease and the use of the water granted by the terms thereof destroy the use of the water by the district, as it deprives the land holders of the use of the water for the primary object of the district organization, to wit: irrigation.

Eighth—The Hippert location lapsed for non-compliance with the provisions of the Civil Code.

Ninth—Brown's Valley Irrigation District never had any title thereto, and therefore could convey no right therein to the Yuba Electric Power Company.

Tenth—The Martin location has lapsed.

Eleventh—If the lease from the district is invalid, the Yuba Electric Power Company has no ditches, canals, dams, rights of way of its own, and never acquired the right to use those of any other person. It therefore has never taken any steps to secure or perfect any locations which it has acquired or made, and therefore such locations have lapsed.

Twelfth—It has not now any water rights or dams, ditches, canals, or rights of way, as it never performed any work on any dam, ditch, right of way or canal by which its own claim of water rights have been or could be perfected.

Thirteenth—For the reasons given above and by Judge Searls and Mr. Carlin, the Marysville and Nevada Power and Water Company, as against the Brown's Valley Irrigation District and the Yuba Electric Power Company, have the prior right to the 10,000 inches of water located January 26, 1899, and the said prior right is paramount to and excludes any claims made by the Brown's Valley Irrigation District or the Yuba Electric Power Company.

The project which is the basis of this proposal has been quite carefully examined. It was evident from preliminary inspection that diversion of the water from the river could be effected without unusual difficulty, and that a storage site of ample capacity would make this source of supply particularly reliable, and would enable the utilization of the river water even in case the claims of the proponents to rights in the low water flow of the stream could not be made good.

There is nothing to be added to what has already been said of the availability of the North Fork of Yuba River as a source of supply, except to call attention to the fact that this proposal, as many of the others, is more or less indefinite in the matter of the proposed character and capacity of works, and that the facts must be recognized that, notwithstanding the able legal opinions which accompany the proposals, there still remains a possibility that adverse claims to the low water flow of the stream may be established.

PROPOSAL OF JAY E. RUSSELL.

In response to the call contained in Resolution No. 257, Mr. Jay E. Russell offers to the City, under date of May 5, 1900, a tract of land on American River, one mile from Auburn, just below the junction of the North and Middle Forks of the river. It is assumed by Mr. Russell that no difficulty should be experienced by the City in securing water for diversion at this point, and that on this tract there may be a desirable point for effecting diversion.

It is not at all probable that under any scheme of water utilization from American River or from Lake Tahoe, a point of diversion from the stream would be selected so low down as this tract of land, which is at an altitude of about 1,100 feet, because the purer water from the high mountain regions would then be mixed with the runoff from large areas, populated to no inconsiderable extent and subject to a suspicion of possible pollution. Filtration would become desirable, if not necessary, and much of the attractiveness of a Sierra Nevada water supply would be lost.

There is no immediate likelihood that the City could make any use of the land offered by Mr. Russell.

PROPOSAL OF M. C. TAYLOR.

Addressing the Board of Supervisors in response to the call of 1900, referring to water properties, Mr. M. C. Taylor says:

In answer to your invitations for information in regard to a supply of water for San Francisco, I would like to submit the same for your consideration:

I am the owner of the first water right by location at the junction of the North and Middle Yubas, the same being duly of record.

The lowest flow measured at this point for the past fourteen years was 200 millions of gallons daily. This supply is fed by one of the greatest sources in the State—a watershed of seven hundred square miles in the Sierra Nevada Mountains—perpetual and uncontaminated. I have recorded for ten thousand miner's inches, which is equal to one hundred and seventy-five million gallons daily.

The point from where I take the water is at an elevation of about seven hundred feet.

Twelve million dollars will cover all the expenses of construction; lay two lines of cast-iron pipe, with a capacity to deliver in the City 60,000,000 gallons daily.

This power and water right I will dispose of to the City for moderate figures.

As in the case of the project of a water supply from the North Fork of Yuba River, a question in connection with this proposal relates to the water right. Can the water at the suggested point of diversion be put to use for the water supply of this City, or will it be necessary to condemn rights already acquired by others? The river at the junction has an elevation of about seven hundred feet. It is not known that any large reservoir site on the line of a diverting canal from this point could be made available for storage purposes.

The same objection to the water, on the ground of possible pollution, is to be noted as for the North Fork, there being indeed a far greater inhabited area tributary to the river at the junction of the North and Middle Forks than at Alabama Bar on the North Fork.

This proposal, in short, offered so few attractive features that it was not thought worthy of any special examination, particularly as the main features of a conduit system from the Yuba River to this City are discussed in connection with the project which was selected for examination, and will serve to throw some light on any project looking to Yuba River as a source of supply.

PROPOSAL OF WILLIAM STEUART & CO.

Under date of June 26, 1900, the following proposal was made to the Board of Supervisors by Messrs. Steuart & Co.:

In response to Resolution No. 257, we beg leave to submit the following:

We offer to the City and County of San Francisco a supply of pure fresh water in the quantities which your Honorable Body may determine to be needed for the present and future wants of the inhabitants.

The supply is from the head waters and the watershed of the Middle Fork of the American River and its branches, excluding the North Fork of the Middle Fork, into which the debris from mining claims flows.

The watershed is ample to supply over one hundred million gallons daily.

It is on the western flank or slope of the Sierra Nevada adjacent to Lake Tahoe.

The region embraced is approximately estimated at about four hundred (400) square miles, and in centuries to come, whenever it would be needed, a tunnel could be constructed which would tap Lake Tahoe at any desired depth on that portion of the lake lying exclusively within the boundary of the State of California, leaving to the State of Nevada the erection of a dam at the outlet, which would always insure, by storage of the water, the same supply at the lowest stage thereof which that State claims to own in the waters of Truckee River.

But an examination of the large number of lakes embraced in the watershed described, and the cheaper facilities for storing an immense quantity of water in the lake and meadows therein, will, without doubt, demonstrate to your Engineer the fact that it will never be necessary for the inhabitants of San Francisco at any time in the future on either question of quantity or quality to go beyond the sources of supply set forth in this proposal.

The water right of the undersigned is situated in El Dorado County, State of California, and at an elevation of about fifteen hundred (1,500) feet above sea level.

All the water from the watershed, described on the map which accompanies this proposal, flows over the land owned by the undersigned and confined within a channel of the river about one hundred and fifty (150) feet wide.

As to quantity, we claim that there is sufficient quantity of water running daily at the lowest stage of the river to supply the inhabitants of the City and County of San Francisco from the present number thereof until the City shall reach a population of one million.

During the last years of drought, Mr. William Steuart, who resides within a distance of about half a mile from the locality where this water would be turned into a canal, has had almost daily observation thereof, and on his statement we represent that at the lowest stage of the water there has been more than sufficient to supply San Francisco with a population mentioned.

We state as a fact that the measurement of the flow of water of the supply offered, whenever made during the weeks of the months of September, October and November, 1899, showed that there were over one hundred million of gallons daily flowing by the head of the diverting tunnel owned by the undersigned.

During the last winters, 1899 and 1900, the snowfall has not, according to our information, repaired the loss heretofore made. But, notwithstanding this fact, we are of the opinion, and beg leave to represent, that we believe that careful measurements made during the same months in 1900, when the river falls to its lowest stage, that there will be found flowing a daily supply more than sufficient to fulfill the requirements contained in the Resolution aforesaid of your Honorable Body.

The title of the undersigned has been acquired and confirmed under and by virtue of the laws of the State of California, and by the Act of Congress, approved July 26, 1866, entitled "An Act granting the right of way to ditch and canal owners over the public lands, and for other purposes," and acts amendatory thereof and supplemental thereto.

We have a tunnel already constructed about two hundred (200) feet through the mountain, and in dimensions 8x12 feet, and with a grade capable of carrying fifteen thousand (15,000) miner's inches of water, and being a daily supply of one hundred and ninety-five millions of gallons.

We claim that the advantages of this supply offered over all others are:

First—That no expensive dam is necessary at the head of the diverting tunnel and into the canal.

Second—That the canal commences and ends below the snow line.

Third—That it will be accessible every day in the year. There will be no danger from slides.

Fourth—That the line of canal is the shortest.

Fifth—That there is no mining about the head of the canal.

Sixth—There will be no necessity for high dams to impound water above the head of the canal in the lakes and meadows.

Seventh—The supply is certain daily, and clear, clean and adequate.

Eighth—The pipe line can be placed on high ground, avoiding the swamp and overflowed lands of the Sacramento and San Joaquin Rivers, and can be constructed as cheaply as any other pipe line from the Sierras.

Ninth—That the daily supply of running pure water without the aid of impounding lakes or reservoirs is the greatest of any of the available propositions offered.

The utilization of water from the Middle Fork of American River is urged in this proposal. Messrs. Steuart & Co. call attention to the work already done by them in the matter of constructing a tunnel to be used for the water diverted, but there is no specific reference to any water rights which they may have acquired as against the supposed vested rights of others lower down on the stream. We are to infer from the communication that all the water of the river may be taken for City use at the point designated by them, and that if this be not sufficient that an examination of the large number of lakes embraced in the watershed will demonstrate the fact that it will never be necessary for the inhabitants of San Francisco to go beyond the sources of supply set forth in their proposal.

Their proposal, if it may be called a proposal, marks out no definite project of water supply, further than to indicate an available point of diversion, and to suggest a possible route for the water, calling attention to reservoir sites, one near Cool and to another about nine miles below.

The point which they suggest for diverting American River water is at an altitude of about 1,350 feet. The drainage area tributary thereto is favorable, being largely of the character which is specifically desirable as a collecting ground for City waters, uninhabitable during the greater part of the year, and in part almost inaccessible.

It has not been feasible with means at command to make a study of the works that would be required to make water from this source available, and it is not thought probable that the proposal could have any immediate value to the City.

PROPOSAL OF THE EEL RIVER AND RUSSIAN RIVER WATER WORKS.

The Eel River and Russian River Water Works, through General George B. Tolman, Chief Engineer, under date of May 28, 1900, have submitted the following:

In answer to your request for proposals for a supply of water for the City and County of San Francisco for its present and future needs, I beg leave to submit the following:

I offer to divert the waters of Eel River at a point about 1,200 feet above the level of the sea by a canal carrying one hundred millions of gallons daily and constructed in accordance with such reasonable specifications as your Engineer

may direct, and furnish the necessary pipe line to supply at present not less than fifty millions of gallons daily. Whenever your Honorable Body may have examined the source of supply herein indicated, and designate that this is the source of supply which you desire, I will undertake to enter into a contract and give sufficient security to construct the works and furnish the above amount of water, for the sum of \$18,500,000, gold coin.

The watershed of the South Fork of the Eel River above the point where this plan proposes a diversion of the water embraces about 360 square miles. A tunnel would be constructed between the South Fork of the Eel River and the headwaters of the Russian River, diverting the waters of Eel River into the headwaters of Russian River. At a point on Russian River about 800 feet above the level of the sea a canal will be taken from Russian River along the mountainous ranges until it reaches a point about five miles northeasterly from Petaluma, thence crossing by pipe line to the range of hills on the west, thence by canal to a point about "The Needles." At this point an incline shaft would be sunk so as to reach a depth of 450 feet, and thence by tunnel crossing the Bay of San Francisco, and then by pipe to a point three hundred feet above the City's base.

I propose, when the City has examined this source of supply concerning the quality and quantity, of which there can be no doubt, and also the extensive facilities for reservoirs, so as to place beyond question a continuous daily supply, that the work should be divided off into convenient sections for construction, the City paying 80 per cent of the monthly estimates of the City's Engineer. The quality and character of iron would be determined by the City's Engineer, and applicable alike to all competitors furnishing water under given pressure.

If the City will select this line and place the incline shafts and the tunnel under the bay as one section, I would undertake to agree that that part of the work should be completed without pro rata payments, but the City to pay on completion thereof the sum of two million dollars gold coin.

The tunnel to be constructed of a capacity to carry 100 millions of gallons daily.

The watershed of the project I propose will be the following:

Three hundred and sixty square miles from the South Fork of Eel River and 216 square miles of watershed from the headwaters of Russian River, making a total of 576 miles of watershed.

On this watershed there are no mines, and the water is pure and not polluted.

The source of supply here suggested is about 125 miles distant from San Francisco in a direct line. The drainage ground from which the water is to be collected is a fairly well timbered region of the Coast Range. It is sparsely inhabited. Except for somewhat greater altitude and even less accessibility, this region ranks with the Coast Range regions tributary to the creeks on the east side of San Francisco Bay as a source of water for domestic use. It is to be classed as less attractive, for the present at least, than Sierra Nevada sources, and has not been considered worthy of special examination.

PROPOSAL OF D. E. GISH & CO.

Messrs. D. E. Gish & Co., under date of May 21, 1900, state as follows:

We will furnish San Francisco with forty millions (40,000,000) gallons of water per day from artesian wells in Santa Clara County, in two pipes, for the sum of five million (\$5,000,000) dollars, or we will furnish and carry in two pipes from the same source to the same place fifty million (50,000,000) gallons of water per day for the sum of five million five hundred thousand (\$5,500,000) dollars, or we will furnish and carry from the same place in two pipes to the county line of San Francisco County sixty million gallons (60,000,000) of water per day for the sum of six million (\$6,000,000) dollars.

In a later communication, dated August 5, 1900, Messrs. D. E. Gish & Co. say:

In answer to your communication of July 19th, we could say:

First—That the county from which we draw our water is Santa Clara County.

Second—The locality the artesian belt.

Third—In regard to the drainage or the area of the watershed of the artesian wells on the west, it is from Mayfield to Morgan Hill, and to the summit of the Santa Cruz Mountains, embracing about two hundred (200) square miles, and on the east from where the Coyote River puts into the valley to the Penetencia Creek, embracing over one hundred square miles.

The streams flowing into the valley and sinking are the Coyote River and the Guadalupe, Los Gatos, Campbell's or Saratoga, Stevenson, Penetencia, Almaden and Silver Creeks.

Fourth—The reservoirs of the artesian wells in Santa Clara County, say fifteen miles wide by thirty-five (35) miles long.

Fifth—In regard to riparian rights, it is not possible in the nature of things that any man or company can purchase the riparian rights of artesian wells.

Sixth—In regard to right of way, as that will be quite expensive, we have thought best not to secure it without your Honorable Body desires to adopt our system for supplying San Francisco with water.

Seventh—For the better understanding of the Board of our system for supplying San Francisco with water, we would say that we know that we have a good artesian country to go through, from the Milpitas road to the town of Mayfield; that wherever we put down an artesian well anywhere on the line we can get flowing water.

Our system proposes to secure the right of way, sink the artesian wells along the way secured, then lay the pipes for conveying the water to the County line of San Francisco, then connecting the wells therewith.

All of which is respectfully submitted.

The proposal of Messrs. Gish & Co., who apparently are ready to build water works for the City if the City commits itself to the artesian source of supply, lacks definiteness.

It has seemed premature to give it any special consideration at this time. The possibility of securing a partial supply of water from artesian sources has been touched upon in the main report.

PROPOSAL OF THE JERSEY CITY WATER SUPPLY COMPANY.

Mr. P. H. Flynn, supposed to represent the Jersey City Water Supply Company, writing to the Mayor from Brooklyn, New York, under date of April 14, 1900, makes the following proposal:

I hereby make a proposition to furnish the City of San Francisco, California, with a pure and wholesome water supply of at least one hundred (100,000,000) gallons daily, delivered at the City's reservoir, at a suitable site to be agreed upon, at the rate of thirty-five dollars (\$35 00) per million gallons, which price per million gallons is predicated on the City's entering into a contract for a supply of at least one hundred million (100,000,000) gallons daily, for a term of forty (40) years.

I also propose to give the City an option to purchase the water works upon completion for the sum of twenty-five million dollars (\$25,000,000), and, should the City decide to avail themselves of this option, I will accept the bonds of the City of San Francisco, California, for the above amount, which bonds are to run for a term of forty (40) years, and to bear interest at the rate of four per centum (4 per cent) per annum, or at a rate of interest to be agreed upon.

Should the City consider this proposition, I will give a bond in the sum of two million dollars (\$2,000,000) for its faithful performance on my part.

This proposal of the Jersey City Water Supply Company is too indefinite to require any consideration at the present time.

PROPOSAL OF THE SPRING VALLEY WATER WORKS.

Under date of May 31, 1900, a communication was addressed to the Board of Supervisors by the Spring Valley Water Works, in which they say:

The Spring Valley Water Works is in receipt from the Clerk of your Honorable Board of a copy of Resolution No. 207, requesting this company "to offer for sale to the City and County of San Francisco, on or before the first day of June, 1900, at the lowest possible cost, all of its property now used or capable of being used for supplying water to the inhabitants of the City and County of San Francisco."

The Resolution is preceded by preambles referring to the provisions of part of Article XII of the Charter, relating to the acquisition of public utilities, and containing a declaration of the intention of your Honorable Board to submit to the electors, at the earliest possible moment, a proposition to acquire an adequate supply of water to be owned by the City and County.

The provisions of Article XII of the Charter require your Honorable Board, within one year from the time the Charter went into effect (and at least every two years thereafter) to procure, through the City Engineer, plans and estimates of the actual cost of original construction and completion of public water works, and that in securing such estimates the Supervisors must procure and place on file plans and estimates "of the cost of obtaining from all of the several available sources a sufficient and permanent supply," and that thereafter the Supervisors shall enter into negotiations for the permanent acquisition, "by original construction, condemnation or purchase," of such utilities as they regard most important, and shall submit to the electors propositions for acquisition thereof.

It is then provided in Section 2 as follows:

"Before submitting propositions to the electors for the acquisition by original construction or condemnation of public utilities, the Supervisors must solicit and consider offers for sale to the City and County of existing utilities, in order that the electors shall have the benefit of acquiring the same at the lowest possible cost thereof."

It is under this provision in reference to "existing utilities" that your Honorable Board solicit an offer from this company of its properties. Article XII of the Charter apparently contains no other provision in reference to a submission to the electors of offers of existing utilities, and it may be a matter of question if, from this section, such authority exists in your Honorable Board based upon the proceedings had by Resolutions Nos. 257 and 207.

The declaration of Resolution No. 207 is that it is the intention of your Honorable Board to submit to the electors of the City and County a proposition to acquire "a permanent and adequate supply of water." This proceeding is had without any petition signed by fifteen per cent of the electors, as Section 3 provides may be done, and without any determination by your Honorable Board that the public interest or necessity demands the acquisition or construction of water works, and without the passage and publication of an Ordinance which "specifically declares such determination" (Sec. 6). The Charter seems to provide that without one or the other of these prerequisites, no special proposition whatever can be submitted to the electors as to the amount of the bonded indebtedness or the amount that may be expended for the particular utility, or whether the same shall be by original

construction or purchase of an existing utility, but only the general question: "Do the electors determine to have a system of water works?" And the scope of your Resolution merely extends to this general proposition, and no further.

Section 5 provides:

"When the electors by vote shall have determined, as hereinbefore set forth, to acquire any public utility, such action on the part of the electors shall be equivalent to the passing of the Ordinance by the Supervisors declaring such determination as set forth in Section 6 of this article, and the Supervisors shall proceed without delay to pass an Ordinance calling a special election as required by Section 7 of this article."

All other provisions of Article XII as to the amount or cost appear to refer to the second election to be held to determine the question of bonded indebtedness. This second election is more specifically referred to in Section 7 as one to be held "after the electors by vote shall have DETERMINED TO ACQUIRE any public utility," and at such special election "shall be submitted to the electors the PROPOSITION OF ACQUIRING such public utility and of incurring a debt for the acquisition of the same."

The first election, and the one which your resolution has in contemplation under the terms of the Charter and the proceedings your Honorable Board have adopted as a prelude, is merely to submit to the electors: "Are you ready for the question of acquisition of water works?"

Therefore in the present aspect of the situation your Honorable Board has not now authority to negotiate nor any power to select any particular system of works to submit to the electors, nor jurisdiction to designate to them for their votes an amount to be expended in the acquisition of the utility—in fact, according to the terms of the Charter, your Honorable Board, by virtue of proceedings thus far taken, has no power to submit to an election "any propositions * * * for the ACQUISITION" of water works. Until your Honorable Board by proceedings in conformity with the Charter obtains such power, the solicitation and consideration of offers is premature and unauthorized.

A portion of Section 2 has already been referred to and requires repetition at this point, as it is the only expression in Article XII on the subject of "offers for sale * * * of existing utilities." It provides:

"Before submitting PROPOSITIONS to the electors for the ACQUISITION by original construction or condemnation of public utilities, the Supervisors must solicit and consider offers for the sale to the City and County of existing utilities, in order that the electors shall have the benefit of acquiring the same at the lowest possible cost thereof."

These "propositions" are the propositions which are to be submitted at the election to determine the bonded indebtedness. No express or implied power or duty exists to solicit offers before a determination by the electors or the Board to have and own water works has been reached or a proper petition has been filed.

The company respectfully states that under due proceedings it would be willing to submit an offer of its entire system, which is in complete condition and operation for the present supply of the City and County and its inhabitants, and embraces properties which, with reasonable additions and expenditures, may be considered adequate for the future requirements of more than two millions of people; or, in lieu of an offer, the company would, under such proceedings, agree to submit the value of its properties to the determination of a majority of a Board of Arbitration, to consist of three members and to be selected strictly as follows: one to be appointed by your Honorable Board, one by the company and the third to be selected by agreement of the two so appointed. When such a board has fixed the valuation, the company would be willing to deposit its deed in escrow to abide the result of the vote on the bonded indebtedness, provided the escrow should not extend or remain on deposit beyond the year 1901.

Your Resolution No. 207 requires that "an offer of sale MUST contemplate the

placing in escrow of a deed to the entire system, dependent for delivery upon the acceptance of the offer by the people of San Francisco, voting at a special election to be held in the year 1901." There is no authority in the Charter for such a requirement or for any escrow. Under the terms of this requirement and the existing circumstances, such an indefinite escrow (if all other proceedings were in order) would be prohibitive of an offer on our part, and, therefore, would occasion violation by your Honorable Board of a plainly mandatory duty imposed upon the Supervisors by the Charter, i. e., "the Supervisors MUST solicit and consider offers for the sale." No authority is given or can be implied from this provision to attach any conditions to such offer—either possible or prohibitive. The company nevertheless expresses its intention of good faith in the foregoing offer of an escrow agreement for a specified period.

Your Resolution also required "a detailed statement of the company's property, with a full statement of the use to which the various parts are put, together with a detailed statement of the cost of the construction of the entire water system."

We respectfully submit that, under the circumstances, a detailed statement of the property is not essential. The property is well known to your Honorable Board and to the entire body of electors of the municipality, as well as the use to which in its entirety it is put and has been put for almost forty years continuously. The cost of the plant has already been exhibited and left in a printed statement or pamphlet with each member of your Honorable Board.

Your Resolution also contains the following:

"The Spring Valley Water Company is also requested to bear in mind that any overvaluation of its water system will compel the people of San Francisco to look elsewhere for their water supply, and the withdrawing of San Francisco as a market for the sale of the company's water will reduce the value of the company's lands to what they are worth for agricultural purposes merely."

The company cannot assume that by this language your Honorable Board would imply a threat to ruin the company's property unless the buyer was authorized to fix the price of the purchase; yet such is the general public impression. It is not customary in ordinary and it ought not to prevail in public negotiations that the buyer should demand a price for property based upon his alleged power of destruction. If that were true, or if the rule is to be applied in the present instance, this company could name only a practically nominal price, rather than permit its valuable properties to be relegated to their original state of "agricultural purposes merely." But the premises are not correct, either upon the anticipated presumption that the company would overvalue its plant or that a different public system of supply would withdraw San Francisco as a market for the sale of the company's water or reduce the values of the company's properties. Our suggestion for a Board of Arbitration eliminates the supposition of any covert purpose on our part to obtain more than the actual values of our properties. Our plant is equipped for a present and properly inaugurated for a future supply for the City, and can be operated now and hereafter with less capital and with less annual expenditure than any public system now discussed or discoverable. There is no question as to the company's titles. The investments have been made economically and with care and the properties represent greater values than the expenditures. There is no element of ill-considered and grossly deceptive "estimates." The company is, therefore, well assured that no other public supply can ever bear the burdens of interest on the actual capital necessary to equip the new system and operating expenses and necessary annual costs and expenditures and supply water either of as good quality or at the same rates or with equally efficient service. The company, therefore, under no circumstances anticipates or fears the withdrawal of San Francisco as a market for the sale of its water, or that by public competition the values of its properties will be in any respect reduced; but, on the contrary, believes such values will be conclusively enhanced by actual demonstration.

This proposal does not carry with it a specific offer of sale. The Water Company, however, says that under due proceedings it would be willing to submit an offer of its entire system, or, in lieu of an offer, it would agree (with stated limitations) to submit the determination of value to a Board of Arbitration.

The fact that their system of works is an established system and that they have taken possession of the best near-by reservoir sites and of the best sites for receiving and service reservoirs and have a distributing system of mains and service connections already in use, is to be recognized, and gives these works a special value, alone or in combination with works from other sources, that can not well be overlooked.

The system and possible expansion of the same has already been noticed.

PROPOSAL OF E. G. WHEELER AND ASSOCIATES.

Mr. E. G. Wheeler, under date of May 23, 1900, makes the following proposal for himself and associates:

The undersigned, pursuant to Resolution No. 257 of your Board, dated March 26, 1900, hereby proposes to furnish the City of San Francisco with fifty million (50,000,000) gallons per day of pure and wholesome water, and to furnish all materials and perform all the labor necessary to fulfill this requirement, for the sum of twenty million (\$20,000,000) dollars.

We annex to this proposal a map of the watershed from which this supply is to be derived, and when desired can submit detail drawings of the structures, reservoirs, conduits, appurtenances, etc., to such engineers as may be selected by the City to supervise and superintend the construction of the works.

We further agree to execute to the City and County, and to deliver to the Secretary of the Board, such adequate and substantial bonds and guarantees of as may be mutually agreed upon for the faithful performance of the contract.

The project of bringing in an independent or supplemental supply of water from Coyote Creek, which, according to the map submitted with the proposal, is the source of supply intended to be utilized by Mr. Wheeler, has not appeared sufficiently attractive to justify a full investigation.

Coyote Creek drains a large portion of the western slope of the Coast Range spur which culminates in Mount Hamilton. The creek has two principal branches, one from the south, which carries the name of the main stream, and one from the north, San Felipe Creek, both of which lie between the main ridge and parallel outlying spurs and unite at the point where the main creek breaks through to the Coyote Valley, which is an upper or southern extension of the main Santa Clara Valley. Down this valley in a gravelly channel Coyote Creek flows for about nine miles in a northwesterly direction to a point where a rocky spur from the southwest crowds over almost to a connection with the hills on the northeasterly side of the valley. Above this rocky spur in a broad amphitheater open to the east lies a considerable area of naturally moist ground, originally a lagoon, which is separated from the creek by somewhat higher bank lands. This is the lower extremity of Coyote Valley which, with a breadth of about two miles, extends southeasterly about nine miles.

The ordinary flow of Coyote Creek sinks in its bed before the contracted portion of the valley is reached. An outflow of water from the lagoon and the occurrence of artesian water in the lower portions of the valley indicated a flow from upper portions of the creek into sub-surface pervious strata. It is claimed that the existence of a well-defined extensive gravel bed has been demonstrated by borings and that a production of water to the extent indicated in the proposal from this gravel bed and from proposed reservoirs can be demonstrated and that this water can be made available for this City's use.

Coyote Valley is about 65 miles southeast of San Francisco. The elevation at the lower end of the valley is at about 255 feet.

Coyote Creek flows from Coyote Valley down the northeasterly side of Santa Clara Valley through San Jose into the upper end of San Francisco Bay.

There is little question that in its flow through the upper valley, as well as in its course through the main valley, much of its water sinks into the pervious gravel beds, which, dipping below impervious clay strata, become the sources of artesian waters. Coyote Creek, like the Los Gatos, the Calabazos, Stevens and Alameda Creeks, thus becomes a feeder of the artesian strata of Santa Clara Valley.

The creek at the point where it breaks out of the hills has a watershed area of about 210 square miles. The mean annual rainfall in this drainage basin is about 25 to 30 inches. It will be seen from this that no inconsiderable amount of water is to be expected from the creek. As a remote Coast Range supply it has not, however, been classed among the sources of supply which seem most desirable and no specific examination thereof has been made.

PROPOSAL OF THOMAS J. PATTERSON.

Mr. Drenzy A. Jones, Deputy County Surveyor of Tuolumne County, California, on behalf of Mr. Thomas J. Patterson, addressing the Board of Supervisors in a communication dated July 26, 1900, says:

"For and in behalf of Thomas J. Patterson, claimant, I hereby submit the hereinafter-described water rights, reservoir site, dam site, draw tunnel and spillway for your consideration, with relation to the proposed water and electric supply for the City of San Francisco, Cal."

Attached to this communication was the following statement, signed by Mr. Drenzy A. Jones:

"Statement of the measurement of the quantity of water flowing in the main or middle fork of the Stanislaus River at the head of Donnell's Flat, and below the junction of Dardenells Creek with said river, as shown on the accompanying map, through a natural weir in the bed of said river, where the fall or grade of said river was one foot to 23 lineal feet along said stream. The weir aforesaid is at the lower end and discharge end of a still or slack water pool in said stream.

"The measurements were made in miner's inches, where 1 cubic foot of water per second equaled 50 miner's inches.

"On May 23, 1899, the flow was 200,000 miner's inches.

"On June 5, 1899, the flow was 300,000 miner's inches, at which date the maximum flow occurred.

"On July 19, 1899, the flow was 50,000 miner's inches.

"On August 15, 1899, the flow was 15,000 miner's inches.

"On August 28, 1899, the flow was 12,000 miner's inches.

"On September 9, 1899, the flow was 10,000 miner's inches.

"On October 11, 1899, the flow was 5,500 miner's inches, at which date the minimum flow occurred, and just preceding the first fall of snow in this drainage basin.

"The point of diversion of the waters to be conserved in the proposed reservoir is at an altitude of 4,733 feet above sea level.

"The area of the drainage basin above and tributary to this reservoir site is 230 square miles, and yields annually, with a rainfall similar to that occurring in the year 1899, 5,888,000 miner's inches of water."

The communication of Mr. Jones was also accompanied by a copy of notice of appropriation of water, which contains notes of survey of Donnell's Flat reservoir site.

Attention is called by Mr. Jones to the availability of Stanislaus River as a source of supply, and the prime purpose of this communication to the Board of Supervisors seems to be to give notice that certain rights have already been acquired at the point where a diversion from the Stanislaus River would be quite feasible and that these rights can be acquired by San Francisco.

It is understood that Donnell's Flat reservoir site is held for utilization in connection with the diversion of water from the Stanislaus River near Knights Ferry. The water there diverted is used for irrigation. Storage in the upper river regions would hold back the surplus flow in spring when snow is melting and would give to the irrigating ditches a greater quantity of water in the late summer and autumn.

The claimants of this locality have at present nothing more to offer than such rights as may have been acquired under their filings, giving notice that they intend to utilize the Donnell's Flat reservoir site. Improvement of the mountain trail leading into Donnell's Flat represents practically all the work thus far done toward effecting storage in this site.

The route for a canal from this point down the canyon of the middle fork of Tuolumne River, by tunnel to the south fork and thence across the south fork of Stanislaus River and Donnell's Canyon, closely following the line of a ditch constructed over forty years ago and now out of service, has been explored and would prove quite feasible. Some precautions would, however, have to be taken to protect a canal heading so high up in the mountains from ice, snow and snowslide, and this scheme would require to be well supplemented with storage at lower elevation in order to be entirely satisfactory. All of this has already been dwelt upon in the preceding discussion of Stanislaus River as a source of supply.

PROPOSAL OF DUMBARTON LAND AND IMPROVEMENT COMPANY.

The Dumbarton Land and Improvement Company, in a communication to the Board of Public Works, dated August 18, 1900, says:

"We beg to submit for your consideration the lands owned by the Dumbarton Land and Improvement Company, situated in Alameda and partly in Santa Clara County, for the purpose of investigating the same for a water supply to furnish the City and County of San Francisco with artesian water.

"The company owns about 21,000 acres of land in said Alameda and Santa Clara counties, having a frontage of 17 miles on the Bay of San Francisco. The width of said lands ranges from 1 to 8 miles.

"Flowing artesian wells can be obtained on any portion of the land of the company at a depth of 250 feet. The Spring Valley Water Works supply from Niles Canyon in Alameda County is brought to San Francisco by means of pipe encased in wood running on the surface of lands owned by said Dumbarton Land and Improvement Company, in about the center of lands of the company in Alameda County. The flow from 10-inch artesian wells on the lands of the Dumbarton Land and Improvement Company, without pumping or forcing water, is about 500 gallons per minute from each well. As wells can be drilled on any portion of the lands, an unlimited supply of water can be obtained, which could be pumped direct to San Francisco or stored in the reservoirs in the hills between Warm Springs and Milpitas, at an elevation sufficient to bring water into San Francisco without further pumping.

"All of which we respectfully submit for your consideration and deliberation."

Attention is called in this communication to the artesian source of water supply known to exist along the eastern margin of the southern arm of San Francisco Bay.

It will not be practicable, except at a great expenditure of time and money, to demonstrate the adequacy of this source, and so long as other sources are available at a reasonable expenditure for works, it does not seem probable that a full investigation will be justified. This matter has been referred to in preceding pages of the report.

LETTER FROM THE STANDARD ELECTRIC COMPANY.

The Standard Electric Company of California, in response to the call for proposals, under date of June 1, 1900, by its President, P. A. Ponlatowski, writes as follows:

"I have been directed by my Board of Directors to answer your request of April 6th by the following statement:

"We have developed a constant daily supply of not less than 75,000,000 gallons at our power house, situate in Section 32, Township 6 North, Range 12 East, Amador County, where said water will pass our tail-race at an elevation of 750 feet above sea level. This amount will be increased during the year 1901 to a daily supply of 115,000,000 gallons

"The above developments have been rendered necessary for the generating of electric power, and no disposition as yet has been made for the further use of this water.

"The engineering data involved in the transmission of that volume of water from our power plant to the bay has been the object of careful studies, which you will find in the Municipal Reports of the City of San Francisco for the year 1874-75, page 627.

"The engineering plans and estimates of cost, however, have been greatly altered by the recent developments and the decrease in cost of material, as well as by modern methods of construction.

"As to the terms upon which we might agree to sell this water supply to the City of San Francisco, we beg to state that we will not be prepared to make a definite proposition until, first, we have obtained from our own engineering corps complete and accurate data covering the conveyance of such an amount of water from our plant to the City limits; and, second, until it has been demonstrated to us that a proper system of distributing reservoirs (indispensable to such an undertaking) can be secured."

The Standard Electric Company has been actively engaged for some years in perfecting a power installation on Mokelumne River. Power generated at a point on the river about three miles northeasterly from Mokelumne Hill, is to be transmitted not only to the miners, mills and workshops of Amador and Calaveras counties, but also to San Joaquin, Contra Costa, Alameda, Santa Clara and San Mateo counties and eventually to San Francisco.

In generating this power, water is dropped from higher altitudes to the power station and is there liberated after its energy has been transferred to the shafts of the water wheels. This water after having done its work is returned to the river. During the winter and spring months the natural flow of the river furnishes a full supply for the company's main canal. In summer and autumn the supply must be maintained with water that has been restrained in numerous reservoirs until needed. The attempt of the Electric Power Company must be to keep their power output fairly uniform, which means that their water development will ultimately be such as to give reliability to the supply throughout the year.

The Blue Lakes are the nucleus of this supply. Numerous other storage reservoirs are to be added. This work of equalizing the river's flow by holding back a part of its freshet and spring flow has only fairly commenced. It seems quite

probable that when the works of this company have been further advanced that some definite proposal from them may be expected.

OTHER LETTERS RELATING TO SOURCES OF WATER SUPPLY.

In addition to the foregoing, other letters have been sent to the Board of Supervisors, calling attention to supposed available sources of supply or advocating some particular source.

Mr. B. D. Weeks calls attention to the streams on the coast side of the peninsula spur of the Coast Range, and the ease with which they could be intercepted at an elevation of about 200 feet above sea level.

Mr. Andrew Onderdonk, on behalf of Eastern capitalists, intimates a desire to submit a proposal to furnish water works for the City, but does not disclose any contemplated source of supply.

Mr. S. A. Kusel writes in favor of Lake Tahoe as a source of supply to be preferred to the sources of the Spring Valley Water Works.

Mr. George A. Gritton calls attention to the availability of some of the lesser Sierra Nevada streams, Sutter Creek, Ashland, Tiger, Little Tiger, Panther, Antelope and Mill creeks as a source of supply, and indicates the town site of Volcano as a suitable storage site.

Mr. John M. Reynolds thinks that abundant artesian water might be found on this peninsula for all possible needs of this City. This matter has received attention in the preceding pages.

Mr. T. H. O. Watton emphasizes the fact that water from Yuba River is more or less polluted by mining operations and that Feather and American River waters are always muddy, and believes that the City's water should come from the high mountain lakes or Lake Tahoe.

PROPOSAL OF THE GIANT GAP WATER COMPANY.

The following is quoted from a proposition made by Messrs. Russell L. Dunn and Wm. C. Alberger to the Board of Supervisors in February, 1901:

"BRIEF STATEMENT OF PROPOSITION OFFERED: The City of San Francisco is herein offered a source from which it may obtain a water supply, pure in quality, and sufficient in quantity to provide for a population of 1,000,000.

"The City of San Francisco is offered a plan of works which will satisfy every engineering requirement of safety, imperishability, minimum of cost of first construction, minimum of operative cost, and of design provision for extensions made at the sole cost of the savings from the increased consumption they provide for.

"The City is offered, as a valuable appurtenance to the source of supply and the plan of works, a great water power from the downward fall of the water on its flow to the City. With this the City can operate its water distribution works, light its streets and parks, heat its school houses, cook for the hospitals and jails, provide for every public utility requiring fuel, power or light, and there will still be 8,000 horse power, which, sold at less than the cost of production from fuel, will give to the City a net annual income of over \$1,000,000.

"We are willing to convey to the City the water rights to the flowing water, the fee to certain lands and to contract to construct (1) the complete water supply works and City distribution, prepared to deliver 45,000,000 gallons daily, and (2) the complete water-power and transmission works, delivering 13,000 24 horse power in the City, on the general plan offered, with allowance for different constructive details and costs of rights of way, at a price which will not exceed \$17,350,000; or

"We are willing to convey to the City the water rights and fee as above, and the right to manufacture and use solely by and for the City for this special purpose of the submerged conduit, for the sum of \$2,000,000.

"The City with these, and using the economical advantages it possesses, can itself make the construction of the works above enumerated on the offered plan unmodified for \$14,000,000.

"The City is, therefore, not only offered the pure water and plentiful water for which it has asked, but cheap water as well, and associated with it cheap light for the streets, cheap heat and cheap power for all public utilities, and a possible income so large as to make the water, light and heat costless."

The elaborate prospectus which accompanies and is made a part of this proposal compels a more extended notice of the same than it would otherwise have received.

There are offered by the Giant Gap Water Company lands, water rights and rights of way, besides a plan of works and a right to use a specially designed submerged conduit.

The lands are described as being 4,000 acres of lands in the watershed area, including sites and floodable areas of storage reservoir sites; 300 acres of land, including floodable site and entire drainage area of the Elfland reservoir site; 10 acres, a site for the Newcastle power plant; 30 acres, a portion of the floodable area and watershed of the Orange reservoir site; 10 acres, a site for the Vanden pumping plant in Solano County, and certain contracts for pipe line rights of way between Elfland and Orange reservoirs.

The water rights offered are those which may have been acquired under certain filings made by the proponents of this project in 1886 and 1887. These may or may not have value. It is not determinable from the evidence offered by the company what part, if any, of the ordinary low-water flow of the stream the company would have the right to divert for use in San Francisco. In this scheme, as in any other involving the utilization of the low-water flow of the river, the City would have to be prepared to enter upon condemnation suits, to quiet title of prior appropriators and present users of the water. The question of prior use would extend to the main stream below the junction of the north fork of American River with the middle fork as well as to those of the north fork and its tributaries.

To be put upon an even footing with other possible sources from the Sierra Nevada it would be necessary to demonstrate storage capacity sufficient to supply the needs of the City during about one-half year, it being a reasonable assumption that natural flow from a collecting ground in the high mountains of about 200 square miles, with a mean annual rainfall about 60 inches and a minimum about 30 inches, will by natural flow afford ample water for the rest of the year.

The storage sites which are suggested are located along or close by the summit line between the watersheds of American and Yuba rivers. Drainage areas tributary to them are relatively small, entirely inadequate even in seasons of ordinary rainfall to supply the quantity of water required to fill such storage basins as the principal one enumerated, the Ice Lakes Reservoir, whose capacity is estimated by the proponents at 26,000,000,000 gallons.

An ordinary season with about 60 inches of rain would contribute to this reservoir only about 2,000,000,000 gallons of water, of which some would be lost by evaporation. A season of scant rainfall would yield probably less than one-half of this amount.

A large number of small reservoirs would therefore be required, and without a careful examination of the suggested sites no final opinion can be expressed on the matter of storage facilities connected with this project.

Adequacy of the supply, therefore, remains to be demonstrated, particularly as the proponents place full reliance upon the utilization of the low-water flow of the river. "It is proposed to restore the flow of the low-water stages to the extent of the City's requirements from storage reservoirs to be constructed in the drainage basin."

The point of diversion is favorably located, at an elevation less than 2,000 feet,

putting the canal for the most part below the line of heavy snowfall. The drainage basin is well elevated, only a small portion thereof being below the 4,000 foot contour line, and it is of the character that is desirable as a collecting ground for water, cold, inaccessible in winter, fairly well timbered in its lower regions, with a considerable area of bare granite and basaltic formations toward the mountain summit, and, except for the encroachment of the Central Pacific Railroad along its northern margin, practically devoid of human habitation. It is hardly necessary to express an opinion on the engineering features of this project, which, if adopted by the City, would require revision throughout. The minimum thickness of metal suggested (5-32 of an inch) would be impracticable for the large pipes (61¼ inches in diameter) which have been suggested. These must not only be of ample strength to withstand internal pressure of the water carried, but must be heavy and stiff enough to withstand forces from the outside that may cause collapse. Life of the pipes must also be taken into consideration in determining the minimum thickness of the metal.

The proposed method of conduit construction under the water of San Francisco Bay is considered entirely impracticable. It is not necessary to extend these comments, and they are only made to show that the plan of works offered in the proposal and the right to use the special type of submerged conduit would have absolutely no value to the City.

ESTIMATES OF COST.

The following estimates of cost are necessarily based in a large measure upon information obtained by reconnaissance. Close estimates of quantities of rock and earth to be moved in canal and tunnel construction could only be made for the portions of such projects as that from the south fork of Yuba River and from Lake Tahoe, covered by actual survey.

Conduit lengths are in the aggregate fair approximations. The proportional amount of canal and tunnel on each route may, however, be materially varied if complete surveys are hereafter made.

The least field work was done on the Stanislaus and Tuolumne River projects, and it seems quite probable that some advantage may result by a considerable departure from the routes preliminarily selected.

On the Tahoe project and the Stanislaus River project, where long canals at high altitudes would, as already stated, be exposed more than is desirable to obstruction by snow and ice and would be less accessible than canals at lower levels, the placing of long sections of the canals in tunnel is to be seriously considered and may ultimately be advised should it be thought necessary to elaborate the details of these projects.

It is believed that the figures now presented offer a fair basis of comparison and that they are sufficiently liberal to cover all ordinary contingencies.

Canals in the high mountain region will be for the most part be cut into rock, or will have the major portion of their waterways in rock. They are to come into service unlined. It is probable that they will for the most part never require to be lined. Their capacity will be so far in excess at the outset of the amount of water to be delivered that even should obstruction to flow, by rough surface of bottom and sides of the canal, retard the flow, and should leakage be found to be so considerable as to make precautions other than clay puddling necessary, recourse can later be had in those sections requiring it to lining.

Tunnels are assumed to require lining when penetrating Coast Range ridges. Those in the Sierra Nevada will in part require side lining; they will in part be in solid rock and at so heavy a grade that such lining will not be required throughout.

The main item of cost for all Sierra Nevada projects is that of pipe construction.

The best quality of laminated iron has been assumed to be requisite and has entered into the calculations at 3.25 cents per pound, San Francisco delivery.

Weight of iron required for long pipes is given in the estimates so that for any departure from this price a correction can readily be applied. Iron is made the basis of the cost estimate and not steel, because iron has been in successful use for such purposes for a great many years and has proven its serviceability. Instances of iron pipes that have been in service upwards of twenty-five years are not uncommon. These examples are most notable on the Pacific Coast where the use of wrought iron pipes first found general favor. The use of steel for similar purposes is too recent to admit of their reliable comparison. Steel is, however, being used to some extent on large works of this character. The most notable example on the Pacific Coast is that of the Portland, Oregon, water works, where the water from Bull Run is brought twenty-four miles in steel pipes 33 to 42 inches in diameter. This pipe was constructed in 1893-94. Steel is also used to a very considerable extent in the construction of the main conduit lines of the water works of eastern cities, but the pipes have been in use but a few years and it remains to be determined whether the life of steel will approach that already demonstrated for iron.

It seems to be generally conceded that when rust once attacks a steel pipe its destruction is much more rapid than in the case of an iron pipe. This is probably due to the difference in texture of the two materials, steel being fairly uniform, while suitable iron is laminated, and the progress of rusting is checked for a time at each contact surface between laminae.

The minimum thickness of iron assumed for the large pipes—48 inches and more in diameter—which would be required for a water supply from the Sierra Nevada is one-quarter inch. This is heavier than ordinary practice seems to indicate, but gives additional security against collapsing when heavily loaded or when suddenly emptied and subjected to atmospheric pressure from without, and it also adds materially to the life of the pipe. It adds but little to the total cost of the completed conduit to make this the lower limit of thickness.

The adopted formula for determining required thickness of shell when the height of the hydraulic grade line above the pipe is known is:

$$t = \frac{.434 \text{ h. r.}}{12,000} + 1-16$$

Where "t" represents thickness of shell in inches; "h" the height of the hydraulic grade line above the pipe; .434 "h" the pressure in pounds per square inch; "r" the radius of the pipe.

It is to be understood as above stated that when this formula indicates a thickness of less than one-quarter inch that the arbitrarily assumed minimum thickness of one-quarter inch will apply.

The pipe is assumed to be constructed in five foot lengths, with but joints united by an outside band, riveted to each length. The lap or longitudinal joint of each length is to be double riveted. In the weights of iron where noted, the rivets are not included.

All pipe is to be coated with asphaltum.

The pipes are to be placed in trenches and covered ordinarily two to three feet. Over marshy ground they are to be carried on pile trestles and boxed in. In clay soil they are to be protected by an intervening layer of sand or some equivalent protection intended to prevent the clay from pulling the dip from the pipe surface.

An allowance has been made in the estimate for cost for giving the pipes a support on small concrete piers ten feet apart. This may be found to be unnecessary for portions of each pipe line when trenches are actually excavated.

WATER RATES.

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NORTH YUBA RIVER PROJECT.

	AMOUNT.	TOTAL.
Dam at Alabama Bar.....	\$74,000	
Canal from Alabama Bar to Oregon House Reser- voir site, 12¼ miles long, capacity 235 second feet	338,900	
Tunnel, 30,000 feet long, at \$25.....	750,000	
Oregon House Reservoir; capacity, 29,500,000,000 gallons; masonry dam, earthen embankments, outlet structures, clearing, etc.....	1,347,400	
Canal, Oregon House Reservoir to Power Station; 9 miles; 150 second feet capacity.....	131,400	
Power Station, including intake reservoir, by pass pipe, building, 5,000 kilowatt generators, 10,- 000 horse power water wheels, transformers, switchboard, etc.....	611,300	
Pole and wire line; 112 miles long, including cross- ing of Straits of Carquinez; 504,000 pounds of copper	228,000	
Filter plant; capacity, 60,000,000 gallons per day..	960,000	
Pipe from Power Station to filter beds and pumps near Vallejo Junction; 114.5 miles; two 54-inch pipes; 60,000,000 gallons per day capacity; weight of iron, 281,835,000 pounds.....	16,968,200	
Special structures on pipe line, including crossing of Yuba, Bear and Sacramento Rivers; 79,200 feet of trestle; Putah Creek crossing, etc.....	1,199,000	
Tunnels on pipe line at Army Point and Vallejo Junction; 6,300 feet, at \$36.....	226,800	
Crossing of Carquinez Straits; two shafts, each 480 feet; connecting tunnel, 3,600 feet lined with cast iron.....	912,000	
Pumping station, including receiving reservoir; 5,000 horse power in transformers and motors; reciprocating pumps, 60,000,000 gallons per 24 hours capacity; buildings, etc.....	419,000	
Pipe for pumping station to Yerba Buena Island shaft; two 48-inch pipes 30 miles long; weight of iron, 57,968,000 pounds.....	3,608,800	
Special structures on pipe to Yerba Buena Island..	297,000	
Auxiliary pumping stations at Pinole; 2,000 horse power, with pumps of 60,000,000 gallons per 24 hours capacity.....	300,000	
Auxiliary storage, including reservoir and pipes; weight of iron, 6,487,000 pounds.....	1,167,500	

NORTH YUBA RIVER PROJECT.—Continued.

	AMOUNT.	TOTAL.
Crossing of San Francisco Bay, cast-iron lined shafts and tunnel 11,900 lineal feet.....	2,380,000	
Telephone lines, etc.....	20,000	
Add for engineering, supervision and contingencies 13 per cent.....	31,939,300	
For loss of interest during construction 5 per cent..	4,152,100	
	1,596,500	
	37,688,300	
Lands and water rights and rights of way.....	920,000	
Total estimated cost to effect delivery to the City	\$38,608,300	
Add for distributing system.....	7,000,000	
Total		\$45,608,300

LAKE TAHOE PROJECT.

60,000,000 Gallons per day to be Delivered.

	AMOUNT.	TOTAL.
Dam in Truckee River, deepening Truckee River; modification of wharf structures around lake; intake at lake.....	\$125,000	
Tunnel from near McKinney's to Rubicon Fork of American River at Miller's Creek, 31,000 feet, at \$30.....	930,000	
Siphon across Rubicon Fork, 2,700 feet, at \$50....	185,000	
Tunnel from Rubicon Fork to Gerle Creek, 17,400 feet, at \$30.....	522,000	
Canal, 200 second feet capacity down Georgetown Divide, 43.5 miles, at \$20,000.....	870,000	
Special structures on canal line.....	72,000	
Tunnels on canal line, 24,600 feet, at \$30.....	738,000	
Power station at Greenwood, 600 feet drop, including intake reservoir, pipes, by pass, power house, 5,000 kilowatt generators, 10,000 horse power water wheels, step-up, transformers, switchboards, etc.....	449,300	

LAKE TAHOE PROJECT.—Continued.

	AMOUNT.	TOTAL.
Greenwood Reservoir; capacity, 9,500,000,000 gallons, masonry dam, 85,000 cubic yards, outlet structures, drain ditching, clearing, etc.....	940,000	
Canal from Greenwood Reservoir to the South Fork of American River; capacity, 150 second feet; 6½ miles, \$20,000.....	130,000	
Power station at South Fork of American River; drop, 700 feet, including intake reservoir, by pass, power house, 5,000 kilowatt generators, 10,000 horse power water wheels, transformers, switchboard, etc.....	458,600	
Pole line and wires to Livermore Pass Pumping Station, including line from Greenwood Power Station; 107 miles of poles; 1,046,000 pounds of copper.....	273,500	
Crossing of South Fork, two 48-inch pipes, including steel bridge.....	197,500	
Canal to New York Ravine; 15 miles, \$15,000.....	225,000	
Siphons—Two 48-inch pipes, 6,000 feet long, and special structures.....	138,000	
New York Ravine Reservoir; capacity, 440,000,000 gallons; earth dam 75 feet high.....	397,000	
Main pipe across San Joaquin Valley; two 50-inch pipes; capacity, 60,000,000 gallons per day; 85 miles long; weight of iron 188,149,000 pounds from New York Ravine Reservoir to Livermore Pass pumps.....	11,542,000	
Special structures and stream crossings.....	235,000	
Pumping station, including receiving reservoir, motors, reciprocating pumps, transformers, buildings, etc.....	746,000	
Force pipes from pumps to Altamont Tunnel inlet; two 48-inch pipes 318,000 feet long; weight of iron, 13,376,000 pounds.....	875,500	
Three tunnels on conduit line to San Francisco; 26,500 feet, at \$36.....	954,000	
Main pipe from Altamont Tunnel to San Francisco; two 48-inch pipes 72 miles long; weight of iron, 151,894,000 pounds.....	9,239,300	
Special structures, intake reservoir, trestle over swamp lands, etc.....	460,000	
Auxiliary storage, reservoir and pipe lines, including 17,364,000 pounds of iron.....	1,862,800	

WATER RATES.

LAKE TAHOE PROJECT.—Continued.

	AMOUNT.	TOTAL.
Telephone lines, etc.....	20,000	
Add for engineering, supervision and contingencies 13 per cent.....	\$32,585,500 4,236,100	
For loss of interest during construction 5 per cent.....	1,620,300	
	38,450,900	
Lands and water rights and rights of way.....	950,000	
Total cost to effect delivery to the City.....	39,400,900	
Add for City distributing system.....	7,000,000	
Total		\$46,400,900

TUOLUMNE RIVER PROJECT.
60,000,000 Gallons per day to be Delivered.

	AMOUNT.	TOTAL.
Hetch Hetchy Reservoir dam, roads, bridges, etc.....	\$830,000	
Diverting dam, Tuolumne River.....	75,000	
Canal; 19½ miles; capacity, 200 second feet, at \$30,000	585,000	
Tunnels; 34,300 feet, at \$25.....	857,500	
Special structures on canal line, inverted siphon, etc	180,000	
Power station, near Moccasin Creek; intake reser- voir, by pass, pipes, 6,000 kilowatt generators, 12,000 horse power water wheels, switchboard, transformers, building, etc.....	577,000	
Canal; 12 miles; capacity, 150 second feet, at \$20,000	240,000	
Tunnels; 17,000 feet, at \$30.....	510,000	
Crossing of Tuolumne River; special structures; siphons over Wood's Creek and Six Bit Gulch, etc.....	164,000	
Power station at Dry Creek; intake reservoir, by pass, pipes, 3,000 kilowatt generators, 6,000 horse power water wheels, transformers, switchboard, buildings, etc.....	526,200	
Pole line and wires; from Moccasin Creek, by way of Dry Creek, 75 miles.....	120,350	

TUOLUMNE RIVER PROJECT.—Continued.

	AMOUNT.	TOTAL.
Pipe across San Joaquin Valley; two 48-inch pipes; capacity, 60,000,000 gallons per day; 60.5 miles long; weight of iron, 111,227,000 pounds.	7,006,500	
Special structures on pipe line; intake reservoir, stream crossings, etc.....	330,000	
Pumping station; 11,000 horse power; motors, transformers, reciprocating pumps, buildings, receiving reservoirs, etc.....	797,800	
Force pipes from pumps to Altamont Reservoir; 34,400 feet long; weight of iron, 16,343,000 pounds	1,032,200	
Altamont Reservoir.....	53,350	
Pipe; Altamont Reservoir to San Francisco; two 48-inch pipes 73 miles long; weight of iron, 153,335,000 pounds.....	9,323,800	
Tunnels; 7,200 feet, at \$36.....	259,200	
Special structures; trestle over swamp lands, etc.	450,000	
Auxiliary storage; reservoir and pipe lines, including 17,364,000 pounds of iron.....	1,862,800	
Telephone lines, etc.....	20,000	
	25,800,700	
Add for engineering, supervision and contingencies 13 per cent.....	3,354,100	
For loss of interest during construction 5 per cent.	1,290,000	
	30,444,800	
Lands, water rights and rights of way.....	761,400	
Total estimated cost to effect delivery to the City.	31,206,200	
Add for City's distributing system.....	7,000,000	
Total		\$38,206,200

WATER RATES.

STANISLAUS RIVER PROJECT.

60,000,000 Gallons per day to be Delivered.

	AMOUNT.	TOTAL.
Donnell's Flat Reservoir; dam 275 feet high; outlet works; road corrections, etc.....	\$3,440,000	
Canal from Donnell's Flat to South Fork Tunnel; capacity, 150 second feet; 17½ miles long, at \$30,000	525,000	
Canal from South Fork to power house intake on Bald Mountain; 18 miles, at \$20,000.....	360,000	
Tunnels on canal lines; aggregate length 15,200 feet, at \$30.....	456,000	
Special structures; inverted siphons across South Fork and small streams.....	395,000	
Power station; Bald Mountain, including intake, reservoir, by pass, 1,500 horse power water wheels, 9,000 kilowatt generators, switchboard, transformers, etc.....	790,000	
Power transmission line.....	150,000	
Canal from power station to head of main pipe; 24½ miles, at \$20,000.....	490,000	
Tunnel on canal line; 1 mile long, at \$30 per lineal foot.....	158,400	
Special structures on canal below power station; siphons, etc.....	100,000	
Other items as estimated for the Tuolumne River project—		
Main pipe across San Joaquin Valley; two 48-inch pipes	7,006,500	
Special structures; intake reservoir, stream crossings, etc.....	330,000	
Pumping station.....	797,800	
Force pipes from pumps to Altamont Reservoir....	1,032,000	
Altamont Reservoir.....	53,400	
Pipe from Altamont Reservoir to San Francisco.	9,323,800	
Tunnels	259,600	
Special structures; trestles, etc.....	450,000	
Auxiliary storage and pipe lines.....	1,862,000	
Telephones, etc.....	20,000	
	28,000,300	
Add for engineering contingencies 13 per cent....	3,640,000	
For loss of interest during construction 5 per cent.	1,400,000	
	33,040,300	
Lands, water rights, rights of way, etc.....	796,900	
Total estimated to effect delivery to City.....	33,836,200	
Add for City distributing system.....	7,000,000	
Total		\$40,836,200

APPRAISEMENT OF THE PROPERTIES OF THE SPRING VALLEY WATER WORKS.

The following is an extract from the report upon the Appraisal of the Properties of the Spring Valley Water works, dated February 23rd, 1901.

APPRAISEMENT.

	AMOUNT.	TOTAL.
PILARCITOS SYSTEM.		
Earth dam, with puddle core; trench for puddle; estimated at 15,290 cubic yards. Puddle above trench, at 21,980 cubic yards; earth fill, exclusive of puddle, 327,900 cubic yards; rock facing, log boom, wastewehr with tunnel.....	\$234,000	
Buildings, keeper's house, men's quarters, barn and out houses.....	5,300	
Flumes and feeders tributary to reservoir, 9,740 feet, 14 by 42 inches and about 2,090 feet, about 12 by 14 inches.....	14,000	
Stone and brick outlet; gate house, complete with gates	15,000	
Tunnel 1,550 feet long; 42 by 54 inches in the clear; brick lined (reservoir outlet).....	37,400	
Flume; 280 feet long on trestle; waste and measuring tank in San Mateo Valley.....	1,100	
Tunnel 3,420 feet long, 42 by 54 inches in the clear, brick-lined, from San Mateo into San Andres Valley.....	82,500	
Wrought-iron pipe, 44-inch diameter; 750 feet in San Andres Valley; below tunnel.....	7,200	
Flume; 2,147 feet long; 36 by 72 inches, with regulating tank in San Andres Valley.....	5,600	
PILARCITOS MAIN PIPE LINE.		
Cast-iron, 24 inches diameter; 776 feet long; wrought-iron, 22 inches diameter; 2,394 feet long; wrought-iron, 30 inches diameter; 64,941 feet long.....	304,500	
Ocean House flume, 16 by 42 inches; 5,236 feet long	7,500	
Tunnel; 2,820 feet; 36 by 52 inches, brick lined....	55,800	
Measuring tank, screen house and wooden tank; 500,000 gallons capacity.....	7,000	
	776,900	
For engineering and contingencies add 10 per cent.	77,100	
Total		\$854,000

APPRAISEMENT OF THE PROPERTIES OF THE SPRING VALLEY WATER
WORKS.—Continued.

	AMOUNT.	TOTAL.
SAN ANDRES SYSTEM.		
Earth dam, with puddle core; trench for puddle core; estimated at 31,000 cubic yards; puddle above trench, 42,600 cubic yards; earth fill, exclusive of puddle, 500,000 cubic yards; rock facing, log boom, wastew weir with tunnel.....	\$391,700	
Buildings, keeper's house, barn and outhouses....	11,300	
Erick outlet structure, 26 feet in diameter, and connection with reservoir; concrete outlet structure	40,000	
Flumes and feeders; 2,597 feet, 18 by 40 inches, and 4,485 feet of 22-inch wrought-iron pipe—all below the Pillarcitos measuring box.....	15,200	
Davis Tunnel; concrete lined; 1,200 feet long, 52 by 56 inches; inlet flume and dam and wooden chute 1,400 feet long, tapering from 4 feet by 6 feet, and 3 feet by 4 feet.....	28,000	
Tunnel outlet from reservoir, 2,820 feet long, 42 by 54 inches in the clear, brick lined.....	62,000	
Measuring tank and screen house.....	4,000	
SAN ANDRES MAIN PIPE LINE.		
Wrought-iron pipe, 44 inches diameter, 28,849 feet		
Wrought-iron pipe, 37 inches diameter, 1,400 feet.		
Wrought-iron pipe, 30 inches diameter, 40,185 feet	490,800	
Aerator at College Hill Reservoir.....	3,800	
Bulkhead, 900 lineal feet, at Baden.....	2,000	
	1,048,800	
For engineering and contingencies add 10 per cent.	104,200	
Total		\$1,153,000
CRYSTAL SPRINGS SYSTEM.		
Concrete dam and outlet structures, earth embankment with concrete core north of main dam, including the outlet tunnel; brick lined, 7 feet by 6 feet, 360 feet long, and 54-inch wrought-iron pipe 360 feet long, also gate, well and gate at head of main pipe line.....	1,484,000	

WATER RATES.

APPRAISEMENT OF THE PROPERTIES OF THE SPRING VALLEY WATER WORKS.—Continued.

	AMOUNT.	TOTAL.
Buildings, keeper's house, men's quarters and stables, including sawyer camp.....	10,300	
CRYSTAL SPRINGS MAIN PIPE LINE.		
Wrought-iron 44-inch diameter pipe, 87,066 feet, including 5,400 feet of pile trestle support and 1,370 feet on concrete piers.....	850,000	
Tunnel 300 feet, brick around 44-inch diameter pipe (at Sierra Point).....	9,000	
Tunnel 2,145 feet, brick lined, 52 by 56 inches, from Visitacion Valley into the University Mound District.....	42,900	
Measuring tank and screen house at University Mound Reservoir.....	6,000	
	2,402,200	
Add for engineering and contingencies 10 per cent.	239,800	
Total		2,642,000
LOCKS CREEK AQUEDUCT.		
Flume 21,824 feet long, 18 by 32 inches, from Aponoilo Creek to tunnel from Pilarcitos to San Mateo Creek.....	\$25,214	
Flume 12,556 feet long, 10 by 14 inches, which is a feeder to the main Locks Creek line.....	6,000	
Wrought-iron pipe, 22 inches diameter, 6,963 feet long, on the line between Aponoilo Creek and Pilarcitos Creek.....	17,408	
Dam in Pilarcitos Creek of granite and brick, about 35 feet high.....	6,000	
Flume 4,300 feet long, 32 by 60 inches, from Stone Dam to tunnel and feeders to flumes.....	9,200	
Tunnel 3,200 feet long, 42 by 54 inches in the clear, brick lined, from Pilarcitos to San Mateo Creek.....	76,800	
Flume in San Mateo Valley, 10,900 feet long 36 by 60 inches, including settling tank.....	32,800	
Earth dam in San Mateo Creek with puddle trench and puddle core, concrete waste weir, timber chute and 12-inch slush pipe.....	7,200	
Concrete dam in San Mateo Creek.....	7,500	

APPRAISEMENT OF THE PROPERTIES OF THE SPRING VALLEY WATER WORKS.—Continued.

	AMOUNT.	TOTAL.
Tunnel from San Mateo Valley into San Andres Valley 3,530 feet long, 52 by 54 inches, concrete lined.....	70,600	
Flume 2,980 feet, 48 by 72 inches, in San Andres Valley	9,600	
Wrought-iron pipe, 44-inch diameter, 2,100 feet long, crossing San Andres Valley.....	18,900	
Flume 9,695 feet, 48 by 72 inches, on the east side of San Andres Valley.....	31,900	
Concrete aqueduct past keeper's house, near San Andres Dam.....	5,800	
Wrought-iron pipe, 44-inch diameter chute into San Andres Reservoir.....	2,800	
Buildings, keeper's house, men's quarters, stable, storehouse, etc.....	2,500	
	330,222	
Add for engineering and contingencies 10 per cent.	32,778	
Total		\$368,000
SEARSVILLE SYSTEM.		
Concrete dam about 75 feet high, including buildings, dwelling, barn and men's quarters.....	\$130,000	
Add for engineering and contingencies 10 per cent.	13,000	
Total		\$143,000
ALAMEDA CREEK SYSTEM.		
Masonry dam or weir, Alameda Creek, about 2¼ miles above Niles, stone aqueduct 3 feet 6 inches by 2,700 feet long, stone screen tank, wooden screen and settling tank, with building, flume 3,131 feet long, iron bridge over Alameda Creek at Niles, 400 feet long; wrought-iron pipe 5,897 feet long, 36-inch diameter, to junction with pipe from Upper Alameda Creek works, at one-half estimated cost of construction.....	\$54,000	
Alameda Creek main pipe line, below junction at Niles, 138,029 feet, with 36-inch brass-faced gate at Burlingame, including boxing and trestles	1,184,100	

APPRAISEMENT OF THE PROPERTIES OF THE SPRING VALLEY WATER WORKS.—Continued.

	AMOUNT.	TOTAL.
Submarine pipe, double 16-inch diameter, under a slough and under the Bay of San Francisco, wrought-iron, 3-16 inch thick; total length 6,800 feet, making 13,600 feet to pipe, also submarine connections at each end of each set of submarine pipes at cost about.....	120,000	
Buildings, three keeper's houses.....	2,000	
		\$1,360,100
New Alameda Creek Works above Niles, at cost, as reported by the Spring Valley Water Works, including properties in Sunol Valley and water rights, rights of way, etc., recently acquired between Niles and San Francisco Bay..	\$1,309,000	
Add for engineering and contingencies 10 per cent. on above items except the \$1,309,000, which is cost	2,669,000	
	136,000	
Total		\$2,805,000
CITY RESERVOIR AND PIPE SYSTEM.		
Lake Honda complete, including keeper's houses, stable, sewer, etc., exclusive of land value....	338,200	
University Mound Reservoir complete, including keeper's house, stable, etc., exclusive of land value	141,300	
College Hill Reservoir complete, including keeper's house, stable, etc., exclusive of land value....	50,400	
Clay Street Tank complete, including grading, concrete retaining wall, concrete stairs, etc., exclusive of land value.....	10,000	
Lafayette Tank (this stands on City property) complete	3,000	
Upper Russian Hill or Lombard Street Reservoir complete, including keeper's house, etc., exclusive of land value.....	26,500	
Lower Russian Hill or Francisco Street Reservoir complete, including brick-lined tunnel 150 feet long, exclusive of land value.....	63,400	
Clarendon Heights Tank complete, including grading, but exclusive of land value.....	12,200	
Potrero Heights Reservoir complete, including keeper's house, but exclusive of land value....	16,200	

APPRAISEMENT OF THE PROPERTIES OF THE SPRING VALLEY WATER
WORKS.—Continued.

	AMOUNT.	TOTAL.
Distributing mains and pipes, lengths from the record book of the Spring Valley Water Works:		
Wrought-iron—		
13-inch, 850 feet.....	1,572	
22-inch, 21,201 feet.....	93,284	
30-inch, 12,514 feet.....	90,100	
33-inch, 2,510 feet.....	20,080	
37½-inch, 11,312 feet.....	112,736	
44-inch, 9,231 feet.....	81,232	
Cast-iron (cost of specials included)—		
3-inch, 129,591 feet.....	88,122	
4-inch, 340,873 feet.....	279,175	
6-inch, 572,095 feet.....	664,179	
8-inch, 590,060 feet.....	875,059	
10-inch, 9,912 feet.....	18,585	
12-inch, 212,357 feet.....	492,880	
16-inch, 100,345 feet.....	328,931	
20-inch, 21,826 feet.....	100,487	
22-inch, 23,488 feet.....	125,191	
24-inch, 11,727 feet.....	72,191	
20-inch, 4,494 feet.....	38,392	
Setting specials.....	16,000	
Special structures on City distributing system of pipes—		
Two Bernal Heights tunnels, total length 1,344 feet, at \$30.....	40,320	
Support of pipes on Harrison street, over Mission Creek swamp, special pipe connection work, etc.	36,000	
Islais Creek trestles and extra work pipe laying... Gates on City distributing system—	9,500	
53 3-inch gates.....		
348 4-inch gates.....		
758 6-inch gates.....		
878 8-inch gates.....		
6 10-inch gates.....		
360 12-inch gates.....		
95 16-inch gates.....		
10 20-inch gates.....		
20 22-inch gates.....		
16 24-inch gates.....		
1 30-inch gate.....		
1 37-inch gate.....	82,880	

APPRAISEMENT OF THE PROPERTIES OF THE SPRING VALLEY WATER WORKS.—Continued.

	AMOUNT.	TOTAL.
Meters, from meter accounts, as reported by Spring Valley Water Works.....	145,200	
	\$4,453,296	
Add 10 per cent. for engineering and contingencies	444,704	
Property on hand and operating plant, tools, horses, pumps, portable engines, etc.....	\$20,000	\$4,898,000
Coal in San Francisco and San Mateo counties....	11,200	
	\$31,200	
Lake Merced drainage system, Ingleside sewer, dam between lakes, dam at lake outlet, outlet pipe, keeper's houses, etc.....	\$211,200	
Add 10 per cent. for engineering and contingencies	20,800	
		\$232,000
PUMPING STATIONS.		
Belmont Pumping Station complete, including standpipe and connections, reservoir, 3 concrete gate wells, coal bunker, railroad track, drain pipes, 2 dwelling houses, etc., but exclusive of land value.....	\$159,470	
Millbrae Pumping Station complete, including standpipe and connections, reservoir, suction and force pipes, flume, railroad track, buildings, etc., but exclusive of land values.....	242,300	
Crystal Springs Pumping Station complete, with 24-inch suction and 3 lines of 16-inch discharge pipes, 16-inch standpipe, buildings, stable and outhouses and 19,870 lineal feet of flume.....	123,950	
Pilarcitos Pumping Station complete, with standpipe and 16-inch discharge to the Pilarcitos main pipe, not including land value.....	27,400	
Ocean View Pumping Station complete, with suction from Lake Merced, pressure tank and discharge to the Lake Merced force main, not including land value.....	14,250	
Lake Merced Pumping Station complete, including suction from lake, wharf, boom, suction from San Andres pipe discharge to Pilarcitos pipe, aerating plant at Daly's Hill, railroad, coal bunkers, etc., but not including land value....	251,000	
Black Point Pumping Station complete, including storage tunnel, suction well, wharf, etc., but not including land value.....	164,800	

APPRAISEMENT OF THE PROPERTIES OF THE SPRING VALLEY WATER
WORKS.—Continued.

	AMOUNT.	TOTAL
Clarendon Heights Pumping Plant complete, not including land value.....	49,800	
	\$1,032,970	
Add 10 per cent. for engineering and contingencies	102,030	
Total		\$1,135,000
LANDS AS FOLLOWS.		
Lands in watersheds, tributary to reservoirs, 20,850 acres at \$60.....	\$1,251,000	
Lands in Portola Reservoir site, 340 acres, at one-half the value of lands in San Mateo Reservoir system at \$625.....	268,750	
Lands in Crystal Springs Reservoir site, above the present high-water surface, 430 acres at...	268,750	
Lands in Pilarcitos, San Andres, and Crystal Springs Reservoir, 1,880 acres at \$1,250.....	2,350,000	
Lands in Belmont Pumping Station, at cost.....	12,000	
Lands at Millbrae Pumping Station, at cost.....	25,000	
Lands in Calaveras Reservoir site, 1,300 acres at \$300	390,000	
Rancho Laguna de la Merced and contiguous properties acres.....	1,927,100	
City reservoir sites, including Market street property	654,000	
Miscellaneous City real estate, including the office lot and building.....	955,000	
Total		\$8,101,600
WATER RIGHTS.		
San Mateo system, 18,000,000 gallons per day, at \$40,000 per million gallons.....	\$720,000	
Upper Locks Creek line, 1,500,000 gallons per day, not now in use, but conveniently located, at \$20,000 per million gallons.....	30,000	
Portola Reservoir say 6,000,000 gallons per day, at one-fourth value of water in the San Mateo system	60,000	
Calaveras and Alameda creeks, included in cost of works of the Alameda Creek system.....		

APPRAISEMENT OF THE PROPERTIES OF THE SPRING VALLEY WATER WORKS.—Continued.

	AMOUNT.	TOTAL.
Lake Merced, included in the real estate appraisalment		
Total		\$810,000
For value, due to the fact that the business is an established one, add 25 per cent. of appraised value of City reservoirs, pumps, reservoir and pumping stations, real estate and street mains, including 25 per cent. on the reservoir sites.....	\$1,400,000	
Pipe and other material on hand and not included in above.....	95,000	
Total valuation of property of Spring Valley Water Works.....		\$24,667,800
SUMMARY.		
1. Pilarcitos System.....	\$854,000	
2. San Andres System.....	1,153,000	
3. Crystal Springs System.....	2,642,000	
4. Locks Creek Aqueduct.....	368,000	
5. Searsville System.....	143,000	
6. Alameda Creek System.....	2,805,000	
7. City Reservoir and Pipe System, including meters, but not services.....	4,898,000	
8. Property on hand, etc.....	31,200	
9. Lake Merced drainage and dams.....	232,000	
10. Pumping stations.....	1,135,000	
11. Real estate, City reservoir sites.....	654,000	
12. Other City real estate.....	955,000	
13. Lands outside of San Francisco, exclusive of Lake Merced lands.....	4,565,500	
14. Rancho Laguna de la Merced and contiguous property	1,927,100	
15. Water rights, in addition to those included in land values.....	810,000	
16. For value, due to the fact that the business of the Water Company is established, at about 25 per cent. of items Nos. 7, 11 and part of 10	1,400,000	
17. Pipe and other material on hand and not included in above.....	95,000	
Total		\$24,667,800

It is to be understood that the prices allowed in the above appraisalment for outside lands and water rights are made liberal, being intended to cover whatever allowance would ordinarily be made for the fact that the business was an established one. The values put upon lands in reservoirs now in service should be considered as including also such expenditures as may have been necessary to clear the site and prepare it for use.

For reservoir and other properties directly connected with the service in the City, an addition of 25 per cent is made as a reasonable allowance for value due to this fact.

DETERIORATION.

Except as otherwise noted the foregoing valuation is based upon estimated cost of reconstruction or duplication of works. No reduction has been applied for deterioration thereof.

This deterioration should, however, be taken into account, and the loss in value due thereto should be deducted from the above appraisalment, in case the appraisalment is to serve as a basis for the acquisition of the works by purchase.

The loss in value due to deterioration is often difficult to determine. Experience is the best guide in reaching conclusions. This loss may be directly estimated from the probable life of the works or parts of works under consideration, and time they have already served.

Deterioration is also to be taken into account in estimating cost of water delivered, and is then equal to the amount of money which would have to be annually set aside in order to be equal with interest added to the sum necessary to replace the works when worn out.

The periods of serviceability to be assumed for the various parts of the water works now in service or hereafter to be installed in this City are about as follows:

Pumping engines.....	40 years
Boilers	20 years
Wrought-iron pipe.....	40 years
Cast-iron pipe.....	100 years
Flumes	20 years
Wooden buildings.....	40 years
Electrical generating machinery.....	15 to 20 years
Water wheels.....	10 to 20 years
Poles of transmission lines.....	10 to 20 years
Water meters.....	15 years

In the case of pumping engines the depreciation is to be figured upon the entire cost of the engine, erection and foundation, because within the life of a plant such improvements are to be anticipated as might justify complete remodeling of the pumping system.

To determine actual deterioration of the cast-iron pipes in this City, they were examined at a number of points and the result of this examination seems to fully justify the above conclusions as to life.

There is one element of uncertainty, however, which makes a prediction as to the life of the system somewhat conjectural, and that is the uncertain effect of electrolytic action. There is always a certain amount of electric current passing between the rails of the electric roads and the water pipes, and where this current flows from the pipes there must be a decomposition of iron taking place. This may be a slow process, and appears to have been barely appreciable to date, but its future effect upon the life of the pipes in the most directly affected districts, and the percentage of injury that this would represent to the pipe system as a whole, can only be determined on the basis of a study more exhaustive than could be made in the time at command.

CHARACTER OF WORKS AND EFFICIENCY OF THE SPRING VALLEY WATER SYSTEM.

The quality of workmanship on the works and structures of the Spring Valley Water Works is commendable throughout. Materials used are selected with care. Special care and extra cost has not been shunned in important cases to secure the best. This is notably the case in the pipe work and in the concrete and masonry structures.

Where pumps of low efficiency, in one case of a design no longer manufactured, are installed, it is because they are not in continuous service, and where the interest account on a high-duty plant would more than offset the increased expense of operating a low-duty plant. This is particularly true of the Ocean View and Pilarcitos pumps, and in a less degree of the Crystal Springs pumps.

Great care has been exercised in making the delivery of water reliable, so that no accident to any portion of the works will inconvenience the City or deprive it of water.

In the City Distributing system there is still too great a proportion of small pipes. The ordinary service through these to the consumers is satisfactory, but they are not all that could be desired when extraordinary demands for water are made upon the system, as in case of a great conflagration.

But the need for increased storage facilities within the City is fully as great as the need of extension of the large street mains.

There should be constructed at once a reservoir on the Market street reservoir lot, at an elevation of about 150 feet.

An enlarged new, modern tank should be erected on Lafayette Park Hill. Increased storage should also be provided on Clay Street Hill, and a service tank should be placed on the top of Telegraph Hill.

These needs are so apparent that further discussion of the same is unnecessary.

VALUATION OF SPRING VALLEY WATER WORKS PROPERTIES IN ACTUAL USE BASED ON THE FOREGOING APPRAISEMENT.

(Including Lands and Water Rights.)

Under Resolution No. 649 of the Board of Supervisors, the Board of Public Works is directed to report upon the value of the works and machinery of the Spring Valley Water Works actually used for supplying San Francisco with water, exclusive of water rights and lands. By Resolution No. 1138 the Board of Public Works is directed to ascertain the value of lands and water rights of the Spring Valley Water Works actually used for supplying the City and County of San Francisco with water.

Excluding from the appraisal above quoted, properties which are not at present in actual use, the appraisal of value of the properties, including lands and water rights now in use, are below summarized:

SUMMARY.

(Excluding properties not at present in actual use.)

	AMOUNT,	TOTAL.
Pilarcitos System.....	\$854,000	
San Andres System.....	1,153,000	
Crystal Springs System.....	2,642,000	
Locks Creek Aqueduct.....	368,000	
Alameda Creek System (including water rights)..	2,805,000	
Lake Merced drainage works, etc.....	232,000	
City reservoir and pipe system.....	4,898,000	
Property on hand.....	126,200	
Pumping stations.....	1,135,000	
Real estate in City, exclusive of Rancho Laguna de la Merced, including office lot and building, but excluding numerous unused lots and the Lobos Creek lands.....	1,302,415	
Rancho Laguna de la Merced and adjacent property	1,927,100	
Lands at Belmont and Millbrae pumping stations	37,000	
Lands in watersheds tributary to Pilarcitos, San Andres and Crystal Springs reservoirs—16,430 acres	985,800	
Reservoir sites, Pilarcitos, San Andres, Crystal Springs	2,618,750	
Water rights (of the San Mateo County reservoir system)	720,000	
Allowance due to the fact that the business is an established one.....	1,400,000	
Total		\$23,204,265

The City real estate and improvements included in the above item of \$1,302,415 are the office lot and building at the southeast corner of Geary and Stockton streets; Clay Street Hill reservoir site; Lower Russian Hill reservoir site; Upper Russian Hill reservoir site; Black Point pumping station tract; pipe yard and buildings on Bryant street, between Fourth and Fifth streets; Potrero reservoir site; Seventeenth street pumping station tract; Clarendon Heights reservoir site; Lake Honda reservoir site and adjacent lands; coal yards at Ocean View; College Hill reservoir site; University Mound reservoir site; tunnel right of way tract, and Islais Creek right of way lands.

WATER RATES.

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FINANCIAL STATEMENT.

July 1, 1900, to June 30, 1901.

The appropriation for the water supply investigation of the year 1900-1901 was \$30,000. The expense of appraising the properties of the Spring Valley Water Works was paid out of this appropriation.

	AMOUNT.	TOTAL.
Appropriation		\$30,000 00
Expense of members of Board of Supervisors on trip to Lake Tahoe and Yuba River.....	792 85	
Publication by Supervisor C. W. Reed, "The Law and the Facts".....	118 00	
		910 85
Available		\$29,089 15
Salaries and wages.....	\$17,013 93	
Materials, instruments, maps and supplies.....	2,343 18	
Reconnoissance and incidental expenses.....	5,956 78	
Expert services.....	3,000 00	
Bacteriological examinations.....	728 94	
		\$29,042 83
Balance in Treasury at close of fiscal year		\$46 32
Of the foregoing there were expended:		
On the Yuba River project—		
Salaries and wages.....	\$2,857 01	
Materials, supplies, provisions, etc.....	588 07	
Traveling expenses, etc.....	966 45	
		\$4,411 53
On the Lake Tahoe project—		
Salaries and wages.....	2,928 03	
Materials, supplies, provisions, etc.....	526 63	
Traveling expenses, etc.....	2,014 42	
		5,469 08
On surveys of pipe line routes—		
Salaries and wages.....	1,870 00	
Materials, supplies, etc.....	16 55	
Traveling expenses, etc.....	987 42	
		2,873 97
General office and investigation of Spring Valley Water Works properties—		
Salaries, expert service and wages.....	10,858 89	
Materials, supplies, etc.....	1,211 93	
Traveling expenses, etc.....	2,353 43	
		14,424 25
Tuolumne and Stanislaus River reconnoissance and surveys.....		1,864 00
		\$29,042 83

CONCLUSIONS.

The main facts relating to the San Francisco water supply which have been established by this investigation, and the conclusions which, in the light of the information now at hand, have been reached, are presented in the foregoing pages. The following are among the most important conclusions:

The water resources of the Spring Valley Water Works, as now utilized, and so far as could be determined from evidence furnished and data collected, are barely adequate for the immediate needs of the City.

The system can be made adequate to supply future requirements only by bringing into service additional sources of supply.

Additional sources of supply claimed are Calaveras Valley, the Searsville system; an increased output from the Sunol Valley gravels; and, though more remote, a diversion from the ocean slope peninsula creeks.

Lake Merced is the least desirable of the several sources of supply of the Spring Valley Water Works. Permanent utilization of its waters would in time involve filtration. The ultimate use of Lake Merced should preferably be as an emergency supply. It should be rated for a limited number of years as a source, thereafter as a convenient nearby storage. The lake is at present a necessary and useful part of the Spring Valley Water Works system.

The addition to the present supply of the next most available source with a considerable yield, Calaveras Valley, which is estimated by the Engineer of the Spring Valley Water Works to be capable of yielding about 30,000,000 gallons per day, would cost, according to the same authority, about \$10,677,000, or at the rate of \$356,000 per million gallons of daily yield.

The quality of the water for the supply of this City should be of the highest attainable degree of purity. Such water is obtainable from the high uninhabited Sierra Nevada mountain regions. It is also obtainable from other streams and by storage, ultimate filtration to be regarded essential in case there is any considerable amount of human life and activity in the tributary watershed areas.

No facts are at command that would justify an immediate thorough investigation of the artesian sources of water, within reasonable distance from the City.

It is desirable that the combined sources of water supply for this City should be capable of yielding ultimately at least 120,000,000 gallons per day, and that any source of supply now to be utilized or an extension of the established system should place at least 60,000,000 gallons of water per day at the disposal of the City, and that the capacity of water works should be such as to deliver this amount of water to the City at the outlet.

Any new source to be combined with the established system should be capable of yielding at least 30,000,000 gallons per day and a possible expansion to 90,000,000 gallons is desirable.

Under an operation of the Spring Valley Water Works, in conjunction with a Sierra supply, a better water than now furnished is to be anticipated, because the peninsula reservoirs could be kept full and ill effects of low water stages with exposed flat marginal areas would be minimized.

The water consumption could be kept down to about 70 to 80 gallons per inhabitant, under the local conditions of climate, large areas of closely built up residence districts, and a future increased supplemental use of salt water for fire protection, street sprinkling, sewer flushing and similar purposes.

The ultimate growth of the City is limited on the west, north and east by ocean and bay waters. It is not expected to have any considerable suburban growth for many years toward the south, where, for the greater portion of the distance from bay to ocean, the San Bruno Mountains stand as a barrier.

The population forecast indicates 1,000,000 inhabitants in about the year 1980, with no probability that this number, under favorable conditions of growth, could be reached before 1963.

Water works now acquired or constructed by the municipality should serve the City for all time. They should be such that other works with Sierra Nevada sources of supply can, whenever required, be combined with them.

A number of Sierra Nevada sources of supply would afford the full amount of water which, as above indicated, should be at command when a project is adopted and works constructed. Some of these sources would supply far in excess of the amount of water necessary to be at once commanded by the City.

From the North Yuba River at Alabama Bar in combination with the large storage facilities at the Oregon House Reservoir site, without recourse to any portion of the river's low water flow, upwards of 60,000,000 gallons of water per day can be obtained.

Water from the North Yuba, from a watershed with a population of about 3,000 should be considered in too great danger of pollution to be used without filtration.

The conduit route for the Yuba River project is less favorable than for other Sierra Nevada projects. The submerged crossing of Sacramento River, the deep, long tunnels under the Straits of Carquinez and under San Francisco Bay, and the location of the auxiliary near-by storage east of the bay are undesirable features.

Lake Tahoe is to be considered capable of yielding about 60,000,000 gallons of water per day without apparent damage to users of water from Truckee River. In making any considerable diversion in excess of this amount it must be anticipated that some interference with vested rights will be claimed and that the City would be liable for damage actually resulting therefrom.

Storage works on Tuolumne River will make the taking of 150,000,000 gallons of water per day from that stream possible.

Storage works on Stanislaus River at Donnell's Flat are considered capable of yielding upwards of 60,000,000 gallons of water per day.

Lower San Joaquin River, as a source from which to pump water for the supply of this City, presents too few advantages and too many disadvantages to be classed as an available source of supply.

Sacramento River offers an abundance of water, which would require filtration and pumping. Unfavorable conduit route and unfavorable location of nearby auxiliary storage to assure uninterrupted service, are objectionable features, rendering this project much less attractive and less favorable than those whose source of supply lies in the high Sierra Nevada Mountains.

None of the proposals which have been submitted are such as can be recommended for acceptance by the City.

WATER RATES.

The following is condensed from the above cost estimate from the appraisalment of the properties of the Spring Valley Water Works:

	Yuba River Project.....	Lake Tahoe Project.....	Stanislaus River Project.....	Tuolumne River Project.....	Spring Valley Water Works.
Capacity, gallons per day.	60,000,000	60,000,000	60,000,000	60,000,000	31,000,000
Estimated cost or appraisalment, exclusive of distributing system.....	\$38,608,300	\$39,400,900	\$33,836,200	\$31,206,200	
Distributing system	7,000,000	7,000,000	7,000,000	7,000,000	
Total.....	\$45,608,300	\$46,400,900	\$40,836,200	\$38,206,200	\$23,204,265
Per million gallons of daily capacity.....	760 000	773,000	681,000	637,000	748,500

Including Lake Merced at 3,000,000 gallons per day and Alameda Creek (Sunol Valley) at 10,000,000 gallons per day.

For purposes of comparison the value of the Spring Valley Water Works inserted in this table is the appraisalment of properties in actual use.

RECOMMENDATION.

On the basis of the facts herein set forth, and the comparisons made between nearby sources of supply and the rivers of the Sierra Nevada Mountains, it has seemed desirable to recommend that the immediate further examinations be confined to a single Sierra Nevada stream and to the maturing of a single independent project.

The Tuolumne River project presents the most attractive features. It has therefore been recommended that a complete general plan of works for the utilization of water from this river be made with a cost estimate based on less reconnaissance work and more definite selections of location of canals, pipe lines and structures than have been available in making the financial forecast hereinabove presented.

Respectfully submitted,

C. E. GRUNSKY,
City Engineer.

COMMUNICATION FROM THE SPRING VALLEY WATER COMPANY IN
RESPONSE TO RESOLUTION No. 207.

On May 31, 1900, a communication was filed with the Board of Supervisors by the Spring Valley Water Works, in response to Resolution No. 207, stating that under the provisions of the Charter this Board has not the power to select any particular system of water works at the present time for submission to the people, but that, under due proceedings, it would be willing to submit an offer of its entire system, the communication being as follows:

San Francisco, May 31, 1900.

To the Honorable the Board of Supervisors
Of the City and County of San Francisco—

Gentlemen: The Spring Valley Water Works is in receipt from the Clerk of your Honorable Board of a copy of Resolution No. 207, requesting this company "to offer for sale to the City and County of San Francisco, on or before the 1st day of June, 1900, at the lowest possible cost, all of its property now used or capable of being used for supplying water to the inhabitants of the City and County of San Francisco."

The Resolution is preceded by preambles referring to the provisions of part of Article XII of the Charter, relating to the acquisition of public utilities, and containing a declaration of the intention of your Honorable Board to submit to the electors, at the earliest possible moment, a proposition to acquire an adequate supply of water to be owned by the City and County.

The provisions of Article XII of the Charter require your Honorable Board, within one year from the time the Charter went into effect (and at least every two years thereafter), to procure through the City Engineer plans and estimates of the actual cost of original construction and completion of public water works, and that in securing such estimates the Supervisors must procure and place on file plans and estimates "of the cost of obtaining from all of the several available sources a sufficient and permanent supply," and that thereafter the Supervisors shall enter into negotiations for the permanent acquisition, "by original construction, condemnation or purchase," of such utilities as they regard most important, and shall submit to the electors propositions for acquisition thereof.

It is then provided in Section 2 as follows: "Before submitting propositions to the electors for the acquisition by original construction or condemnation of public utilities, the Supervisors must solicit and consider offers for the sale to the City and County of existing utilities, in order that the electors shall have the benefit of acquiring the same at the lowest possible cost thereof."

It is under this provision in reference to "existing utilities" that your Honorable Board solicit an offer from this company of its properties. Article XII of the Charter apparently contains no other provision in reference to a submission to the electors of offers of existing utilities, and it may be a matter of question if, from this section, such authority exists in your Honorable Board based upon the proceedings had by Resolutions Nos. 257 and 207.

The declaration of Resolution No. 207 is that it is the intention of your Honorable Board to submit to the electors of the City and County a proposition to acquire "a permanent and adequate supply of water." This proceeding is had without any petition signed by fifteen per cent of the electors, as Section 3 provides may be done, and without any determination by your Honorable Board that the public interest or necessity demands the acquisition or construction of water

works, and without the passage and publication of an ordinance which "specifically declares such determination" (Sec. 6.) The Charter seems to provide that without one or the other of these prerequisites, no special proposition whatever can be submitted to the electors as to the amount of the bonded indebtedness or the amount that may be expended for the particular utility, or whether the same shall be by original construction or purchase of an existing utility, but only the general question: "Do the electors determine to have a system of water works?" And the scope of your resolution merely extends to this general proposition and no further.

Section 5 provides: "When the electors by vote shall have determined, as hereinbefore set forth, to acquire any public utility, such action on the part of the electors shall be equivalent to the passing of the ordinance by the Supervisors declaring such determination as set forth in Section 6 of this Article, and the Supervisors shall proceed without delay to pass an ordinance calling a special election as required by Section 7 of this Article."

All other provisions of Article XII as to amount or cost appear to refer to the second election to be held to determine the question of bonded indebtedness. This second election is more specifically referred to in Section 7 as one to be held "after the electors by vote shall have DETERMINED TO ACQUIRE any public utility," and at such special election "shall be submitted to the electors the PROPOSITION OF ACQUIRING such public utility and of INCURRING A DEBT FOR THE ACQUISITION OF THE SAME."

The first election and the one which your resolution has in contemplation under the terms of the Charter and the proceedings your Honorable Board have adopted as a premise is merely to submit to the electors: "Are you ready for the question of acquisition of water works?"

Therefore, in the present aspect of the situation your Honorable Board has not now authority to negotiate, nor any power to select any particular system of works to submit to the electors, nor jurisdiction to designate to them for their votes an amount to be expended in the acquisition of the utility, in fact, according to the terms of the Charter, your Honorable Board, by virtue of proceedings thus far taken, has no power to submit to an election "any propositions * * for the ACQUISITION" of water works. Until your Honorable Board by proceedings in conformity with the Charter obtains such power, the solicitation and consideration of offers is premature and unauthorized.

A portion of Section 2 has already been referred to and requires repetition at this point, as it is the only expression in Article XII on the subject of "offers for sale * * * of existing utilities." It provides:

"Before submitting PROPOSITIONS to the electors for the ACQUISITION by original construction or condemnation of public utilities, the Supervisors must solicit and consider offers for the sale to the City and County of existing utilities in order that the electors shall have the benefit of acquiring the same at the lowest possible cost thereof."

These "propositions" are the propositions which are to be submitted at the election to determine the bonded indebtedness. No express or implied power or duty exists to solicit offers before a determination by the electors or the Board to have and own water works has been reached or a proper petition has been filed.

The company respectfully states that under due proceedings it would be willing to submit an offer of its entire system, which is in complete condition and operation for the present supply of the City and County and its inhabitants and embraces properties, which, with reasonable additions and expenditures, may be considered adequate for the future requirements of more than two millions of people; or, in lieu of an offer, the company would, under such proceedings, agree

to submit the value of its properties to the determination of a majority of a Board of Arbitration, to consist of three members and to be selected strictly as follows: One to be appointed by your Honorable Board, one by the Company, and the third to be selected by agreement of the two so appointed. When such Board has fixed the valuation, the company would be willing to deposit its deed in escrow to abide the result of the vote on the bonded indebtedness, provided the escrow should not extend or remain on deposit beyond the year 1901.

Your Resolution No. 207 requires that "an offer of sale MUST contemplate the placing in escrow of a deed to the entire system, dependent for delivery upon the acceptance of the offer by the people of San Francisco, voting at a special election to be held in the year 1901." There is no authority in the Charter for such a requirement, or for any escrow. Under the terms of this requirement and the existing circumstances, such an indefinite escrow (if all other proceedings were in order) would be prohibitive of an offer on our part and, therefore, would occasion violation by your Honorable Board of a plainly mandatory duty imposed upon the Supervisors by the Charter, i. e., "the Supervisors MUST solicit and consider offers for the sale." No authority is given or can be implied from this provision to attach any conditions to such offer—either possible or prohibitive. The company nevertheless expresses its intention of good faith in the foregoing offer of an escrow agreement for a specified period.

Your resolution also requires "a detailed statement of the company's property with a full statement of the use to which the various parts are put, together with a detailed statement of the cost of the construction of the entire water system."

We respectfully submit that, under the circumstances, a detailed statement of the property is not essential. The property is well known to your Honorable Board and to the entire body of electors of the municipality, as well as the use to which in its entirety it is put, and has been put for almost forty years continuously. The cost of the plant has already been exhibited and left in a printed statement or pamphlet with each member of your Honorable Board.

Your Resolution also contains the following:

"The Spring Valley Water Company is also requested to bear in mind that any over-valuation of its water system will compel the people of San Francisco to look elsewhere for their water supply, and the withdrawing of San Francisco as a market for the sale of the company's water will reduce the value of the company's lands to what they are worth for agricultural purposes merely."

The company cannot assume that by this language your Honorable Board would imply a threat to ruin the company's property unless the buyer was authorized to fix the price of the purchase; yet such is the general public impression. It is not customary in ordinary, and it ought not to prevail in public negotiations, that the buyer should demand a price for property based upon his alleged power of destruction. If that were true, or if the rule is to be applied in the present instance, this company could name only a practically nominal price, rather than permit its valuable properties to be relegated to their original state of "agricultural purposes merely." But the premises are not correct, either upon the anticipated presumption that the company would over-value its plant or that a different public system of supply would withdraw San Francisco as a market for the sale of the company's water or reduce the values of the company's properties. Our suggestion for a Board of Arbitration eliminates the supposition of any covert purpose on our part to obtain more than the actual values of our properties. Our plant is equipped for a present and properly inaugurated for a future supply for the City, and can be operated now and hereafter with less capital and with less annual expenditure than any public system now discussed or discoverable. There is no question as to the company's titles. The investments have been made economically and with care, and the properties represent greater values than the expenditures. There is no element of ill-considered and grossly deceptive "esti-

mates." The company is, therefore, well assured that no other public supply can ever bear the burdens of interest on the actual capital necessary to equip the new system and operating expenses, and necessary annual costs and expenditures, and supply water, either of as good quality or at the same rates, or with equally efficient service. The company, therefore, under no circumstances, anticipates or fears the withdrawal of San Francisco as a market for the sale of its water, or that by public competition the values of its properties will be in any respect reduced; but, on the contrary, believes such values will be conclusively enhanced by actual demonstration.

Very respectfully,
 SPRING VALLEY WATER WORKS,
 By CHAS. WEBB HOWARD, President.

COMMUNICATION FROM SPRING VALLEY WATER WORKS IN RESPONSE
 TO RESOLUTION NO. 1985.

On November 18, 1901, a communication was filed with the Board of Supervisors by the Spring Valley Water Works, in response to Resolution No. 1985, soliciting an offer to sell its entire system to the City and County, that it is ready and willing, as soon as the Charter provisions have been complied with, to submit an offer for the sale of its works, the communication being as follows:

San Francisco, Cal., November 16th, 1901.

To the Honorable the Board of Supervisors
 Of the City and County of San Francisco—

Gentlemen: The Spring Valley Water Works begs to acknowledge the receipt from the Clerk of your Honorable Board, and under your direction, of a copy of Resolution No. 1985, whereby this corporation and other corporations owning water works for the supply of San Francisco are solicited to offer the same for sale to the City and County; the said solicitation or resolution purporting to be made under the provisions of Sections 1 and 2 of Article XII of the Charter. Those Sections read as follows:

"Section 1. Within one year from the date upon which this Charter shall go into effect, and at least every two years thereafter until the object expressed in this provision shall have been fully attained, the Supervisors must procure through the City Engineer PLANS AND ESTIMATES OF THE ACTUAL COST OF THE ORIGINAL CONSTRUCTION AND COMPLETION by the City and County of water works, gas works, electric light works, steam, water or electric power works, telephone lines, street railroads, and such other public utilities as the Supervisors or the people by petition to the Board may designate.

"In securing estimates of the original cost of the construction and completion of water works by the City and County, the Supervisors MUST PROCURE AND PLACE ON FILE PLANS AND ESTIMATES of the cost of obtaining FROM ALL OF THE SEVERAL AVAILABLE SOURCES a sufficient and permanent supply of good pure water for the City and County in order that propositions for the acquisition, construction and completion thereof and the incurring of municipal indebtedness therefor may be submitted to the electors of the City and County as hereinafter set forth."

"Section 2. AFTER SUCH PLANS AND ESTIMATES SHALL HAVE BEEN PROCURED AND FILED, the Supervisors shall at as early a date as they deem for the best interests of the City and County, enter into negotiations for the

permanent acquisition by the City and County by original construction, condemnation or purchase of such or any of such public utilities as they may regard most important to the City and County to be first acquired, and to formulate and submit to the electors of the City and County, at a special election, propositions for the permanent acquisition and ownership thereof. Before submitting propositions to the electors for the acquisition by original construction, condemnation, or purchase of public utilities, the Supervisors must consider offers for the sale to the City and County of existing corporations, in order that the electors may have the benefit of acquiring the same at the lowest possible cost thereof."

The latter part of Section 2 intimates clearly that the purpose of soliciting offers from the existing corporations is to aid the electors in determining upon what selection, if any, shall be made, and in this sense, the bids or offers of the existing corporations are not only competitive as between themselves, but as against the original construction, and to that end it is provided in Section 1 that the plans and estimates SHALL BE OF THE ACTUAL COST, otherwise there could be no competition or competitive bid based upon a sufficient and intelligent premise. It is evident without expression that unless the estimate is made OF THE ACTUAL COST, it is of no advantage to the electors and is of no available foundation for an intelligent choice. The true or actual cost when determined may be less than a progress estimate—which might result in an advantage to the municipality—or it may be more—which would render the progress estimate neither a fair nor proper basis upon which to act intelligently. The truth is that the estimates furnished by the City Engineer are designated by him as a "PROGRESS REPORT." Until the actual cost is determined, the Board of Supervisors cannot legally submit a proposition to the electors. A progress or incomplete report manifestly is not of the character required by the Charter provisions. At most it signifies only a preliminary report and crude estimates. Moreover, only one source has been estimated in the progress report, whereas the Charter requires plans and estimates of "all the several available sources," so that the electors may exercise an act of selection, which they cannot do when but one source is submitted to them. More progress will have to be made in the direction indicated, before your Honorable Board will have any legal estimates or data upon which it, or the electors, can act under the Charter.

We are ready and willing, as soon as the provisions of the Charter have been complied with (so that an offer may be solicited by you and presented by us), to submit to your Honorable Board an offer for the sale of our works.

Very respectfully yours,

CHAS. WEBB HOWARD, President.

CONVERTING THE GEARY STREET LINE INTO AN ELECTRIC RAILWAY. UNDER MUNICIPAL OWNERSHIP.

On November 7, 1901, there was filed in the Clerk's office of the Board of Supervisors the following communication from the Board of Public Works, enclosing a Report by C. E. Grunsky, City Engineer, on a City Electric Railway for the Geary Street System, which communication and Report are as follows:

COMMUNICATION FROM THE BOARD OF PUBLIC WORKS.

October 28, 1901.

To the Honorable Jas. D. Phelan, Mayor
Of the City and County of San Francisco—

Sir: There is transmitted herewith the report of the City Engineer on the conversion and extension of the Geary Street Cable Road.

The proposed converted road and extensions aggregate fifteen and six-tenths (15.6) miles, and, under the most expensive system of construction and equipment, underground conduit for all except one and three-fourths (1¾) miles, is estimated to cost \$3,052,000, or \$195,641 per mile—or \$100,000 less per mile than the outstanding bonds and paid-up stock of the existing road, which is \$297,142 per mile for the three and one-half (3½) miles.

Very respectfully,

BOARD OF PUBLIC WORKS.

By J. LEO PARK, Secretary.

One enclosure.

Referred to Board of Supervisors.

JAMES D. PHELAN,

Mayor and ex-officio President of the Board of Supervisors.

November 7, 1901.

REPORT TO THE BOARD OF PUBLIC WORKS OF THE CITY AND COUNTY OF SAN FRANCISCO ON A CITY ELECTRIC RAILWAY, GEARY STREET SYSTEM, BY C. E. GRUNSKY, CITY ENGINEER.

To the Honorable the Board of Public Works,
Of the City and County of San Francisco—

Gentlemen: The Geary Street Railroad is now being operated as a branch line of the Market Street Railway system. It is a cable road, well built, with roadbed and rail system in good condition at the present time. The road has its easterly or downtown termination at Market street, where the cars are turned on a turn-

table located upon the easterly side of Kearny street. The turning of cars is necessary because the road was built for cars using a side grip, and the grip does not travel midway between the rails, but a little to one side of the center line. From Kearny street the road follows Geary street and Point Lobos avenue westerly to Fifth avenue, thence southerly along Fifth avenue to Fulton street. The Geary street cars do not stop at the Park on Fifth avenue, but are carried on the tracks of the McAllister street line along Fulton street to the turntable near Seventh avenue.

The length of the Geary street road, double track, is 3.8 miles.

This railroad is owned by the Geary Street, Park and Ocean Railroad Company, and is operated under franchises as follows:

By Order No. 1352 of the Board of Supervisors in 1877, along Geary street from the center line of Stockton street to Central avenue; thence on Point Lobos avenue to First avenue; thence on First avenue to Golden Gate Park. The franchise was granted for 25 years from April 13, 1877. Cars under this franchise were to be moved by horses or by means of endless ropes attached to stationary steam engines.

By Order No. 1469 in 1878, along Geary street westerly from the westerly line of Kearny street to Central avenue; thence along Point Lobos avenue to First avenue; thence along First avenue to the Park. Cars were to be moved by horses, or by wire cables moved by stationary steam engines. The franchise was granted for 25 years from November 6, 1878, subject to the conditions that the rate of fare was not to exceed five (5) cents and that the rate of speed do not exceed eight (8) miles per hour.

By Order No. 1509 in 1879 the railroad company was granted permission to use steam motors over that portion of Point Lobos avenue between Central and First avenues and also upon First avenue from Point Lobos avenue to the Park, and to lay tracks on the side of Point Lobos avenue between Central and First avenues. This privilege was to continue from July 11, 1879, at the pleasure of the Board of Supervisors, and Order No. 2450 fixed January 1, 1892, as the date of its termination.

By Order No. 1515 in 1879 the right of way granted by Order No. 1469 was extended along Geary street easterly from the westerly line of Kearny street to the northwesterly line of Market street. This franchise extension dates from September 17, 1879.

By Order No. 1539 in 1879 a grant in common to the Geary Street, Park and Ocean Railroad Company, the North Beach and Mission Railroad Company and to the Central Railroad Company, commencing at the junction of Turk and Market streets, thence easterly along and upon Market street to the City front, with connections in said Market street of all and any of the railroads now owned, occupied or being built by said grantees, or any of them, on any and all of the streets running into or across Market street, so as to connect any or all of said roads with the railroad track hereby granted. This franchise was for 50 years from November 29, 1879.

By Order No. 2260 in 1890 along Point Lobos avenue, beginning at the easterly line of First avenue to Fifth avenue, and thence along Fifth avenue to Golden Gate Park. This franchise was granted for the unexpired term and subject to the conditions named in Order No. 1469.

Resolutions Nos. 6205 and 6726 of the Board of Supervisors, passed respectively on December 28, 1891, and on March 28, 1892, extended the time during which steam dummies could be used for the operation of the road west of Central avenue until August 1, 1892.

Power for the operation of the road is supplied from a power house located on the northeasterly corner of Geary and Buchanan streets.

Transfer privileges are granted to other lines of the Market Street system at Fillmore street and at the foot of Geary street.

By Resolution No. 1384 of the Board of Supervisors, passed April 1, 1901, the

City Engineer was directed to prepare plans and estimates of the cost of original construction and completion of the Geary Street road as an electric road with underground power, flat rails and the most improved electrical apparatus known to science; also to make plans and estimates of the cost of changing the said road into an overhead electric road.

The route to be examined was defined in the above Resolution as follows: "Commencing at a point in Golden Gate Park near Ninth avenue most advantageous for the convenience of passengers, thence along Ninth avenue to Lobos avenue, thence along Lobos avenue to Geary street, thence along Geary street to Market street, thence along Market street to the Ferry depot. Also at the intersection of Second street with Market to proceed along Second street to Townsend street and along Townsend street west to a convenient point for the reception of passengers near the Southern Pacific depot at Third and Townsend streets."

In pursuance with your directions under this resolution, Mr. J. C. H. Stut was selected as consulting mechanical engineer, and the project has been advanced as rapidly as possible. Mr. Stut was sent to Washington, D. C., and to New York, where conduit electric roads are in successful operation, and where in business and densely populated districts they are rapidly replacing other types of street railways. There is no longer any doubt that an electric road equipped with conductors placed in conduits between the rails can be successfully operated.

Not only is this true, but in this City there will be no interference by snow, and flooding of the conduit by excessive rainfall will be of rare occurrence, so that better results even than in the Eastern cities are to be hoped for.

The construction of a conduit between the rails into which the electrical conductors are placed is not unlike that of a conduit for a cable road. Iron yokes unite the two rails and support the slot irons. Spaces between yokes are filled with concrete, which is shaped to form the two sides and bottom of the conduit. Upon either side of the slot line in the conduit is a steel conductor rail of convenient shape, supported from above and well insulated. The electric current is transmitted from one of these conductors through the motor on the car to the other conductor. The transmission of current from these conductors to the motor of the car is by means of a so-called "plow," which has one side in sliding contact with the positive conductor rail, the other in contact with the negative conductor. The plow hangs from the car in such a way that it readily adjusts itself to any position of the slot not too far from the track center, and that it is automatically detached when striking any obstruction.

It has been found feasible, as in the case of Washington, to change with comparative ease and practically no delay from a connection of the motor with conduit conductors to a connection with overhead wires, so that the same car can be operated on roads of both systems, the change in method of receiving electric current being made without inconvenience to passengers.

There seems to be no doubt that the conduit electric system will gradually replace the overhead electric system in the densely populated and busy sections of large cities. The advantages of this system are already well recognized, and greater first cost alone stands in the way of its rapid general introduction. It will replace not only the electric road with overhead trolleys, but many cable roads, as recently in the case of the Broadway road, New York, will be converted into conduit electric roads.

It appears from the investigations made by Mr. Stut that apart from the cost of overcoming obstacles, such as crossings of other roads, water and gas pipes, conduits and ducts for telegraph, telephone and power transmission wires, the cost of a double-track conduit electric road may be estimated at \$96,870 per mile—not including pavement reconstruction. A road with overhead conductors and iron poles would cost about \$34,000 per mile, and with wooden poles about \$30,500, not including reconstruction of pavements. Reconstruction of pavements would add about \$3,000 per mile in the case of basalt blocks and about \$20,000 in streets

paved with asphalt or bituminous rock. It is assumed in each case that the work be thoroughly done, that joints be welded and that a rail weighing 107 pounds per yard, of most approved pattern, with a grooved top, be used for the track.

It was found that the cable conduit of the Geary street road affords sufficient room and can be made to receive the two steel conductor rails, and that at a comparatively small cost the present roadbed can be converted into a roadbed for a conduit electric road. The slot, the rails and the conduit are to remain in service. Better drainage of the conduit is, however, required, and a large number of man-holes for access to the conduit must be provided.

To make the Geary street road independent of connections, by transfer with any other established system, it should terminate at the foot of Market street at the Ferry building, not at the present road terminal at Kearny street, and it would be desirable to have connected with it a cross-town road.

The suggestions contained in the resolution of the Board of Supervisors and other suggestions made by its Public Utilities Committee have been closely followed in projecting the system, which has been made the basis of a cost estimate.

Alternate projects have also received some attention, but their alignment has not been shown on the main diagrams. Particular attention is to be called to the fact that the proposed cross-town road, instead of turning west on Lombard street, can be carried from Gough street westerly out Vallejo street to Pierce street and northerly along Pierce to Lombard, to Chestnut or to any of the other east and west streets nearer the bay, and thence westerly to the Presidio and even into the Presidio, if so desired. The advantage of a location on Vallejo street will be the patronage to be expected in the immediate future for a road located midway between the cable roads already on Pacific street and on Union street. There may be objection to the placing of the road on Lombard street. It has been projected along that street on account of the direct approach to the main Presidio entrance. It could as well have been projected along Chestnut street.

The route which has been made the basis of the main cost estimate herein-after referred to as "Project A" is as follows:

Along Market street from the Ferry building to Fell street, along Fell street westerly to Stanyan street, along Stanyan street to Fulton street, along the northerly margin of Golden Gate Park at the south line of Fulton street to Tenth avenue, along Tenth avenue to Point Lobos avenue, along Point Lobos avenue and Geary street easterly to Market street and to a connection with the tracks from the Ferry building.

The cross-town road would extend from the Presidio to the Potrero, beginning at Lombard and Lyon streets, thence along Lombard to Gough street, along Gough street to Vallejo street, along Vallejo street to Franklin street, along Franklin street to Oak street, along Oak street to Market street and across Market street to Eleventh street, along Eleventh street to Division street, along Division street as widened to Potrero avenue, along Potrero avenue to Fifteenth street, along Fifteenth street to Eighth street, along Eighth street to Sixteenth street, along Sixteenth street to Sixth street, along Sixth street to Tennessee street, along Tennessee street to Twenty-second street and along Twenty-second street to a termination at Illinois street.

The cross-town road has been projected as an overhead trolley electric system, with iron poles from the Presidio to Potrero avenue and Fifteenth street and wooden poles the rest of the distance.

A branch from the main conduit system would be carried along Second street from Market street to Townsend street and westerly on Townsend street one block to Third street. This branch would also be a conduit road.

The adoption of the main line as above suggested would require the placing of a new track upon each side of the two tracks now on Market street from Fell street to Sutter, and the reconstruction of the tracks now used by the North Beach and Mission Railroad Company and by the Sutter Street Railway Company.

A special design for this reconstruction is necessary on account of the difference in gauge between the Geary Street and the Sutter Street roads. The former has a gauge of 4 feet 8½ inches, the latter 5 feet. The common use of a track by all these roads would require a double rail on one side thereof.

The additional rails on Market street are, of course, an undesirable feature of this project, but the type of rail adopted, with flat top and groove for wheel flange, will minimize vehicle traffic along the rail and will leave the street surface almost as smooth as without the additional tracks.

The widening of Division street from Eleventh street to Tenth and Brannan streets would be a valuable improvement to the City, even if the electric road be not constructed. It is proposed to add 60 feet to the present width of the street, making it 110 feet wide and a convenient line of approach to Potrero avenue and also opening the junction of Brannan street and Tenth street with Potrero avenue to the full width of each of these streets.

An alternate location of the electric road in this vicinity would be from Division street southerly into Hampshire street, along Hampshire street to Fifteenth street; thence as shown in the drawings and referred to as "Project A." This would leave Potrero avenue entirely free from car tracks. This location, if adopted, would not alter the cost estimates.

In operation it is proposed to send cars from the foot of Market street alternately out Geary and out Market and Fell streets, each car to travel over the entire loop without reversing, returning to the Ferry Building along Market street, if it went out Geary, and by way of Geary street, if it went out Market and Fell streets. The branch road to the Southern Pacific station at Third and Townsend streets will require a transfer of passengers at Market street.

To avoid the crowding of too many tracks on a comparatively narrow street, it is suggested that the track from Tenth avenue to Stanyan street be located just inside the northern line of the Park, where it can be made as accessible and convenient to the public as though it were outside of the Park line. This location will be of advantage to Park visitors, and will not in any manner interfere with any Park features nor will it mar its beauty.

It will, in fact, amount to nothing more than would a widening of the roadway of Fulton street for a distance of about three-quarters of a mile.

The location of the proposed track system will make it necessary to acquire some private property along the south side of Division street from Eleventh street to Potrero avenue and at Potrero avenue and Division street for an extension at full width of Tenth street to Potrero avenue. It will also be desirable to raise grades on Gough street at Green and at Filbert street, three feet in each case.

Land will be required for a centrally located office building and near the Park and near the Presidio for car houses.

The power house should be located near the water front. It is proposed to place it upon land already owned by the City just west of Fillmore street, between Tonquin and Lewis streets. Some filling will there be required, and it will be necessary to build a wharf for the landing of fuel, machinery and material. This power house location will be directly opposite the location heretofore selected for a generating station of a municipal electric light plant.

Mr. Stut has very carefully examined the question of economy in the matter of operating the road either with current delivered direct to the conductors from the generating station, or with current sent at a high voltage to a centrally located transformer station. The first cost is greater for a system operated at low voltage from the power station, but cost of operation is so much greater if transformers are used that it more than offsets the increased interest account.

It was found that the annual saving would be between \$4,000 and \$5,000. The idea of introducing a transformer station located somewhere near the center of gravity of power consumption was, therefore, abandoned.

The power house is to be equipped with the most modern machinery and appliances.

Two vertical compound condensing engines, each rated at 1100 H. P. for most economical part of cut-off, will be provided. These will have a capacity of 1500 H. P. each when required. Each engine will drive one 500 and one 300 kilo watt compound wound railroad generator, direct connected, the large generator supplying current to the main system, the other to the cross-town system.

One of these engines will ordinarily do the work required. A third engine rated at 500 H. P. for the most economical part of the cut-off, capable of an increase to 750 H. P., is also to be provided, and at times of heavy loads will assist the larger engine through two generators, one of 250 K. W. for the main system, one of 150 K. W. for the cross-town system.

The power house and car houses are to be well built of brick. Steam for the engines in the power house will be furnished by six 200 H. P. boilers, installed with economizers and heaters.

The installation is to be adapted for the use of either oil or coal as fuel. Oil will, at the ruling prices, be the economical fuel.

The project, which has been illustrated by plans, is based on the assumption that on account of lesser first cost an electric railway with overhead trolley will be preferred for the cross-town line. The district near the Potrero traversed by the proposed road is still in such unimproved condition, and, in part, affords so unstable a foundation for a roadbed, that for at least the southerly portion of this cross-town road the overhead conductors will be necessary.

Should it be desired, however, to have no poles erected in the well built up central and northern sections of the City traversed by this line, then the cost estimate must be increased, as herein below indicated.

It has been assumed that the roadbed near the lower end of Market street would require pile support.

Mr. Stut has collected valuable material relating to the street railway systems of Washington and New York.

In the former City, there are at present 37.70 miles of double track road operated on the conduit electric system, all overhead conductor wires having been removed and roads converted into conduit roads. The Washington roads are all owned by private corporations.

In New York nearly all the surface street railways southward of 135th street are being operated as, or are being converted into conduit electric roads. There are 73 miles of double track conduit road already in operation in this portion of the city. In New York also the roads are owned by private corporations.

Based upon the experience gained by the Eastern cities in which conduit electric roads are in use, it appears that, owing to large cost of roadbed construction, and consequent large interest account, the conduit system can not be made profitable except in districts where the road will be well patronized. The cost of operation per car mile, apart from the interest account, however, appears less for the electric than for either cable or horse car roads, no matter which electric system is considered.

As between the overhead system and the conduit electric system, it is natural for private corporations to prefer the overhead trolley system on account of the first cost of roadbed construction, which is more than twice as great for the conduit system. The conduit system leaves the street open with the view unobstructed by poles, conductor, feed, guard and supporting wires, and without the menace to the public, and especially to the firemen, always inherent in the bare overhead electric conductor.

The conduit electric system cannot be introduced without recourse to certain patented devices. Allowance for the cost of these has been made in the estimate, and a reliable electric company is prepared to and will insure any purchaser of such apparatus against any possible loss or expense by reason of adverse claims.

“Project A,” as illustrated on the accompanying maps and diagrams, will include:

Geary street converted roadbed.....	3.33 miles	
New conduit road.....	6.57 miles	
Overhead trolley road.....	5.74 miles	
	<hr/>	
Total length.....		15.64 miles

“PROJECT A.”

The estimated cost of this project is:

Geary street conversion and new conduit system, all complete, with Falk welded joints, switches, etc.	\$855,330 00	
Cross-town overhead trolley system, all complete, with Falk welded joints, switches, etc.....	338,030 00	
Ducts for feed cables.....	52,140 00	
Lead-covered insulated copper cables.....	423,650 00	
Power house, car houses, wharf, coal bunkers, oil tanks and office building.....	160,000 00	
Engines, boilers, electrical machinery, machine tools, etc.....	196,500 00	
Seventy-five cars, double enders, 28 feet long, with full electrical equipment.....	221,250 00	
Removal of gas and water pipes, conduits, etc., and removal of old track from Fifth avenue....	100,000 00	
Add for contingencies, engineering, etc., 10 per cent.	234,700 00	
Add for loss of interest during construction 3½ per cent. on \$3,000,000.....	105,000 00	
	<hr/>	
		\$2,686,600 00
Purchase of land and damages due to grade changes		80,000 00
		<hr/>
Total		\$2,766,600 00

PROJECT B.

The estimated cost for a City electric road system as above outlined, but with conduit substituted for the trolley from the Presidio to Potrero avenue and Fifteenth street is..... \$3,043,800 00

PROJECT C.

The estimated cost with conduit lines as under Project A, but with the cross-town line extending westerly on Vallejo street to Pierce, northerly on Pierce to Chestnut and westerly on Chestnut to the Presidio is..... \$2,770,400 00

PROJECT D.

The estimated cost, with track location as outlined under Project C, but with conduit substituted for the trolley from the Presidio to Potrero Avenue and 15th street is..... \$3,052,000 00

PROJECT E.

The estimated cost with track location of the conduit system as proposed under Project A, but with the trolley system commencing on Pierce street at Francisco street, thence along Pierce street to Vallejo street, along Vallejo street to Gough, thence as under Project A \$2,645,000 00

PROJECT F.

The estimated cost with location as described under project E, but with conduit substituted for the trolley from the terminal on Pierce street at Francisco street to Potrero avenue at 15th street is..... \$2,997,300 00

In the above estimates, it is assumed that where streets are not yet graded that grading will be done by property owners. Should a part of this expense fall upon the City, the additional outlay will be small and is covered by the allowance for contingencies.

The foregoing cost estimate is based upon ruling prices of labor and materials: Steel rails at \$53.00 per ton, steel slot rails at \$53.50 per ton, steel conductor rails at \$73.00 per ton, and 3½ cents per pound for steel yokes.

Extensions of this road system, may, in the future, become desirable. Those which at once suggest themselves are the following:

Along C street from 10th Avenue to the Ocean Beach. This extension should, however, be deferred until C street has been graded, and the drifting of sand has been checked.

Under Projects A, B, C or D, along Devisadero or Baker street from Lombard or from Chestnut to Jefferson or Tonquin streets, and thence westerly into the Presidio to any point desired by the U. S. Authorities. This extension, on account of the manufacturing interests at the water front and on account of the attractions offered to the public at Harbor View would seem to be one that might well be provided for, in lieu of a line on Lombard or Chestnut street to the Presidio and has led to the suggestion of Projects E and F.

Under Projects E or F, along Pierce to Jefferson or some other convenient east and west street near the northern water front, and thence westerly to and into the Presidio. This location is not immediately practicable because a considerable portion of this extension follows streets now under water.

Under any of the above enumerated projects southerly along Potrero Avenue or along Hampshire street to 25th street.

As another possible branch road for future consideration, a line along Mission street and West Mission to 15th street, easterly on 15th street to Capp street; southerly on Capp street to 23rd street, westerly on 23rd street to Chattanooga street, southerly on Chattanooga street to 24th street, westerly on 24th street to Church street and southerly on Church street to 30th street, may be suggested.

The cost of operation has been carefully determined and the several items of expense are enumerated in the report of the consulting engineer.

Exclusive of damages, which is an item necessarily indeterminate, the cost of operation per year is estimated at.....	\$314,390 00
Add to this interest on an investment of \$3,000,000 at 3½ per cent per annum.....	105,000 00
Total	<u>\$419,390 00</u>

This is on the basis of oil as fuel, at 80 cents per barrel delivered at the oil tank. With coal at \$6.00 per ton delivered at the wharf, the annual cost of operation would be increased by \$15,040.

The above estimate includes motormen and conductors for 50 cars.

For 40 cars running 20 hours per day, the cost per car mile will be about 13.70 cents, and for 50 cars about 12 cents.

The report of the consulting engineer, Mr. Stut, is to be considered a part hereof and his conclusions are concurred in. His report and the plans and drawings prepared by him and below enumerated will be transmitted as soon as duplicated. These are as follows:

One map of the City of Washington, D. C., showing the Conduit System of that City.

One map of the City of New York, showing approximately the Conduit Electric lines in that City.

Sheet No. 1.—City Electric Railway, Geary Street System; showing proposed Conduit and Trolley Systems. Forty cars are shown on track at five minutes headway.

Sheet No. 2.—City Electric Railway, Geary Street System; showing poles required for Trolley System and the feeder cables for the Whole System.

Sheet No. 3, Figure 1.—Cross section of Geary Street Conduit and Track.

Sheet No. 3, Figure 2.—Cross section of New Conduit and Track.

Sheet No. 3, Figure 3.—Cross section of New Conduit and Track, in combination with 5-foot gauge horse car track.

Sheet No. 3, Figure 4.—Cross section and Plan of Tracks, showing sewer connection.

Sheet No. 3, Figure 5.—Cross section of Conduit and Tracks, in combination with man-hole to feeder cable ducts.

Sheet No. 4.—Ferry Terminal.

Sheet No. 5.—Junction of tracks at Market and Geary streets, and at Oak, Market and Eleventh streets.

Sheet No. 6.—Junction of tracks at Fell and Market streets.

Sheet No. 7.—Location of tracks on Division street at Eleventh street and at Potrero Avenue.

Sheet No. 8, Figure 1.—Plan of track, with man-holes.

Sheet No. 8, Figure 2.—Plan of track and sewer man-holes.

Sheet No. 8, Figure 3.—Plan of track and duct man-holes.

Sheet No. 9.—Electric Plow as used at present in Washington, D. C.

Sheet No. 10.—Insulator for the City Conduit System.

Sheet No. 11.—Car as proposed for the City Electric System.

Sheet No. 12, Figure 1.—Cross section of track, showing feeder cable connection with conductor rails.

Sheet No. 12, Figure 2.—Pile, concrete pier, supports for combination track in lower Market street.

Sheet No. 13.—Track construction in New York by Metropolitan Street Railway Company.

The difference in cost per mile of conduit and trolley Electric roads will enable

an approximation of the cost of establishing the proposed Geary Street System, as an electric road with overhead trolley throughout, which information was also asked for under Resolution No. 1384 by the Board of Supervisors.

It is foreseen that a trolley road in the proposed location, notably on Market street, would be entirely out of the question. The plans for such a system and a careful estimate of cost which would have required some additional time, have not, therefore, been made, and further instructions will be awaited before undertaking them.

Very respectfully,

C. E. GRUNSKY, City Engineer.

San Francisco, Cal., October 25, 1901.

There was filed in the Clerk's office of the Board of Supervisors on November 7, 1901, the following communication from the Board of Public Works, enclosing a report by J. C. H. Stut, Consulting Mechanical Engineer, on the proposed conversion of the Geary Street Road into a City Electric System.

COMMUNICATION FROM THE BOARD OF PUBLIC WORKS.

November 7th, 1901.

To the Honorable James D. Phelan, Mayor
Of the City and County of San Francisco—

Sir: This Board respectfully transmits herewith a copy of the report of Mr. J. C. H. Stut, Consulting Mechanical Engineer, on the proposed conversion of the Geary Street Road into a City Electric System.

Very respectfully,

BOARD OF PUBLIC WORKS,

By J. LEO PARK, Secretary.

REPORT ON THE CONVERSION OF THE GEARY STREET CABLE RAILROAD INTO A CONDUIT ELECTRIC ROAD WITH EXTENSIONS, COMBINED WITH AN OVERHEAD TROLLEY SYSTEM.

Mr. C. E. Grunsky, City Engineer, San Francisco—

Dear Sir: I beg leave to submit to you the following report in relation to the investigation of converting the present Geary Street Cable Road into a Conduit Electric Road, with extensions of the present road, both as to Conduit and Overhead Trolley Roads:

As per agreement with you, this investigation of conversion of the present road into an electric road would include not alone the mechanical feasibility of such conversion, but also an extension of the present route as a Conduit System in connection with an Overhead Trolley Line, selecting also a power plant for the same and making an estimate of cost for conversion, extension, overhead trolley roads, power plant, car houses and road equipment, and operating expenses connected with such a system.

As there are no Conduit Electric Systems in successful operation on this side of the Continent, it became apparent that it would be necessary in order to form a correct and reliable opinion about them as to first cost and operating expenses to make a tour of investigation to some Eastern Cities of the United States where such roads have been in successful operation for a number of years.

This course was adopted, and through your courtesy I received several letters

of introduction from his Honor Mayor Phelan to Mayors and other prominent people in those Eastern cities that have this conduit system in operation.

In the month of July, 1901, I started on my tour of investigation, and visited Washington, New York and Chicago. I soon found that Washington and New York are the only two cities where this conduit system is in successful operation, hence my investigations were confined principally to them.

SHORT HISTORY OF THE CONDUIT SYSTEM.

In this connection it might be interesting to note that several other cities in the United States have had at one time or another a conduit electric railroad, but that all such cities except Washington and New York have abandoned this system.

Several years ago San Jose, California, had such a conduit electric road, but it was not a success. For Denver, Colorado, and for Cleveland, Ohio, failures with this system are also to be noted. Chicago spent a good deal of money on this system, but without success. But this latter city is now investigating the latest conduit system again and probably will adopt it in the near future. This information was received from Chicago city authorities.

From 1888 to 1889 the City of Boston tried the conduit electric system very thoroughly, but abandoned its use entirely.

It is probably safe to say that, had it not been for the stubborn and persistent refusal of the municipal authorities of the cities of Washington and New York to consider any form of electric traction which contemplated the use of overhead wires, we should have had few experiments in the line of conduit electric construction after the disastrous failure on the West End Road in Boston.

A conduit electric road has been in very successful operation in Buda Pesth, Hungary, Europe, since 1889. This being known here, American engineers were sent there to study the system, with a view of its adaptation to American conditions. The result was that in the two above-named cities, where the use of the overhead trolley had been prohibited, lines with this conduit system were built under such modification as suited local conditions. One main difference introduced here relates to the position of the slot. The Buda Pesth road has the slot for the conduit in one rail, whereas the roads in the United States have the slot in the middle between the rails; in fact, there is no difference in appearance between a cable road and a conduit electric road except that the electric road has more man-holes along this slot. The first roads were necessarily more or less experimental.

After these experimental roads had been in operation in the two named cities for some time, it was found that the mechanical and electrical difficulties that had attended the earlier experiments could be overcome, that the people preferred this mode of traction to the cable and the operating expenses were moderate, therefore further effort was made to improve the details of construction. In Washington, as well as in New York, the first experimental roads (built on the so-called Love system) have been abandoned, and now the systems in the two cities are practically the same, viz: two solid iron or steel bars fastened by well-supported insulators alongside the slot in the conduit beneath the surface of the street (one on each side of the slot). These bars are about 6 inches apart in the conduit and carry the electric current, one the positive and the other the negative current. The poles from the electric generator are connected directly to these bars, thus forming a solid metallic circuit. The motor car carries what is called a plow. This is hung from the motor car and reaches through the slot down between the two conductor rails in the conduit, similar to a cable grip. This plow carries at its lower end (see sheet No. 9 and small blue print No. 242) two steel springs, to which are fixed cast-iron shoes, in shape resembling a large spoon bowl. The shoes slide along the conductor bars and take the current from the bars to the shoes; from the shoes insulated copper wires lead to the motor. The path of the

current is from the positive bar to a cast-iron shoe; thence along the insulated wire to the motor, through the motor to the wire on the opposite side of the plow to the negative shoe and negative conductor bar.

The abandoned "Love system" had first two insulated copper wires and afterwards two insulated copper bars in the conduit. The current to the motor car was taken by means of an underground trolley, having wheels, but it was soon found that this arrangement was more or less weak in construction and liable to break and get out of order, hence was abandoned, and the above-named plow system was adopted, both in Washington and New York. This system seems to give satisfaction to the people, as to speed, cleanliness and flexibility of operation. All the obstructions of poles, wires, etc., in the street are entirely abandoned, as everything connected with the supply of electricity to the road is conducted underground. As far as the railroad companies themselves are concerned, I have endeavored to collect from them and from other sources such data as would throw light on the subject of their income and expense accounts. This large collection of data I submit herewith to your careful consideration.

WASHINGTON, D. C.

All street railway lines in the city of Washington and District of Columbia are under the direct supervision of Congress, and none of them can effect a change of motive power without a special act. An act of Congress that became law on August 2, 1894, prohibits the use of overhead wires for the operation of any of the street railway lines within the city limits.

The result of this is that there is not a single overhead trolley line in the city of Washington. A few years ago a large cable road station burned down; since then the cable road system operated from this station has been converted into a conduit electric road, and with this all cable roads in Washington became a thing of the past.

There are only three street railroad companies now operating in Washington. One of these companies has only a small amount of conduit road in the city. The Capitol Traction Company and the Metropolitan Railroad Company are the principal street railway corporations in that city.

By both of these companies I was very cordially received. From them and from personal friends in Washington, and also from the Engineer Commissioner of the District of Columbia, to whom I had a letter of introduction from his Honor the Mayor, I gathered a good deal of information. The accompanying map of Washington will show you the extent of the conduit system of roads in that city.

CAPITOL TRACTION COMPANY.

As below presented will be found some extracts from the Treasurer's report of 1900 and other data that I have collected for your information. These figures give the receipts and disbursements for the conduit and overhead system separate. As will be seen, the cost of operation of the underground system is 41.95 per cent. of the passenger receipts. Passengers receive six tickets for twenty-five cents. The company seems to keep all the rolling-stock, power-house and equipments in first-class condition. This company owned the cable plant that burned down, as above stated. Before this fire the stock of this company sold for about \$60 a share; after the fire it dropped to \$40, and now sells for over \$100 a share, as a result of better service and increase of travel with the conduit electric road. The speed of the cars is limited to twelve miles an hour, but in my opinion is somewhat faster than this.

This company made its first run with the conduit system on August 20, 1896, and has been in continuous operation since.

CONDUIT SYSTEM.

This company controls 12.76 miles of double track and 0.10 miles of single track conduit road. Cost of operation is 41.95 per cent. of the passenger receipts.

TREASURER'S ANNUAL REPORT FOR 1900.

RECEIPTS.

	AMOUNT.	TOTAL.
Passenger receipts.....	\$1,085,613 81	
Advertising	9,999 96	
Miscellaneous income.....	3,511 66	
Rent of land and buildings.....	3,495 31	
Mail	2,582 78	
Track rentals.....	200 00	
		1,105,403 52

DISBURSEMENTS.

	AMOUNT.	TOTAL.
MAINTENANCE OF WAY AND STRUCTURES—		
Repairs and renewals of track and roadway construction	\$14,118 88	
Repairs and renewals of electrical line construction	2,870 88	
Repairs and renewals of buildings and improvements	3,417 10	
		\$20,406 84
MAINTENANCE OF EQUIPMENT—		
Repairs and renewals of steam plant.....	2,335 19	
Repairs and renewals of electrical plant.....	306 17	
Repairs and renewals of cars.....	31,633 83	
Repairs and renewals of electrical car equipment..	12,713 33	
Renewals of horse and vehicles equipment.....	81 44	
Repairs and renewals of miscellaneous equipment.	35 36	
Repairs and renewals of shop tools and machinery	3,550 54	
		50,655 86
CONDUCTING TRANSPORTATION—		
OPERATION OF POWER PLANT—		
Power plant wages and superintendence.....	10,693 48	
Fuel for power.....	33,407 67	
Water for power.....	15 93	
Lubricants and waste for power plant.....	2,529 72	
Miscellaneous supplies and expenses of power plant	156 71	
		46,803 51

GEARY STREET SYSTEM.

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DISBURSEMENTS.—Continued.

	AMOUNT.	TOTAL.
CAR SERVICE—		
Superintendence of transportation.....	\$7,777 93	
Wages of conductors and motor men.....	108,605 63	
Wages of other car service employees.....	7,931 97	
Wages of car house employees.....	13,963 84	
Car and motor supplies.....	2,762 01	
Miscellaneous transportation expense.....	10,472 48	
Cleaning, watering and sanding track.....	1,980 35	
Removing snow and ice.....	493 63	
		\$243,987 84
GENERAL EXPENSES—		
Salaries of general officers.....	27,880 00	
Salaries of clerks.....	18,368 35	
Printing and stationery.....	2,134 51	
Miscellaneous office expenses.....	2,042 74	
General stable expenses.....	2,456 95	
Miscellaneous general expenses.....	9,802 22	
Legal expenses.....	11,557 72	
Injuries and damages.....	15,594 56	
Insurance	3,747 93	
		93,084 98
Balance December 31st.....		455,439 03
		649,964 49
		1,105,403 52

OVERHEAD SYSTEM.

RECEIPTS.

	AMOUNT.	TOTAL.
Passenger receipts.....	\$51,060 65	
Freight	854 60	
Rent of land and buildings.....	620 00	
Mail	272 92	
	\$52,808 17	
Balance December 31, 1900.....	21,007 00	
		\$73,815 17

DISBURSEMENTS.

	AMOUNT.	TOTAL.
MAINTENANCE OF WAY AND STRUCTURES—		
Repairs and renewals of track and roadway construction	\$11,144 87	
Repairs and renewals of electrical line construction	939 43	
Repairs and renewals of buildings and improvements	578 91	
		\$12,663 21
MAINTENANCE OF EQUIPMENT—		
Repairs and renewals of steam plant.....	504 18	
Repairs and renewals of electrical plant.....	584 89	
Repairs and renewals of cars.....	3,558 72	
Repairs and renewals of electrical car equipment..	2,800 94	
Repairs and renewals of miscellaneous equipment.	5 65	
Repairs and renewals of shop tools and machinery	16 97	
		\$7,471 35
CONDUCTING TRANSPORTATION—		
OPERATION OF POWER PLANT—		
Power plant wages and superintendence.....	3,043 98	
Fuel for power.....	8,260 65	
Lubricants and waste for power plant.....	184 20	
		\$11,488 80
CAR SERVICE—		
Superintendence of transportation.....	2,184 20	
Wages of conductors and motor men.....	20,120 20	
Wages of freight and mail employees.....	830 15	
Wages of other car service employees.....	994 95	
Wages of car house employees.....	1,251 29	
Car and motor supplies.....	165 94	
Miscellaneous transportation expense.....	34 94	
Cleaning, watering and sanding track.....	13 00	
Removing snow and ice.....	124 57	
		\$25,719 24
GENERAL EXPENSES—		
Salaries of clerks.....	\$1,374 40	
Printing and stationery.....	12 50	
Advertising and expense of park properties.....	10,325 99	
Miscellaneous general expense.....	240 00	
Legal expense	99 90	
Injuries and damages.....	2,405 50	
Insurance	1,307 22	
Taxes	219 56	
Tax for special police.....	487 50	
		\$16,472 57
		\$73,815 17

SUMMARY.

1. The company has a funded debt of \$1,080,000.
2. Total cost of road and equipment, including real estate, \$13,080,000.
3. Length of road, 35.96 miles of single or 17.98 miles of double track. (Conduit and trolley.)
4. Weight of rails; City lines; 95, 86 and 80 pounds per yard; suburban lines, 50 pounds per yard.
5. Number of cars: Passenger, 526; mail, 2; snow-sweepers, 5, and sand-cars, 3; total, 536.
6. Number of electric motors on hand, 433.
7. Number of passengers carried in 1900, 26,165,389.
8. Running time Georgetown to navy-yard, 35 minutes; Mount Pleasant to Baltimore and Ohio Station, 27 minutes; power-house to Rock Creek bridge (Seventh street line), 32 minutes; power-house to Rock Creek Bridge (Chevy Chase line), 27 minutes.
9. Total operating expenses, exclusive of interest and taxes, \$528,547 14.
10. The company has a paid-up capital stock of \$12,000,000, the shares of which are selling at par.

METROPOLITAN RAILROAD COMPANY.

This company controls and operates all the roads as below enumerated.

From the following data can be seen the receipts and disbursements of these different roads.

This company was the first in Washington to adopt the conduit system on the Ninth street line, in the year 1895; it has all its roads in the city converted now to the conduit system.

The Vice-President of this company informed me that he considered the operating expenses of the cable road about 66 per cent of the income and the operating expenses for the electric conduit about 50 per cent. of the same, or about 16 per cent. in favor of the conduit. Cost of operation per car mile he estimated at from 12½ cents to 13 cents.

METROPOLITAN RAILROAD COMPANY, WASHINGTON, D. C.

This company owns the following-named street railroads in the city of Washington:

	TRACKS IN USE, OWNED BY COMPANY.		
	UNDERGROUND ELECTRIC.		OVERHEAD ELECTRIC.
	Double Miles.	Single Miles.	Double Miles.
Metropolitan Railroad.....	9.31	3.98	
Columbia Railway.....	2.77		4.12
City and Suburban Railway of Washington.....	4.06	2.36	5.58
Brightwood Railway			5.93
Georgetown and Tannallytown Railway.....			4.16
Anacostia and Potomac River Railroad.....	6.52		1.46
Washington and Great Falls Electric Railway....			3.88
Washington and Glen Echo Railroad.....			.10
Total	22.66	6.34	25.23

2. Extract from the annual report of the Electric Department of the District of Columbia, for the fiscal year ending June 30, 1900.

"The past year has marked great activity in street railroads. All the operating lines, except those of the Capitol Traction Company, the Washington, Alexandria and Mount Vernon Railway Company and the Baltimore and Washington Transit Company, having been secured by a syndicate and brought under one management. All horsecar lines have been abandoned and rebuilt as underground electric. The cable system of the Columbia Railway Company was changed to underground electric. This railway company also built a new line of overhead trolley from the terminus of the underground section to the District line. The overhead portions of the Capital Railway, the Georgetown and Tannallytown Railway, the Brightwood Railway and the Washington and Great Falls Railway companies have been rebuilt.

"Recognizing the fact that the Commissioners will soon obtain the desired authority to compel all single overhead trolley lines to change to the double trolley system, the respective companies rebuilt their lines on the latter plan. The charter of the Columbia Railway Company required this system, and together with the Capital Railway Company now operates its overhead lines as a complete non-grounded metallic circuit system. The new construction is of the latest and most approved design and has been installed in a most substantial manner."

3. The following are extracts from reports for the year ending December 31, 1900:

METROPOLITAN RAILROAD COMPANY.

	AMOUNT,	TOTAL.
Amount of capital stock paid in.....	\$984,920 00	
Total amount now of funded debt.....	2,351,000 00	
Amount of floating debt.....	None	
The average rate per annum of interest on funded debt, 5 and 6 per cent.....		
Amount of dividends declared.....	98,777 25	
Dividends declared, rate per cent 9.9.....		
Total cost of road and equipment.....	3,633,951 10	
Length of road, miles.....	11.335	
Length of double track, including sidings.....	11.335	
Weight of rail by yard—		
Girder, pounds.....	83	
Slot, pounds.....	67	
Cars	383	
Horses	13	
Number of motors.....	507	
Total number of passengers carried in cars.....	25,161,907	
The average time consumed by passenger cars in passing over the road—		
Connecticut avenue line.....	26 minutes	
Ninth street line.....	27 minutes	
Georgetown line.....	40 minutes	
Total cost of maintaining road and real estate.....	\$25,157 31	
Cost of general superintendence, salaries of offi- cers, clerks, agents, and office expenses.....	26,902 41	
Wages paid conductors, drivers, engineers and motor men	222,001 44	
Water and other taxes.....	59,056 75	
Damages to persons and property, including medi- cal attendance	35,067 37	
Rents, including use of other roads.....	795 63	
Total expense of operating roads and repairs.....	431,982 30	
Receipts from passengers.....	761,626 48	
Receipts from chartered cars.....	752 50	
Receipts from mail.....	4,772 27	
Receipts from advertising.....	6,499 92	
Receipts from rents.....	4,846 86	
Receipts from interest.....	19,335 15	
Total receipts from all sources during the year....	797,833 18	
Payments for maintenance and repairs.....	99,091 93	
Payments for interest.....	122,617 30	
Payments for dividends on stock.....	58,994 75	
Total payments during the year.....	1,081,700 39	

ANACOSTIA AND POTOMAC RIVER RAILROAD COMPANY.

	AMOUNT.	TOTAL.
The amount of capital stock paid in.....	\$1,993,750 00	
The total amount now of funded debt.....	2,250,000 00	
The amount of floating debt.....	None	
The average rate per annum of interest on funded debt, 5 per cent.....		
Amount of dividends declared.....	None	
Total cost of road and equipment.....	4,154,465 55	
Length of road in miles.....	15.525	
Length of double track, including sidings, miles..	13.545	
Weight of rail, by yard, 62 to 83 pounds.		
Number of cars and horses: 45 cars, 2 horses.		
Number of motors, 70.		
The total number of passengers carried in cars...	6,317,150	
The average time consumed by passenger cars in passing over the road:		
Eleventh street line.....41 minutes		
Fourth street line.....32 minutes		
Congress Heights .....10 minutes		
Total cost of maintaining road and real estate....		
Cost of general superintendence, salaries of officers, clerks, agents, and office expenses.....	\$5,290 05	
Wages paid conductors, drivers, engineers and motor men	7,286 64	
Water and other taxes.....	5,474 57	
Damages to persons and property, including medical attendance	3,330 44	
Rents, including use of other roads.....	5,114 40	
Total expenses of operating roads and repairs.....	158,470 69	
Receipts from passengers.....	194,428 66	
Receipts from chartered cars.....	10 00	
Receipts from mail.....	181 67	
Receipts from advertising.....	908 34	
Receipts from rent.....	1,666 44	
Total receipts from all sources during the year....	197,195 11	
Payments for maintenance and repairs.....	22,309 47	
Payments for interest.....	56,314 59	
Payments for dividends on stock, amount and rate per cent	None	
Total payments during the year.....	842,322 83	

CITY AND SUBURBAN RAILWAY OF WASHINGTON.

	AMOUNT.	TOTAL.
The amount of capital stock paid in.....	\$1,749,170 00	
The total amount now of funded debt.....	1,750,000 00	
The amount of floating debt.....	193,229 29	
The average rate per annum of interest on funded debt—5 per cent.....		
Amount of dividends declared.....	None	
Total cost of road and equipment.....	3,559,067 36	
Length of road in miles:		
In District	11.31	
In Maryland	4.59	
		15.90
Length of double track, including sidings:		
In District	11.31	
In Maryland	4.59	
		15.90
Weight of rail, by yard, 62 to 95 pounds.		
Number of cars and horses: 55 cars, 3 horses.		
The number of motors.....	146	
The total number of passengers carried in cars....	7,244,770	
The average time consumed by passenger cars in passing over the road:		
East Washington line.....	20 minutes	
North Capitol street line.....	28 minutes	
Maryland line	50 minutes	
Total cost of maintaining road and real estate....	\$9,413 92	
Cost of general superintendence, salaries of officers, clerks, agents, and office expenses.....	8,634 10	
Wages paid conductors, drivers, engineers and motor men	86,232 74	
Water and other taxes.....	9,254 96	
Damages to persons and property, including medical attendance	1,459 53	
Rents, including use of other roads.....	2,609 91	
Total expenses of operating road and repairs.....	197,342 06	
Receipts from passengers:		
In District	175,075 76	
In Maryland	56,870 02	
Receipts from chartered cars.....	115 00	
Receipts from mail.....	370 00	
Receipts from advertising.....	1,004 17	
Receipts from rents.....	2,493 33	
Total receipts from all sources during the year....	\$235,928 28	

CITY AND SUBURBAN RAILWAY OF WASHINGTON.—Continued.

	AMOUNT.	TOTAL.
Payments for maintenance and repairs.....	37,281 38	
Payments for interest.....	92,122 95	
Payments and dividends on stock, amount and rate per annum.....	None	
Total payments during the year.....	438,497 20	

COLUMBIA RAILWAY COMPANY.

	AMOUNT.	TOTAL.
Amount of capital stock paid in.....	\$400,000 00	
Total amount now of funded debt.....	1,000,000 00	
Amount of floating debt.....	None	
Average rate per annum of interest on funded debt, 5 and 6 per cent.		
Amount of dividends declared.....	24,000 00	
Dividends declared—rate per cent, 6.		
Total cost of road and equipment.....	1,422,517 91	
Length of road in miles.....	6.94	
Length of double track, including sidings.....	6.94	
Weight of rail, by yard: 67-pound slot, 85-pound T, 86-pound girder.		
Number of cars and horses: 62 cars, 3 horses.		
Number of motors.....	144	
Total number of passengers carried in cars.....	7,303,667	
The average time consumed by passenger cars in passing over the road, 31 minutes.		
Total cost of maintaining road and real estate.....	\$6,209 11	
Cost of general superintendence, salaries of offi- cers, clerks, agents, and office expenses.....	6,911 54	
Wages paid conductors, drivers, engineers and motor men	57,870 41	
Water and other taxes.....	12,415 34	
Damages to persons and property, including medi- cal attendance	11,039 22	

COLUMBIA RAILWAY COMPANY.—Continued.

	AMOUNT.	TOTAL.
Rents, including use of other roads.....	413 75	
Total expenses of operating road and repairs.....	109,583 47	
Receipts from passengers.....	210,087 82	
Receipts from freight.....	82 00	
Receipts from chartered cars.....	75 00	
Receipts from advertising.....	466 65	
Receipts from rents.....	1,961 78	
Receipts from interest.....	4,731 36	
Receipts from sale of old material.....	500 00	
Total receipts from all sources during the year....	217,904 61	
Payments for maintenance and repairs.....	20,719 89	
Payments for interest.....	55,242 78	
Payments for dividends on stock.....	18,000 00	
Total payments during the year.....	550,389 38	

GEORGETOWN AND TENNALLYTOWN RAILWAY COMPANY.

	AMOUNT.	TOTAL.
The amount of capital stock paid in—full paid.		
The total amount now of funded debt.....	\$100,000 00	
The amount of floating debt.....	183,308 59	
The average per annum of interest on funded debt,	6 per cent.	
Amount of dividends declared.....	None	
Total cost of road and equipment.....	\$433,036 30	
Length of road in miles.....	4.40	
Length of double track, including sidings.....	4.40	
Weight of rail, by yard: 70-pound T, 60 to 83 pound girder.		
The number of cars and horses: 6 cars, 1 horse.		
The number of motors.....	12	
The total number of passengers carried in cars....	1,007,497	

GEORGETOWN AND TENNALLYTOWN RAILWAY COMPANY.—Continued.

	AMOUNT	TOTAL.
The average time consumed by passing over the road, 23 minutes.		
Total cost of maintaining road and real estate.....	\$1,164 05	
Cost of general superintendence, salaries of officers, clerks, agents, and office expenses.....	1,813 10	
Wages paid conductors, drivers, engineers and motor men	13,636 78	
Water and other taxes.....	1,153 61	
Damages to persons and property, including medical attendance	2,302 35	
Rents, including use of other roads.....	91 17	
Total expense of operating roads and repairs.....	38,760 10	
Receipts from passengers.....	30,745 33	
Receipts from chartered cars.....	7 50	
Receipts from mail.....	335 77	
Receipts from freight.....	548 04	
Receipts from rents.....	85 82	
Total receipts from all sources during the year....	31,722 46	
Payments for maintenance and repairs.....	5,228 16	
Payments for interest.....	4,143 94	
Payments for dividends on stock.....	None.	
Total payments during the year.....	92,614 01	

BRIGHTWOOD RAILWAY COMPANY.

	AMOUNT.	TOTAL.
Amount of capital stock paid in.....	\$107,720 00	
Total amount now of funded debt.....	350,000 00	
Amount of floating debt.....	315,933 03	
Average rate per annum of interest on funded debt, 6 per cent.		
Amount of dividends declared.....	None	
Total cost of road and equipment.....	650,354 21	
Length of road, miles.....	5.95	
Length of double track, including sidings, miles..	5.95	

GEARY STREET SYSTEM.

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BRIGHTWOOD RAILWAY COMPANY.—Continued.

	AMOUNT.	TOTAL.
Weight of rail, by yard:		
T rail .....pounds	70	
Girder rail .....pounds	83	
Cars	26	
Horse	1	
Number of motors	18	
Total number of passengers carried in cars.....	1,798,233	
Average time consumed by passenger cars in passing over the road	25 minutes.	
Total cost of maintaining road and real estate....	\$1,174 68	
Cost of general superintendence, salaries of officers, clerks, agents, and office expenses.....	2,719 86	
Wages paid conductors, drivers, engineers and motor men	24,448 01	
Water and other taxes.....	2,408 48	
Damages to persons and property, including medical attendance	533 62	
Rents, including use of other roads.....	168 63	
Total expense of operating roads and repairs.....	\$55,234 27	
Receipts from passengers.....	53,680 47	
Receipts from mail.....	316 11	
Receipts from freight.....	.15	
Receipts from rent.....	223 30	
Total receipts from all sources during the year....	54,220 03	
Payments for maintenance and repairs.....	9,294 70	
Payments for interest.....	19,151 74	
Payments for dividends on stock, amount and rate per annum	None.	
Total payments during the year.....	\$161,761 54	

WASHINGTON AND GREAT FALLS ELECTRIC RAILWAY COMPANY.

	AMOUNT.	TOTAL.
The amount of capital stock paid in.....	\$86,800 00	
The total amount now of funded debt.....	400,000 00	
The amount of floating debt.....	264,851 51	
The average rate per annum of interest on funded debt, 6 per cent.		
Amount of dividends declared.....	None.	
Total cost of road and equipment.....	757,856 14	

WASHINGTON AND GREAT FALLS ELECTRIC RAILWAY COMPANY.—

Continued.

	AMOUNT.	TOTAL.
Length of road in miles:		
In District	3.88	
In Maryland	3.11	
		6.99
Length of double track, including sidings:		
In District	3.88	
In Maryland	3.11	
		6.99
Weight of rail, by yard: 58 pounds T, 60 pounds girder.		
The number of cars.....		22
The number of motors.....		34
The total number of passengers carried in cars:		
Maryland Division	965,775	
District Division	800,561	
		\$1,826,336
The average time consumed by passenger cars in passing over the road, 30 minutes.		
Total cost of maintaining road and real estate....	\$2,923	11
Cost of general superintendence, salaries of officers, clerks, agents, and office expenses.....	2,290	81
Wages paid conductors, drivers, engineers and motor men	\$13,444	60
Water and other taxes.....	1,065	06
Damages to persons and property, including medical attendance	4,374	98
Rents, including use of other roads.....	326	30
Total expense of operating roads and repairs.....	60,892	31
Receipts from passengers:		
District	\$30,297	02
Maryland	47,067	48
Receipts from chartered cars.....	122	50
Receipts from mail.....	399	70
Receipts from freight.....	10	81
Receipts from rents	763	99
Total receipts from all sources during the year....	78,961	50
Payments for maintenance and repairs.....	9,587	45
Payments for interest	4,745	97
Payments for dividends on stock.....	None	
Total payments during the year.....	181,885	23

SUMMARY FOR WASHINGTON CONDUIT ELECTRIC SYSTEM.

It will be seen by the tables and figures given above for the two main railroad companies in the city of Washington that the total mileage of track is:

Capitol Traction Company, single track.....	25.62
Metropolitan Railroad Company, single track.....	51.66
Washington, Alexandria and Mount Vernon Electric Railroad Company, single track.....	2.13
<hr/>	
This makes a total mileage of.....	79.41
And of double track.....	37.705

All of these roads are illustrated on the accompanying map of the city of Washington.

From information received, it would seem that the price for constructing a mile of double track of an electric conduit road in Washington is from \$85,000 to \$90,000. This, of course, is for Eastern prices of labor and material, and without any crossings, cross-overs, switches and removal of obstructions, as pipes, etc., below the surface of the street.

For an overhead trolley road, Eastern engineers consider half of the above figures a fair average as the cost of construction for a mile of double track.

NEW YORK.

From the city of Washington I extended my tour of investigation to the city of New York, where the conduit electric system is used very extensively by the Metropolitan Street Railroad Company of New York.

My letter of introduction to the Mayor of New York brought me in contact with the acting Mayor, Mr. Gugenheimer, of that city. By him I was very cordially received, and with a letter of introduction referred to the officers of the Metropolitan Street Railway Company of New York. After I had stated my mission to Mr. Pearson, the Chief Engineer of that company, he informed me very curtly that he would be quite willing to give information on the subject of their conduit electric roads to a private corporation, but he would not consider it proper to give such information to any municipality. After this very curt reply I asked his permission to visit the company's large power plant on 96th street and the East River; this he granted.

It is necessary to refer to this circumstance on account of the information presented in the following pages, as this was not obtained directly from the company itself, but from published reports and from parties in New York not in the employ of the above-named corporation, who had the kindness to help me to a good deal of information on the subject. The accompanying map of New York will show the extent of the conduit electric system in that city. All the red lines marked on this map south of 135th street are conduit electric. All the blue lines shown on the map are horse roads. A cross-town line, C. A., is a compressed-air line. And the two lines marked S. B. are storage battery lines. In the tables following will be found the approximate total mileage of conduit electric roads in the city of New York, together with the approximate mileage of the different named streets. This mileage is checked by parties in New York and is to be considered fairly correct.

The lines of the Metropolitan Street Railway Company run from end to end and side to side of Manhattan Island, covering an area about ten miles long and two miles wide.

The company controls also the Third Avenue Railroad Company and the Union Railway Company. Independent of the Metropolitan Company, the only urban transit system remaining in Manhattan Island is the elevated road system.

In 1895 the first conduit electric road was built in New York on 116th street, from Manhattan avenue to Lenox avenue and on Lenox avenue to 134th street. Since then conduit electric roads have been gradually extended, and even cable roads have been converted into conduit electric roads. At the time of my visit, several miles of street were broken up and a conduit electric road was being constructed. Everything was made very substantial, and, no doubt, all the latest improvements adopted for this class of roads. The accompanying small blue print (No. 242) gives a cross-section of track as being built now, of the latest and most approved design. Judging from present indications, it seems to be determined that all the long lines of street railways in New York are to be conduit electric roads, whereas most of the cross-town roads are still propelled by horse and will continue to for some time to come. This is principally due to the excessive first cost of the conduit electric system for a cross-town road in New York, because most of the water and gas pipes, conduits for telegraph, telephone lines, etc., run north and south along the main avenues. All of these would have to be cut or removed for a cross-town conduit system, as well as a crossing made for every avenue line. This would bring the total cost to such a figure that it is doubtful whether such an investment would pay, even in such a city as New York.

Hence they are still using horses, storage batteries and compressed air for most of the cross-town roads, as indicated on the accompanying map of that city.

I was informed by people who had to do with some of the conduit electric construction in that city, that the conversion alone of the Broadway cable line into a conduit electric road had cost the company more than \$50,000 per mile of double track.

What the average cost per mile of new road in New York would be, I was not able to learn.

TABLE SHOWING THE NUMBER OF FEET AND MILES OF ELECTRIC
CONDUIT ROAD IN OPERATION AT PRESENT IN NEW YORK CITY.

	FEET.	TOTAL.
Broadway, from South Ferry to Manhattan street.		45,700
Amsterdam avenue, from 59th st. to Fort George.		35,650
Columbus avenue, from 53d to 110th street.....	15,000	
Manhattan avenue, from 109th to 116th street.....	1,850	
		16,850
8th avenue, from Hudson to 135th street.....	38,450	
Hudson street, from Canal street to 8th avenue....	4,700	
Macombs lane, from 8th avenue to Harlem river...	1,600	
		44,750
Canal street, from Broadway to Hudson street.....		2,200
7th avenue, from 44th to 59th street.....		3,850
West Broadway, from Fulton to 4th street.....	7,500	
3d and 4th streets, from W. Broadway to 6th ave.	1,200	
6th avenue, from 3d to 59th street.....	14,200	
Lenox avenue, from 116th to 147th street.....	8,200	
		31,100
Church, from Battery place to Vesey street.....		3,000
Madison avenue, from 42d to 135th street.....		24,450
4th avenue, from Astor place to 42d street.....		9,000
Bowery, from Park row to Astor place.....		6,000
East of Broadway.....	?	
Division	?	
Lexington avenue, from 23d to 130th street.....		28,100
3d avenue, from 5th to 130th street.....		32,600
2d avenue, from 10th to 129th street.....	31,000	
Astor place and Stuyvesant street, from 2d avenue to Broadway	1,700	
		32,700
1st avenue, from 34th street to 42d street.....		2,100
129th and 130th streets, from 3d to Lexington ave.		760
125th street, from Harlem river to Manhattan st..	8,000	
125th street, from Amsterdam to Broadway.....	900	
Manhattan street, from 125th st. to Hudson river.	1,800	
		10,700
116th street, from Pleasant ave. to Manhattan ave.		7,400
109th st., from Manhattan ave. to Columbus ave..		500
95th and 94th streets.....	?	
East 86th st., from 2d ave. to Madison ave.....		2,250
59th street, from 1st to 10th avenue.....		7,200
53d street, from 7th to 9th avenue.....		1,800
50th street, from 6th to 7th avenue.....		850

TABLE SHOWING NUMBER OF FEET AND MILES OF ELECTRIC CONDUIT ROAD IN OPERATION AT PRESENT IN NEW YORK CITY.—Continued.

	FEET.	TOTAL.
40th street	?	
42d street, from East to North river.....		10,500
34th street, from East river to 2d avenue.....		1,100
23d street, from East to North river.....		10,950
Broome and Grand streets, from Bowery to Center		1,000
Fulton and Vesey streets, from Church to W.		373,060
Broadway		700
Center street, from Park row to Broome street....		3,700
Park row, from Broadway to Bowery.....		3,000
96th street, from 1st to 2d avenue.....		750
10th avenue, from 42d to 59th street.....		4,400
		12,550
Total.....	385,610 feet	
Single track	146.06 miles	
Double track	73 miles	

A THREE-YEAR COMPARISON OF CABLE, ELECTRIC AND HORSE TRACTION IN NEW YORK CITY.

It will be seen from the table herewith presented that there is little or no change in conditions on the cable lines during the three years. The car mileage is almost the same, and the gross receipts, the operating expenses and the net earnings are surprisingly alike. The net earnings per car mile, however, are on a slightly decreasing scale, the range being from 18 cents in 1898 to 17.10 in 1900.

The horse railway car mileage has decreased from 15,994,912 miles in 1898 to 9,812,031 miles in 1900. The gross receipts per car mile have shown little change, but there has been a steady fall in net receipts from 9.48 cents per car mile to 6.82 cents. Examination of the detailed report shows that this has been caused chiefly by an increase in the cost of provender and material due to the much higher prices of the last eighteen months.

It is, of course, in the electric system that the greatest changes have taken place. The car mileage has increased from 7,110,090 in 1898 to 24,968,196 in 1900. During the same period the total passenger receipts were increased from \$1,918,873, an average of 29.99 cents per car mile, to the enormous total of \$8,125,112, an average of 32.54 cents per car mile. The operating expenses have increased from 10.23 cents per car mile to 13.16 cents, but the net earnings (from passenger operation) have increased from 16.76 cents to 19.38 cents, a sum equal to the gross earnings of many roads and a very satisfactory showing.

Examination of the detailed operating expenses shows an increase in each year in the main divisions as follows:

	1898.	1899.	1900.
Maintenance of way .....	.33	.68	8.11
Maintenance of equipment .....	.83	1.17	.41
Power	1.70	1.77	1.99
Transportation	6.15	7.06	7.29
General expenses	1.22	1.27	1.66
Total	10.23	11.95	13.16

Some increase in these departments might readily have been expected because of the general condition of ageing of plant and equipment, but there are two other elements which must not be lost sight of in making these comparisons. The first is that prices on coal, iron, steel and other material have been constantly increasing during the last three years. The other is that the "electric-car mile" of 1900 is a very different thing from that of 1899 or 1898, due to the introduction, in the last two years, of longer cars, having much larger seating capacity. Such an increase in car capacity is inevitably felt more or less in every department of operation, and it is, on the whole, rather surprising that the increase in cost per car mile is not greater than is shown by the above figures.

The net (passenger) profits in 1900 of the three different motive powers applicable to interest and dividend payments are as follows:

	PER CAR MILE.	PERCENTAGE OF PROFITS TO GROSS RECEIPTS.
Electric	19.38	59.5
Cable	17 10	49 0
Horse	6.82	26 4

It may be stated as an interesting fact that the horse railway portion of the Metropolitan Street Railway system, as it exists to-day, is a heavy financial drag upon the mechanical system, and it may be readily inferred, not only how important it is that horse traction should be replaced by some improved form of motive power, but what a tremendous future increment of earning power will come to this company when its horse railway mileage, now nearly half the entire system, shall have been converted.

The great economy of the electric system over either cable or horses is but partly expressed by the accompanying tables and the above statements. The car mile unit is different in each case. The horse car will seat only sixteen to twenty passengers, the cable car about twenty-eight passengers, while nearly all the electric cars now in use will seat from thirty to fifty passengers. It will, therefore, be fairer in some respects to compare the three systems by the cost per passenger carried. This amounts to 2.02 cents for the electric cars, 2.55 cents for the cable cars (with greater density of travel than is found on any of the electric lines), and 3.67 cents for horse cars (with less average density of travel than on either cable or electric cars).

There is still another greater advantage of electricity over the cable or horse system which cannot be expressed by figures, but is none the less reflected in increased earnings of a system, both gross and net. The electric system is far more "flexible" than is the cable system; a given number of cars can give a much larger service to the public through their greater speed and the ability they have to make up lost time; paralysis of one or more complete lines or of the system is far less frequent than with the cable system; and, in short, a system can be handled from the operator's standpoint with far less friction and worry.

Taken as a whole, the Metropolitan system earned 31.62 cents per car mile in the year ending June 30, 1900, as against 29.70 cents in 1897, and its net profits from passenger operation were 16.13 cents, as against 13.87. The percentages of operating expenses for the three motive powers and for the entire system have been as follows during the past three years:

	1898.	1899.	1900.
Cable	47.8	50.8	51.0
Electric	37.9	38.3	40.5
Horse	65.3	69.8	73.6
Total	53.3	49.4	49.0

The figures given in the accompanying table are for passenger receipts and operation only, irrespective of other operating receipts, fixed charges, etc. It may be interesting to present herewith a complete financial statement of the operation of the Metropolitan system for the last three years. In this statement the receipts from sources other than passengers include receipts from advertising, dividends on stock of other companies held in the treasury, income from rental of offices in the power station and other buildings owned by the company, etc.; while the operating expenses shown here are slightly larger than those in the accompanying table because of items covering cost of caring for office building and other real estate and a few other small charges.

GENERAL OPERATING REPORT.

	1898.	1899.	1900.
Earnings from all sources	\$11,076,021	\$13,525,524	\$15,073,535
Operating expenses	5,620,484	6,408,711	7,104,607
Earnings from operation	5,455,537	7,116,813	7,968,928
Fixed charges	3,609,966	4,477,757	4,608,786
Surplus for dividends.....	1,845,571	2,639,056	3,360,160
Dividends paid (7 per cent).....	1,500,000	2,471,675	3,145,891
Surplus over dividends	345,570	167,381	214,269

The total number of passengers carried by the Metropolitan system in the year 1900 are:

Passengers carried including transfers.....	409,747,238
Number of transfers.....	136,172,021
Fare for each passenger.....	5 cents.

(See report herewith of receipts and expenses of the Metropolitan Street Railway Company of New York, for the years ending June 30, 1898, June 30, 1899, and June 30, 1900, showing the relative costs and profits of Cable, Electric and Horse Railway Operation.)

**RECEIPTS AND EXPENSES OF THE METROPOLITAN
FOR THE YEARS ENDING JUNE 30, 1898, JUNE 30, 1899, AND JUNE 30, 1900, SHOWING**

ITEMS—GENERAL EXHIBIT.	CABLE.					
	AMOUNT.			PER CAR MILE.		
	1898.	1899.	1900.	1898.	1899.	1900.
Total passenger receipts.....	\$4,130,225	\$3,690,615	\$3,698,672	34.42	35.43	34.86
Passenger operating expenses.....	1,970,486	1,874,422	1,884,723	16.42	18.00	17.76
Earnings from passenger operation.....	2,159,739	1,816,193	1,813,949	18.00	17.43	17.10
OPERATING EXPENSES IN DETAIL.						
MAINTENANCE OF WAY.						
Repairs roadbed—track, labor.....	\$41,447	\$44,894	\$37,630	.35	.43	.35
Repairs roadbed—material.....	6,673	4,685	10,111	.06	.05	.09
Repairs roadbed—steel rails.....	200	375	35	.....	.....	.....
Repairs roadbed—switches, castings, spikes, etc.....	10,108	17,227	14,666	.08	.17	.14
Repairs roadbed—ties and timber.....	287	14	75	.....	.....	.....
Repairs overhead and underground construction.....	80,787	82,411	88,582	.67	.79	.84
Renewals of cable.....	189,391	239,481	262,992	1.58	2.30	2.48
Tube cleaners.....	11,758	11,824	11,216	.10	.11	.11
Oilers.....	40,708	41,511	42,108	.34	.40	.40
Gearsmen and splicers.....	21,240	21,339	20,397	.18	.20	.19
Repairs of buildings.....	4,099	7,783	10,350	.03	.08	.10
Removal of snow and ice and street cleaning.....	15,328	17,045	14,968	.13	.16	.14
Total.....	\$422,027	\$468,590	\$513,061	3.54	4.69	4.84
MAINTENANCE OF EQUIPMENT.						
Repairs of cars and vehicles.....	\$68,768	\$78,174	\$63,403	.57	.75	.60
Repairs of electrical or cable equipment of cars.....	42,287	37,380	36,348	.35	.36	.34
Repairs of tools and machinery.....	1,714	1,974	1,053	.01	.02	.....
Total.....	\$112,770	\$117,528	\$100,804	.94	1.13	.94
POWER.						
Repairs of steam plant.....	\$15,147	\$19,396	\$23,558	.13	.19	.22
Repairs of electrical or cable plant.....	12,395	9,252	10,363	.10	.09	.10
Repairs of harness.....	458	219	110	.....	.....	.....

STREET RAILWAY COMPANY OF NEW YORK .
RELATIVE COSTS AND PROFITS OF CABLE, ELECTRIC AND HORSE RAILWAY OPERATIONS.

ELECTRIC.						HORSE.					
AMOUNT.			PER CAR MILE.			AMOUNT.			PER CAR MILE.		
1898.	1899.	1900.	1898.	1899.	1900.	1898.	1899.	1900.	1898.	1899.	1900.
\$1,918,873	\$6,043,538	\$8,125,112	26.99	31.23	32.54	\$4,375,597	\$3,085,559	\$2,531,822	27.35	25.72	25.80
727,406	2,312,682	3,286,544	10.23	11.95	13.16	2,858,235	2,154,969	1,862,766	17.87	17.96	18.98
1,191,467	3,730,856	4,838,568	16.76	19.28	19.38	1,517,362	930,590	668,856	9.48	7.76	6.82
\$6,153	\$25,796	\$57,780	.09	.13	.23	\$72,928	\$58,810	\$62,810	.46	.49	.64
105	4,223	8,869	.....	.02	.03	7,549	14,462	26,085	.05	.12	.26
954	23	266	.01	.....	.....	705	711	919	.....	.....	.....
3,128	10,063	19,983	.04	.05	.08	5,567	4,936	4,583	.03	.04	.04
148	746	702	.....	.....	.....	2,304	1,093	1,717	.01	.01	.02
5,779	22,978	35,495	.08	.13	.14	165	.....	.....	.....	.....	.....
4,230	30,818	43,711	.06	.16	.18	.....	.....	.....	.....	.....	.....
12	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
821	11,853	16,516	.01	.06	.07	17,262	13,695	23,659	.10	.11	.24
2,731	25,413	19,925	.04	.13	.08	9,666	24,864	10,159	.06	.21	.10
\$23,851	\$131,938	\$202,084	.33	.68	.81	\$116,145	\$118,572	\$128,095	.72	.99	1.30
\$28,687	\$134,339	\$197,873	.40	.69	.79	\$61,449	\$50,950	\$57,245	.38	.42	.59
29,952	90,320	153,490	.42	.47	.62	8	.....	.....	.....	.....	.....
152	2,562	2,007	.....	.01	.....	328	74	266	.....	.....	.....
\$58,792	\$227,222	\$353,371	.83	1.17	1.41	\$61,784	\$51,024	\$57,511	.39	.42	.59
\$2,042	8,158	\$12,904	.03	.04	.05	\$9	.....	.....	.....	.....	.....
824	3,042	8,013	.01	.02	.04	3	.....	.....	.....	.....	.....
584	1,057	1,461	.....	.....	.....	15,361	\$13,964	\$15,298	.10	.12	.15

CITY ELECTRIC RAILWAY—
RECEIPTS AND EXPENSES OF METROPOLITAN

ITEMS—GENERAL EXHIBIT.	TOTAL.					
	AMOUNT.			PER CAR MILE.		
	1898.	1899.	1900.	1898.	1899.	1900.
Total passenger receipts.....	10,424,695	12,819,712	14,355,406	29.70	30.70	31.63
Passenger operating expenses.....	5,556,127	6,342,073	7,034,033	15.83	15.18	15.50
Earnings from passenger operation.....	4,868,568	6,477,639	7,321,373	13.87	15.50	16.13
OPERATING EXPENSES IN DETAIL.						
MAINTENANCE OF WAY.						
Repairs roadbed—track, labor.....	\$120,528	\$129,499	\$158,220	.34	.31	.35
Repairs roadbed—material.....	14,117	23,370	45,065	.04	.06	.10
Repairs roadbed—steel rails.....	1,859	1,114	1,220	.....	.....	.....
Repairs roadbed—switches, castings, spikes, etc.....	18,804	32,247	39,232	.05	.08	.06
Repairs roadbed—ties and timber.....	2,739	1,854	2,494	.....	.....	.....
Repairs overhead and underground construction.....	86,731	105,389	124,078	.25	.25	.27
Renewals of cable.....	189,391	239,481	262,992	.54	.57	.58
Tube cleaners.....	15,988	42,642	54,927	.05	.10	.12
Oilers.....	40,720	41,511	42,108	.12	.10	.10
Gearsmen and splicers.....	21,240	21,339	20,397	.06	.05	.05
Repairs of buildings.....	22,182	33,331	50,525	.06	.08	.11
Removal of snow and ice and street cleaning.....	27,725	67,322	44,422	.08	.16	.10
Total.....	\$562,024	\$739,099	\$843,239	1.00	1.77	1.86
MAINTENANCE OF EQUIPMENT.						
Repairs of cars and vehicles.....	\$158,904	\$263,463	\$318,521	.45	.63	.71
Repairs of electrical or cable equipment of cars.....	72,247	127,701	189,839	.21	.31	.42
Repairs of tools and machinery.....	2,195	4,610	3,326	.....	.01	.....
Total.....	\$233,345	\$395,774	\$511,686	.66	.95	1.13
POWER.						
Repairs of steam plant.....	\$17,197	\$27,543	\$36,462	.05	.07	.08
Repairs of electrical or cable plant.....	13,221	12,293	18,376	.04	.03	.04
Repairs of harness.....	16,404	15,240	16,868	.05	.04	.04

STREET RAILWAY COMPANY—CONTINUED.

ITEMS—GENERAL EXHIBIT.	CABLE.					
	AMOUNT.			PER CAR MILE.		
	1898.	1899.	1900.	1898.	1899.	1900.
Stable equipment, supplies, etc.....	\$174	\$113	.....	.....	.....	.....
Renewals of horses.....	550	250	.....	.....	.....	.....
Horseshoeing.....	571	352	\$161	.....	.....	.....
Cost of provender.....	3,432	4,061	3,933	.03	.04	.04
Cost of feedmen—wages.....	92	270	331	.....	.....	.....
Cost of removing manure.....	60	75	70	.....	.....	.....
Hostlers, hitchers and stable help.....	2,485	3,033	3,504	.02	.03	.03
Engineers, firemen and power service.....	65,262	64,342	59,896	.54	.62	.57
Fuel, power houses.....	104,912	112,428	106,424	.88	1.08	1.00
Light and other supplies at power house.....	15,471	16,383	17,967	.13	.16	.17
Water tax.....	21,775	19,383	21,408	.18	.19	.20
Total.....	\$242,784	\$249,577	\$247,727	2.02	2.39	2.33
TRANSPORTATION.						
Conductors, drivers, gripmen and motormen.....	711,630	652,262	661,602	5.93	6.27	6.24
Inspectors, starters, switchmen, etc.....	143,512	142,125	137,990	1.20	1.36	1.30
Car house expenses—watchmen, car cleaners, oilers, etc	36,820	37,848	39,177	.31	.36	.37
Car service—car lighting.....	39,227	33,814	38,642	.33	.33	.36
Car service—oil, waste, etc.....	12,932	11,634	11,433	.11	.11	.11
Total.....	\$944,120	\$877,683	\$888,844	7.87	8.43	8.38
GENERAL EXPENSES.						
Salaries of officers and clerks.....	\$30,359	\$28,123	\$25,583	.25	.27	.24
Injuries and damages.....	150,325	59,474	59,353	.25	.57	.56
Other general expenses.....	68,099	53,446	49,351	.57	.51	.47
Total.....	\$248,784	\$141,043	\$134,287	\$2 07	\$1 35	\$1 27
Total operating expenses.....	\$1,970,486	\$1,874,422	\$1,884,723	\$16 42	\$17 99	\$17 76
Car mileage run.....	11,991,404	10,416,079	10,610,091	.....	.....	.....

RECEIPTS AND EXPENSES OF METROPOLITAN

ITEMS—GENERAL EXHIBIT.	ELECTRIC.					
	AMOUNT.			PER CAR MILE.		
	1898.	1899.	1900.	1898.	1899.	1900.
Stable equipment, supplies, etc.....	\$424	\$642	\$808	.....	.....	.....
Renewals of horses.....	3,030	750	.....	.04	.....	.....
Horseshoeing.....	2,477	3,175	4,034	.03	.02	.02
Cost of provender.....	14,010	15,575	20,120	.20	.08	.08
Cost of feedmen—wages.....	1,687	2,228	2,491	.02	.01	.01
Cost of removing manure.....	85	137	154	.....	.....	.....
Hostlers, hitchers and stable help.....	12,795	15,847	18,137	.18	.08	.08
Engineers, firemen and power service.....	20,662	63,480	100,605	.29	.33	.40
Fuel, power houses.....	51,015	188,455	270,644	.72	.98	1.08
Light and other supplies at power house.....	5,370	13,414	19,355	.08	.07	.08
Water tax.....	5,842	27,300	37,438	.08	.14	.15
Total.....	\$120,675	\$342,974	\$495,856	1.70	1.77	1.99
TRANSPORTATION.						
Conductors, drivers, gripmen and motormen.....	\$353,127	\$1,083,104	\$1,442,676	4.97	5.60	5.79
Inspectors, starters, switchmen, etc.....	50,292	166,515	202,834	.71	.86	.81
Car house expenses—watchmen, car cleaners, oilers, etc	27,392	93,205	136,722	.39	.48	.54
Car service—car lighting.....	1,142	2,306	5,144	.02	.01	.02
Car service—oil, waste, etc.....	5,158	19,991	32,331	.07	.10	.13
Total.....	\$437,111	\$1,365,121	\$1,819,706	6.15	7.06	7.29
GENERAL EXPENSES.						
Salaries of officers and clerks.....	\$11,051	\$35,831	\$53,461	.16	.19	.21
Injuries and damages.....	43,829	101,968	179,753	.61	.53	.72
Other general expenses.....	32,100	107,628	182,311	.45	.56	.73
Total.....	\$86,978	\$245,428	\$415,525	1.22	1.27	1.66
Total operating expenses.....	\$727,406	\$2,312,682	\$3,286,544	10.23	11.95	13.16
Car mileage run.....	7,110,090	19,347,978	24,968,196	.....	.....	.....

STREET RAILWAY COMPANY—CONCLUDED.

HORSE.						TOTAL.					
AMOUNT.			PER CAR MILE.			AMOUNT.			PER CAR MILE.		
1898.	1899.	1900.	1898.	1899.	1900.	1898.	1899.	1900.	1898.	1899.	1900.
\$12,206	\$8,594	\$8,555	.08	.07	.09	\$12,805	\$9,349	\$9,363	.04	.02	.02
62,440	23,925	27,000	.39	.20	.27	66,020	24,925	27,000	.19	.06	.06
80,933	62,737	53,191	.51	.52	.54	83,981	62,264	57,390	.24	.16	.12
445,183	377,736	357,129	2.78	3.15	3.64	462,624	397,392	381,181	1.32	.95	.84
40,419	28,516	24,293	.25	.24	.25	42,198	31,014	27,115	.12	.08	.06
7,109	6,637	6,526	.04	.06	.07	7,084	6,575	6,442	.02	.01	.01
347,855	271,283	222,874	2.18	2.26	2.27	363,134	290,163	244,516	1.07	.70	.54
240						86,163	127,822	160,502	.25	.31	.35
455						156,381	300,883	377,068	.45	.72	.85
59						20,900	29,797	37,322	.06	.07	.08
11,138	8,691	6,823	.07	.07	.07	38,754	55,374	65,669	.11	.13	.14
\$1,023,408	\$802,082	\$721,690	6.40	6.69	7.85	\$1,386,867	\$1,394,634	\$1,465,273	3.95	3.34	3.23
\$1,156,395	\$837,390	\$695,859	7.23	6.98	7.10	\$2,221,151	\$2,572,756	\$2,800,137	6.33	6.16	6.18
119,400	93,411	65,072	.74	.78	.67	313,204	402,051	405,896	.89	.96	.89
63,245	44,829	35,029	.40	.37	.36	127,457	175,882	210,929	.36	.42	.46
11,690	9,305	8,667	.07	.08	.07	52,059	45,425	52,454	.14	.11	.11
7,191	3,574	3,849	.04	.03	.04	25,281	35,198	47,612	.07	.08	.10
\$1,357,921	\$988,508	\$808,476	8.49	8.24	8.24	\$2,739,153	\$3,231,312	\$3,517,027	7.81	7.73	7.74
\$41,938	\$29,308	\$21,579	.26	.24	.22	\$83,348	\$93,262	\$100,624	.24	.22	.22
79,076	50,711	38,392	.49	.42	.39	273,229	212,154	277,498	.78	.51	.61
177,962	114,764	87,024	1.11	.96	.89	278,162	275,837	318,686	.79	.66	.70
\$298,976	\$194,783	\$146,995	1.87	1.62	1.50	\$634,738	\$581,253	\$696,808	1.81	1.39	1.53
\$2,858,235	\$2,154,969	\$1,862,766	17.87	17.96	18.98	\$5,556,127	\$6,342,073	\$7,034,033	15.83	15.18	15.49
15,994,812	11,996,799	9,812,031	.....	.....	.....	35,096,406	41,760,856	45,390,318	.....	.....	.....

CRITICISM OF THE CONDUIT ELECTRIC SYSTEM.

The following points may be suggested in favor of a conduit electric road when compared with cable and overhead trolley roads:

ADJUSTABILITY.—As is well known, a cable travels with a uniform predetermined speed, and any obstruction on the track that retards a car and causes loss of time or stops it entirely prevents it from making proper connections at transfer points or terminals. This lost time cannot be made up again on a cable line; but here the electric car has the advantage of being independent of any cable, and can be made to travel to the full capacity of the motors that propel it, or even to overload the motors temporarily to make up some or all of the lost time. This adjustability of the electric propelled car is quite an important feature in practical railroading.

PREFERENCE.—It seems to be universally acknowledged among railroad people that the public has a decided preference for the electric over the cable cars, on account of more gradual starting, faster running, and particularly in the evenings, on account of the electric light.

CROSSINGS.—The crossings of cable roads have always been a source of more or less danger because on a cable crossing one of the cables has to be depressed below the other. An obstruction is usually put over that cable that has to be depressed, so that in case a gripman should forget to open his grip in time to free it from the cable, this obstruction although injuring his grip or his cable, would, however, prevent him from running with his cable into the upper cable and injuring this also. This letting go of a cable some distance before a crossing, is reached, has the further disadvantage of making the distance quite long over which a car has to travel by its own momentum, before it can pick the cable up again on the other side of the crossing, and it sometimes happens that a car has to be pushed by hand some distance when an obstruction on the track prevents it from reaching the point where it can pick up the cable again.

This danger is prevented almost entirely by the Conduit Electric System. Here the conductor rails that carry the current for the roads are cut entirely at the crossing so that the plow that carries the current from these rails to the motor can pass without any obstructions, but this interruption of conductor rails is only for a few feet, enough to let the plow pass. The ends of the rails are flared out for the plow to leave and enter them freely. The electric current is carried across this gap of the rails by flexible copper bonds, which are below the reach of the plow. It will be seen that this mode of crossing has far less danger connected with it, than a cable crossing. The conduit electric crossing is, for these reasons, better for both the owner of the road and the public.

FREEDOM FROM STREET OBSTRUCTION.—The Conduit Electric System has the great advantage over the Overhead Trolley System, that all the overhead appliances, such as poles, wires, insulators and span wires, which are more or less dangerous to the public and particularly to the firemen, are made unnecessary.

The streets of a city where this system is in use, have a far better appearance than streets that have the network of wires overhead.

ELECTROLYSIS.—Another advantage that the Conduit Electric System has over the Trolley, is its entire freedom from producing electrolysis on any gas or water pipes or cables that should happen to be buried in the ground near its course, because the electric current that is used on its lines has no opportunity to come in contact with the rails, and pass from these into the ground, and from the ground into pipes or cables, because the generators of the current are directly connected to the conductor rails of the road, and these conductor rails are all mounted on insulators in the conduit, thus preventing any current from reaching the ground, pipes or cables.

OPERATION.—In operation the conduit electric has the great advantage over

the cable road of abolishing the moving cable. These cables are very expensive in first cost in wear and tear, and in operation. Instead of a moving expensive, flexible, steel cable, the electric road has its conductor rails with its insulators. Now, while the first cost of these installations is very high, the operating expenses are comparatively low, because these rails are fixed stationary in the conduit, and are only subject to wear by the moving plow connected with the motor car. The actual experience indicates that wear is very small indeed. The abolishing of the cable seems to be the main cause of reducing the operating expense account of a Conduit Electric road over that of a cable road.

THE FOLLOWING MAY BE SUGGESTED AGAINST THE CONDUIT ELECTRIC SYSTEM.

HIGH FIRST COST.—It has been contended ever since the cable system was introduced, that its cost of construction was too high entirely. This contention applies with still greater force to the Conduit Electric System. It must have a road bed with slot and rails far stronger and more substantial than a cable road, on account of heavier cars carrying very heavy motors, besides adding a number of man-holes, frames, conductor rails, insulators, sewer frames and connections, and last but not least, a very expensive system of electric insulated cables buried in ducts in the street. The track construction alone, allowing the same rails for a cable as for an electric road, will cost at least 15 per cent more than a cable road, whereas, by adding the feeder system also, this cost is made a great deal higher, especially when the electric current has to be carried to any considerable distance from the power house to the road. Of course when the power house can be located at or near the center of gravity of the power required, this cost for feeders will be far less than otherwise, when the current is generated at considerable distance from this point.

HIGH POWER.—The power required on an electric road for the same number of passengers carried is greater than on a cable road assuming that the headway of the cars is sufficiently close to justify a comparison. The reasons for this are:

1. The electric car is heavier than the cable car.
2. The heavy motors are added to the electric car. This makes the dead weight per passenger greater with an electric than with a cable car.
3. On a cable road, all cars are connected to one moving cable, hence cars moving up grade or down grade balance themselves to a certain extent, or in other words, the cars going down grade help to pull the cars that are going up grade. With the electric system this cannot be done, and all the power that has to be consumed by a car going up grade has to be entirely supplied by the power house.

It is contended by some Eastern engineers that the Conduit System requires somewhat less power per passenger than the Overhead Trolley System on account of the solid metallic circuit for the conduit system, whereas, the overhead system is dependent on more or less imperfect contact between trolley and wire, wheels and rails. On the other hand, during a heavy fall of rain the conduits sometimes become flooded. This of course, makes a short circuit between the conductor rails. Although this does not stop the traffic entirely, it nevertheless increases the power consumption. A heavy snowfall has about the same effect as a rainfall.

SEWER CONNECTIONS.—A disadvantage of minor importance is found in the large number of sewer connections required on an electric conduit system, in order to carry off quickly the water that would otherwise accumulate during a heavy rainfall, so as to prevent short circuiting the conductor rails. These sewer connections are liable to allow the gases to escape and reach the conduit, even if equipped with trap doors to prevent such escape.

UNSIGHTLY APPEARANCE.—The Conduit Electric Road must have about four times as many man-holes between the tracks and rails as a cable road: this

makes it appear to some extent as a long checker board; this appearance is more pronounced on asphalt or bituminous rock paved streets than on streets paved with basalt blocks.

From the above enumeration of points in favor of and against the use of the Conduit Electric System, it will be seen that it can be introduced with greatest advantage in cities having a large population in thickly settled districts, for only in such places can it be made to pay interest on investment. Its cost of installment is greater than that of a cable road, therefore its income should also be somewhat greater in order to pay, even though the running expenses be somewhat less. In thickly settled districts where it can be made to pay interest on investments, it is undoubtedly a safer system for the general public than an overhead trolley line, as all poles, trolleys, trolley and feeder wires, are taken from the streets and no obstructions left to interfere with traffic, or the firemen in their duty, and because all danger from the electric current carried in the middle of the street on an overhead bare wire is eliminated.

GEARY STREET SYSTEM.

In studying the question of converting the present Geary Street Cable Road into an Electric Conduit Road, it is found that local climatic conditions are particularly favorable for such conversion. The rainfall is less here than in either Washington or New York, and there is no snow at all here. There will, therefore, be far less trouble with short circuits than in Eastern cities. The temperature too varies within narrower limits than in Eastern cities, and expansion and contraction of tracks and slot-irons and conductor rails will be far less, and the track will stand the wear and tear better resulting from the heavy cars with motors, that will pass over them.

CONDUIT ROAD.—I find that the present conduit on Geary street for the cable can be used again; the conductor rails for the electric road being carried somewhat lower than is customary in Eastern cities. This has to be done in order to obtain clearance for the conductor rails. Fig. 1, Sheet 2, illustrates this proposed arrangement.

Map No. 1 of the City of San Francisco illustrates the route selected as a basis for a definite project and cost estimate. This project includes not only the conversion of the Geary Street Road itself, but also an extension of the same. The proposed route is as follows: Commencing at the Ferry Depot, foot of Market street, along the north side of Market street with a single track, up Market to Geary street, along Geary street to Point Lobos Avenue, along Point Lobos Avenue to 10th Avenue, along 10th Avenue across Fulton street into Golden Gate Park, along side the northern edge of the Park (using 25 feet or 30 feet of the Park) to Stanyan street, along Stanyan street to Fell street, along Fell street into Market street, along south side of Market street to the Ferry Depot. As will be seen by the map, a double track is proposed for all the above named streets. The proposition is to use this route both ways, going to and coming from the Park. For instance, one car leaves the Ferry Depot by way of Geary street to the Park, returning by Fell street, down Market to the Ferry. The next car will leave the Ferry Depot and will go up Market street to Fell street to the Park, and return by way of Geary street to the Ferry Depot.

On Blue Print No. 4 are shown the present car tracks in connection with those that are proposed for a landing at the Ferry Depot. It will be seen that the present horse car tracks will be used from Sutter street down. (A detail cross section of the necessary reconstruction of these tracks is shown in Fig. 3, Sheet No. 3.) Near the Depot, tracks with a double cross-over will be constructed for the new terminal so that either of two cars arriving at the same time can leave first, as the circumstances might require.

Connecting with the tracks on Market street, a double line of conduit tracks will be constructed on Second street, along Second to Townsend street, along Townsend street to Third street. All the above enumerated tracks will be conduit electric. Cars coming from the Park can turn into Second street and go to the Southern Pacific Depot, as circumstances might require.

The intersections of tracks at Geary and Market and Market and Second streets, are shown on Blue Print No. 5. Blue Print No. 6 shows the intersection of tracks at junction of Market and Fell streets. The total length of these tracks, based on dimensions noted on the official map of the City and County, is 9.91 miles of double track. Of these 3.33 miles have to be converted from cable to electric, and 6.57 miles have to be made new. The cross sections of the different portions of track of this system are shown on Sheet No. 3, where Fig. 1 shows a cross section of the present Geary Street Cable Conduit.

Fig. 2 shows a cross section of the New Conduit, with the latest 9-inch grooved girder rail, 107 pounds to the yard, which is the rail adopted by the Metropolitan Street Railroad in New York.

Fig. 3 shows a cross section of the Conduit in combination with the 5 foot gauge horse track on the lower end of Market street from Sutter street to the Ferry Depot.

These cross sections show the size and kind of yokes proposed to be used, also conductor rails, insulators for conductor rails, man-holes and covers for the insulators, all of the latest type, as now being used in the Eastern cities.

OVERHEAD TROLLEY ROAD.—The overhead or trolley system, planned as an extension of this conduit system, is also illustrated on the City Map, Sheet No. 1.

As may be seen by an examination of this map, it commences at the Presidio on Lombard street, along Lombard street to Gough street, along Gough street to Broadway, along Broadway to Franklin street, along Franklin street to Oak street, along Oak street to Market street, across Market street into 11th street, along 11th street into Division street, along Division street into Potrero Avenue, along Potrero Avenue to 15th street, along 15th street to 8th street, along 8th street to 16th street, along 16th street to 6th street, along 6th street to Tennessee street, along Tennessee street to 22d street, along 22d street to Illinois street, as the terminus of the road for the present.

In connection herewith, it may be stated that this route was selected to accommodate the greatest number of people, and also with a view to avoid, as much as possible, some steep grades, especially in the northern portion of the City.

Map No. 1 has all the grades of the different streets written on it, not alone for the proposed trolley system, but also for the conduit system. Cars marked with numbers and supposed to be 5 minutes apart are also marked on this map.

The total length of this trolley line is 5.74 miles of double track. Iron poles are proposed to be used for 4.00 miles of this distance from the Presidio to Potrero Avenue and 15th street, and from there to the terminus on Illinois street 1.74 miles wooden poles. On sheet No. 2 the poles for this system are indicated.

All this system is supposed to be double track, and is planned to connect the northern portion of the City with the industrial district in the Potrero, as well as with the commercial and money center of the City, by giving transfers to the conduit system, and vice versa.

If deemed necessary, any extension to this system might be made by extending the line further south, and also further west to the Ocean.

The length of track, all double, of the whole system will be as follows:

Geary street converted.....	3.33 miles
New conduit.....	6.57 miles
Trolley system.....	5.74 miles
Total	15.64 miles

POWER STATION.

It is proposed to erect a power station on the City property at the foot of Fillmore street. This locality is selected on account of its close proximity to the Bay, where the transportation of coal or oil is cheapest, and where an abundance of water can be had for condensing purposes.

It is proposed to build a wharf 80 feet wide by 600 feet long, to facilitate the landing of coal or oil.

A coal bunker, and also an oil tank for the storage of oil are to be provided.

As the center of gravity of power consumption is about 3 miles from this station, I have also investigated the desirability of establishing a transformer station to be located near this center of gravity of power. This was done to determine the saving in copper feeders, by using high voltage current from the power station to the transformer station, and from here distributing direct current along the lines. But in calculating the interest on the amount of money saved by using less copper on one side, and the loss of energy in transmission, cost of house for transformers, machinery, and more wages to be paid, on the other side, I found a difference of about \$5,000 per year in favor of operation without a transformer station. Current will be carried by insulated cables drawn into ducts to the different places where it will be used. Sheet No. 2 illustrates these different feeders, their lengths and capacity.

The power station will have two vertical compound condensing engines, each of 1,100 horse power developed at the most economical point of cut off, so that the engines can easily develop 1,500 horse power when desired. Each engine will drive one 500 kilowatt and one 300 kilowatt Compound Wound Railroad Generator direct connected, the large generator supplying current to the conduit system, and the other to the overhead system. One of these engines only will be run at a time, the other is for reserve.

The station will have also, one vertical compound condensing engine of 500 horse power developed at the most economical point of cut-off, with a possible increase of power to 750 horse power, if desired. This engine will have connected with it one 250 kilowatt and one 150 kilowatt generator. The larger generator to be connected with the conduit system, and the smaller with the overhead system. This smaller engine and generators will be used only to help one of the larger engines for heavy loads at certain times, as may be required.

Six 200 horse power boilers will be installed with economizers and heaters. A brick chimney 125 feet high will be required.

The power house, 100 feet by 120 feet, is to be of brick, and will stand on piles. Sand is to be used for necessary grades, and concrete to cap and unite the piles and to support the brick work. A brick division wall will divide this house in two portions, one to be used for the engines and generators, and one as a boiler house.

A car house, 70 feet by 140 feet of brick, for the storage of cars is to be provided near the Presidio, and another car house, 100 feet by 175 feet, near Golden Gate Park.

An office building, about 35 feet by 50 feet of brick, and centrally located will be required.

GEARY STREET CONVERSION—ESTIMATE OF COST PER MILE OF DOUBLE TRACK.

The estimated cost of converting the Geary street track into a Conduit Electric Road, including conductor rails, bolts, rail bonds, man-holes and covers, insulators, sewer connections and traps, slot hatches, putting in and bonding conductor rails, all complete at present prices, is \$16,500 per mile of double track.

NEW CONDUIT.

The cost of straight double track with no crossings, turnouts, or switches, rails; steel girder, 9 inches deep, grooved, 60 feet long, 107 pounds per yard; steel yokes, 234 pounds each; slot rails, 40 pounds per yard; conductor rails, 23½ pounds per yard; copper bonds; man-holes, 15 feet centers; sewer connections at every street crossing; insulators; slot hatches, 12 to a mile; duct connections all complete, is estimated at:

Not including pavement reconstruction, per mile.....	\$94,970 00
With basalt blocks relaid, per mile.....	97,980 00
With asphalt pavement, per mile.....	116,040 00

Pavement between tracks and 2 feet outside of tracks is assumed to require reconstruction.

For welded Falk joints of rails, add \$1,900.

OVERHEAD SYSTEM.

The estimated cost per mile of double straight track rails; steel girder, 9 inches deep, grooved, 60 feet long, 107 pounds per yard; ties 6 inches by 8 inches by 8 feet, 30 inches between centers; copper bonds; No. 000 trolley wire; poles; insulators; hangers; wire, etc., all complete, with wooden poles, is per mile..... \$29,310 00

With wooden poles, basalt blocks relaid, per mile..... 32,320 00

With wooden poles, asphalt pavement reconstructed, per mile..... 50,375 00

For iron poles add \$3,380 per mile.

For Falk welded joints for rails add \$1,250 per mile.

Pavement to be reconstructed is assumed between tracks and 2 feet outside of tracks.

The above figures do not give the cost of crossings, switches or cross-overs, as these are separate and distinct from the straight track work. Nor do they include any figures for the removal of underground obstructions, as water or gas pipe, conduits or cables; all these are uncertain factors.

On the lower portion of Market street for instance, the yokes are to be placed 3 feet. Centers and a concrete pier to be placed underneath every third yoke, and this pier will rest on two piles 30 feet long driven into the ground. Sheet No. 12, Figure 2, shows this arrangement. Here there is also a horse road, with 5 foot gauge to support on the yokes and a double cross-over near the Ferry Depot. All these items combine to make the cost of construction of this portion of the conduit system very high.

TOTAL COST.

	AMOUNT.	TOTAL.
Geary street conversion	\$54,650 00	
New conduit system, all complete, and with Falk welded joints, crossings, crossover and switches..	800,680 00	
Trolley system, all complete, with Falk joints, switches, crossings and crossovers.....	338,030 00	
Ducts, all complete.....	52,140 00	
Lead-covered insulated conductor cables.....	423,650 00	
Power house, chimney, car houses, wharf, coal bunkers, oil tank and office.....	160,000 00	
Engines, boilers, economizers, electric machinery and machine tools, all complete.....	196,500 00	
75 cars, 28 feet long, double ender, with full electric equipment	221,250 00	
For removing gas and water pipes, conduits, etc., and removal of track from Fifth avenue (uncertain)	100,000 00	
		\$2,346,900 00
Add 10 per cent for contingencies.....		234,700 00
Grand total		\$2,581,600 00

The above estimate is based on the following prevailing prices:

Steel rails, f. o. b., San Francisco, per ton.....	\$53 00
Steel slot rails, f. o. b., San Francisco, per ton...	53 50
Steel conductor, f. o. b., San Francisco, per ton....	73 00
Steel yokes, f. o. b., San Francisco, per pound....	3½ cents.

No real estate nor any allowance for damages is included in the above estimate.

OPERATING EXPENSES.

	AMOUNT.	TOTAL
Oil for fuel, per year.....	\$35,330 00	
Water, per year.....	1,100 00	
1 General Manager, per year.....	4,000 00	
1 Secretary, per year.....	1,800 00	
1 Assistant Bookkeeper, per year.....	1,500 00	
2 Receivers, each \$1,200 per year.....	2,400 00	
1 office boy, per year.....	200 00	
Stationery and printing, per year.....	2,000 00	
Miscellaneous office expenses, per year.....	2,200 00	
Legal expenses, per year.....	5,000 00	
1 Chief Engineer, per year.....	1,800 00	
2 Assistant Engineers, each \$1,200.....	2,400 00	
2 oilers, at \$65 per month.....	1,560 00	
4 firemen, at \$70 per month.....	3,360 00	
1 boiler man, at \$65 per month.....	780 00	
1 coal passer, at \$65 per month.....	780 00	
Oil, waste and stores.....	1,100 00	
1 Chief Electrician	1,800 00	
1 Foreman Electrician	1,200 00	
1 machinist, at \$3.....	900 00	
2 trackmen and lineman, at \$2 50.....	1,500 00	
1 track greaser and crossing man, at \$65.....	780 00	
4 car dispatchers, at \$65.....	3,120 00	
45 cars, motor men and conductors.....	164,250 00	
1 blacksmith and helper, at \$5.....	1,500 00	
4 watchmen, at \$65	3,120 00	
Maintenance on rails, conductor rails and appurtenances of track, 5 per cent on \$470,000.....	23,500 00	
Maintenance of conductor cables, 4 per cent on \$424,000	16,900 00	
Maintenance of steam plant, engines, pumps, boilers and condensers, 4 per cent on \$130,200.....	5,000 00	
Maintenance of electric plant, 4 per cent on \$61,300.....	2,450 00	
Maintenance of cars and motors, 5 per cent on \$221,250	11,060 00	
Maintenance of houses, wharf, coal bunker and oil tank, 2½ per cent on \$90,000.....	4,000 00	
Maintenance of shop tools and machinery, and miscellaneous	6,000 00	
		\$314,390 00
3½ per cent interest on an investment of \$3,000,000.....		105,000 00
Total		419,390 00

This gives for forty cars running 20 hours a day 13.70 cents per car mile, and for fifty cars 12.00 cents per car mile.

In the above estimate for fuel, oil is taken at 80 cents a barrel delivered at the oil tank.

Coal as fuel, at \$6.00 per ton delivered on the wharf, would cost, per year.....	\$50,370
Whereas, the above estimate for oil is.....	35,330
	<hr/>
Or a saving in favor of oil of.....	\$15,040

MAPS AND DRAWINGS.

Accompanying this report are the following maps and drawings:

One map of the City of Washington, showing the extension of the Conduit System of that City.

One map of the City of New York, giving approximately the number of Conduit Miles in that City.

One map of San Francisco, Sheet No. 1, showing the Conduit and Trolley Systems, as proposed. Forty cars on track at five minutes headway and all the grades of the streets traversed.

One map of San Francisco, Sheet No. 2, showing the number of poles to be erected for the Trolley System, and showing the number and length of feeder cables required for the whole system.

Sheet No. 3, Figure 1—Cross section of present Geary Street Conduit and track.

Sheet No. 3, Figure 2—Cross section of New Conduit and track.

Sheet No. 3, Figure 3—Cross section of New Conduit and track, in combination with 5 foot gauge horse track

Sheet No. 3, Figure 4—Cross section and plan of tracks showing sewer connection to Conduit.

Sheet No. 3, Figure 5—Cross section of Conduit and tracks, in combination with feeder, cable, conduits, man-holes.

Sheet No. 4—Shows ferry terminus of tracks.

Sheet No. 5—Shows junction of tracks on Market and Geary streets, and junction of tracks on Oak, Market and Eleventh streets.

Sheet No. 6—Shows junction of tracks on Feil and Market streets.

Sheet No. 7—Shows junction of tracks on Eleventh, and Division streets and Potrero Avenue.

Sheet No. 8, Figure 1—Shows plan of track with man-holes.

Sheet No. 8, Figure 2—Shows plan of track with man-holes and sewer man-hole.

Sheet No. 8, Figure 3—Shows plan of tracks with man-holes and duct man-holes.

Sheet No. 9—Shows full size drawing of an electric plough as used at present in the City of Washington.

Sheet No. 10—Shows full size drawing of the Insulator for the City System, as shown on the several cross sections of Sheet No. 3.

Sheet No. 11—Shows elevation and cross section of car, as calculated on for the City System.

Sheet No. 12, Figure 1—Shows cross section of track with feeder cable connections to conductor rails.

Sheet No. 12, Figure 2—Shows the combination track on Market street, with concrete piers and piles for the support of the track.

Sheet No. 13, Blue Print No. 242—Shows a cross section of track as being now built in the City of New York by the Metropolitan Street Railway Co., of New York.

Respectfully submitted,

(Signed.)

J. C. H. STUT.

Dated San Francisco, October 21, 1901.

MUNICIPAL GAS PLANT.

On February 25, 1902, there was filed in the Clerk's Office of the Board of Supervisors a Communication from the Board of Public Works, inclosing a Report on a Municipal Gas Plant by C. E. Grunsky, City Engineer, which Communication and Report are as follows, to wit:

COMMUNICATION FROM THE BOARD OF PUBLIC WORKS.

February 25, 1902.

To the Honorable the Board of Supervisors
Of the City and County of San Francisco—

Sirs: This Board respectfully submits, with its approval, a report made by the City Engineer on a municipal gas works for this City and County.

Respectfully,

BOARD OF PUBLIC WORKS.

By J. LEO PARK, Secretary.

Enclosures.

REPORT TO THE BOARD OF PUBLIC WORKS OF THE CITY AND COUNTY OF SAN FRANCISCO ON MUNICIPAL GAS WORKS, BY C. E. GRUNSKY, CITY ENGINEER.

San Francisco, Nov. 30, 1901.

To the Honorable the Board of Public Works,
Of the City and County of San Francisco—

Gentlemen: A plan of gas works and an estimate of cost thereof has been made, as directed, being required by Article XII of the Charter of San Francisco and having been authorized by the Board of Supervisors who, under an appropriation of \$20,000 for the investigation of public utilities during this fiscal year, conveyed to the Board of Public Works, through its Committee on Public Utilities, the request to make plans of gas works and to estimate the cost thereof.

San Francisco is at present supplied with gas by three companies.

The San Francisco Gas and Electric Company has works on the northern front of San Francisco, just west of Black Point, and other works on the bay front between Twenty-second and Twenty-third streets, at both of which both water and coal gas are produced. The combined rated capacity of these works, based on a charge of about 250 pounds of coal in each retort every four hours and 1,000,000 cubic feet of gas per day for each 12-foot water gas generator, is 7,650,000 cubic feet of gas per 24 hours. The maximum production is in the neighborhood of 6,000,000 cubic feet per day.

The Pacific Gas Improvement Company has works located east of Fillmore street, near Lobos Square, in the northern part of the City. This company can furnish both coal and water gas. Its present production is, ordinarily, water gas

only. The rated capacity of the works, on the same basis as above indicated, may be noted at about 3,100,000 cubic feet per day, and its maximum output at about 2,000,000 cubic feet.

The Equitable Gas Light Company has works located at North Beach at the northerly termination of Montgomery avenue. This company manufactures only water gas. The capacity of the works are said to be 2,500,000 cubic feet per day, and its maximum output about 1,000,000 cubic feet.

The combined capacity of these several gas works is in the neighborhood of 13,250,000 cubic feet per day. The amount of gas actually consumed in the City ranges from about 2,000,000 cubic feet per day in summer to about 6,000,000 cubic feet per day in midwinter. Probably three-fourths of all the gas consumed in the City is water gas; the rest, coal gas.

San Francisco is a purchaser of gas from these private companies, and of electricity from electric light companies, for street lighting and the lighting of municipal buildings, to the extent of about \$260,000 per year. Of this amount about \$220,000 are paid for street lighting; \$7,000 are chargeable to the School Department; \$6,000 are chargeable to the Police Department; \$4,000 are chargeable to the Fire Department; \$23,000 are chargeable to the City Hall, Hall of Justice and other municipal buildings.

Of this expenditure, about \$80,000 per year is for electricity; the rest, or about \$180,000, is for gas.

Based upon the statements filed with the Board of Supervisors by the several corporations which are furnishing gas to the City, it appears that their plants represent a combined investment of about \$14,700,000, and are claimed to have a present value of about \$12,400,000.

There being three private companies in the business of supplying gas, operating to a large extent in common territory, there is considerable duplication of works to be noted, particularly in the matter of the distributing mains. This may hereafter become true to a much greater extent if the plans of the Independent Gas Company be carried out, which has taken the first steps toward the construction of gas works of large capacity for the distribution of gas to all parts of the City.

Active competition has within recent years materially reduced the price of gas. It was furnished to consumers until July, 1895, at \$2 per M cubic feet; from July, 1895, until July, 1899, at \$1 75; from July, 1899, until July, 1900, at not to exceed \$1 50, and since July, 1900, at not to exceed \$1 40 per thousand cubic feet. The City has obtained gas for lighting municipal buildings at somewhat lower rates, the present maximum being \$1.35 per thousand feet. In parts of the City where competition is active, the price charged is often considerably below the maximum rate fixed by ordinance.

On the assumption that municipal gas works would be required to supply all light for the streets in fairly well built up sections of the City, and that the municipal works would entirely replace the private companies, they should have a rated capacity of at least 8,000,000 cubic feet per day.

The works, as projected, will have this capacity, besides some reserve. On the same basis as above indicated, the aggregate rated capacity of the proposed plant, water and coal gas, including the reserve, may be noted at 9,500,000 cubic feet of gas per day. For short time periods, as in the case of exceptionally dark days of winter, it would not be at all objectionable, and would add but little to the average price at which gas is produced, to force the works considerably above their rated capacity.

The installation, as proposed, provides for 64 regenerative benches, with 8 clay retorts in each, which would be capable of producing 3,500,000 cubic feet of coal gas per day without forcing. This installation is desirable to secure an ordinary output of 2,000,000 cubic feet of coal gas per day, keeping a part of the plant in reserve.

Water gas will be produced in 6 generators, each of which will have a capacity of 1,000,000 cubic feet per day.

Space will be available at the works for the installation of two additional water gas generators, so that in this direction also the capacity of the projected works can readily be increased by 2,000,000 cubic feet per day.

The gas works are to be located at the northern water front of the City, near the northerly terminus of Fillmore street—in part on property already owned by the City, in part on lands adjacent thereto and to be acquired by purchase.

The site selected for the works is immediately adjacent to the tract of land which was selected some time ago as a suitable location for a municipal electric lighting plant.

The gas works will cover two entire blocks of land and two half blocks. Part of the land is at present under water. All of it will require more or less grading. The probable cost of grading and preparation of foundations, as well as street and sidewalk work, has been included in the cost estimate.

In order to equalize pressure in the pipes, a very large main is suggested, and gas holders are to be placed in the southern part of the City, as well as at the gas works.

From the gas works a 16-inch main, without any service connections, will extend through the City to the proposed holders at Army and Rhode Island streets, which are to be located on the tract of land now used as a Pesthouse site.

The location of the distributing mains, as projected, is shown on a map submitted with this report. No pipes smaller than 4-inch are shown. Where necessary to reach widely scattered buildings, temporary wrought-iron pipes are to be used. These are not shown on the map.

The general arrangement of the gas works, the position of the required wharf, the location of buildings and of the gas holders at the works is shown on a plan which is also herewith submitted.

The estimated cost of the gas works and distributing system complete, including the necessary meters but not including cost of making house connections, is as follows:

Gas works complete, including wharf, gas holders in southern part of City and consumers' meters, exclusive of real estate, grading and street work.....	\$2,406,000 00	
Distributing system of pipes, including the 16-inch main to the holders in the southern part of the City, and about 100,000 feet of small pipes not shown on plan.....	2,000,000 00	
Grading, street and sid-walk work.....	120,000 00	
	<hr/>	\$4,536,000 00
Add for engineering and contingencies about 13 per cent, say.....		394,000 00
		<hr/>
		\$5,130,000 00
Real estate		70,000 00
		<hr/>
Total		\$5,200,000 00

The actual cost of the works would be increased by about 3½ per cent. on about \$5,200,000, or \$182,000, being the loss of interest during construction. This amount would not, however, have to be included in the amount to be raised by a bond issue, as it would be provided for in the annual tax levy until covered by the revenue from sales of gas.

MUNICIPAL GAS PLANT.

The cost of gas produced by gas works as herein projected has been preliminarily estimated. It is based on cost of \$7 per ton for bituminous coal, delivered in the coal shed, \$9 per ton for anthracite coal and 1.75 cents per barrel for gas oil.

At an average production of 4,000,000 cubic feet of gas per day, it is estimated that the expense account would be:

For salaries and wages.....	\$474,820 00
For coal and oil (less value of by-products).....	574,610 00
For miscellaneous and contingent expenses.....	137,500 00
For interest on cost of works, sinking fund and deterioration	428,000 00
	\$1,614,930 00

Interest is estimated at $3\frac{1}{2}$ per cent. per year on the cost of works. This would decrease from year to year as bonds become due and the indebtedness is reduced. The above estimate of cost of production is, therefore, to be considered as strictly applicable only to the first year's operations.

Deterioration is assumed at 3 per cent. on the cost of works, except the distributing system, on which deterioration is assumed at 1 per cent.

Assuming a leakage of 10 per cent., and that 10 per cent. of the rest of the gas be required for lighting streets and municipal buildings, then the remainder, or 3,240,000 cubic feet of gas per day, would be delivered to paying consumers.

Should it be desired to make the revenue from gas sales meet all expenditures connected with the production of gas and its distribution, together with an annual payment of $2\frac{1}{2}$ per cent. of the bond issue, interest on bonds, a contribution to a reserve fund to meet deterioration, as well as all expenses connected with lighting the streets and public buildings, then the price of gas would have to be fixed at about \$1 37 per thousand cubic feet.

At this price, the City would be at no expense for gas for lighting streets and public buildings. At least \$180,000 now paid for gas, and possibly the greater portion of the \$80,000 paid annually for electricity by the City, could be otherwise used. The collections for gas sold at the above price would, under efficient management, maintain the works in first-class condition and would be sufficient to pay off the entire debt incurred in their construction within forty years.

Should the interest and sinking fund accounts be met with money raised by general taxation, then the amount annually to be raised by sales of gas would be decreased by \$312,000, and the price of gas could be reduced about 27 cents per thousand cubic feet, to \$1.10. At this price to the consumer, the City would practically be getting its street lighting, and light for public buildings, in return for the payment of interest and redemption of bonds, and the works would, at the end of forty years, be fully paid for.

The cost of gas production is based on the assumption that the Board of Public Works will be compelled to fix the time of service of all employees at eight hours per day, operating at the works in three shifts instead of in two, as is now the ordinary practice. The wage account, which is hereby affected, has entered into the calculation at about \$60,000 more than would have otherwise been the case, and this reduction in hours of daily service has, therefore, added about $5\frac{1}{2}$ cents to the estimated cost of the gas.

In comparing the above estimates with the present price of gas, it should be remembered that the City now contributes about \$260,000 to the revenues of the gas and electric light companies for gas and electricity used in street lighting and in public buildings.

The gas from Municipal Gas Works would probably replace at least one-half of the electricity now used by the City. On this assumption, the City's contribution to private companies would be cut down to about \$40,000 and the remaining \$220,000, saved to the City, would represent about 20 cents of the above estimated prices at which gas could be sold by the municipality.

It remains to be stated that for a production of gas in excess of 4,000,000 cubic feet per day, the cost of the additional gas will be represented mainly by the increase in wages and in payments for coal and oil, while the fixed expenses of operation increase but little; consequently, as gas consumption increases, the cost of its production per thousand cubic feet will be decreased somewhat and the price of gas can then be reduced below the figures above indicated.

There is submitted herewith, and made a part hereof, the report of Mr. Richard Fenner, Gas Engineer, who has served the City in this matter as Consulting Engineer.

The map and plan above referred to, and which accompany this report, are entitled:

Sheet No. 1.—Municipal Gas Works for San Francisco.

Sheet No. 2.—Municipal Gas Works for San Francisco, Distributing System of Pipes.

Very respectfully,

(Signed.)

C. E. GRUNSKY, City Engineer.

REPORT OF RICHARD FENNER, GAS ENGINEER.

San Francisco, November 18, 1901.

C. E. Grunsky, Esq., City Engineer—

Dear Sir: I respectfully submit herewith a plan of Gas Works of a capacity of 8,000,000 cubic feet per day, together with a cost estimate of the works and a complete distributing system.

It is proposed to generate both coal gas and water gas, the coal gas plant to have a rated capacity of 2,000,000 cubic feet of gas per day, and the water gas generators a capacity of 6,000,000 cubic feet per day.

This plant will have ample capacity for the immediate needs of San Francisco and will, if required, permit the production of gas without undue forcing of the plant to the extent of about 9,000,000 cubic feet of gas per day. The rated capacity, as above noted, is considerably less than the capacity at which the works, as shown on the plans herewith submitted, can be efficiently operated.

The proposed Gas Works are to be located on the water front, in the northern part of the City. A wharf 80 feet wide by 600 feet long, with creosoted piles, has been included in the cost estimate.

Derricks and hoisting engines are to be provided for the convenient unloading of coal from the vessels in which it is brought to the Bay.

A double coal-run, with necessary tracks and turn-tables, will deliver the coal into the coal shed.

The coal shed has been planned of a capacity of about 12,000 tons, equal to about a six weeks supply.

Two steel tanks, each of a capacity of 20,000 barrels, erected on a plank foundation and enclosed by a concrete or brick wall, are to be provided for the storage of gas oil. The concrete, or brick enclosure is suggested, to prevent an escape of the oil, in case of accident to either of the oil tanks.

A large oil pump, conveniently located in a small pumphouse, will deliver oil from barges to the oil tanks, and from the oil tanks to the water gas generators. In the same pumphouse, a salt water pump is to be installed to pump salt water to the several condensers, also to afford protection against fire.

It is assumed that all of the buildings will require pile foundations. They are to be built in a substantial manner of brick, with iron roofs covered with corrugated galvanized iron, and are to have iron floors wherever practical and necessary.

Sixty-four full depth regenerative benches, each with 8 clay retorts capable of producing 3,500,000 cubic feet of coal gas in 24 hours, will be required. The capacity of these regenerative benches is about 1,500,000 cubic feet in excess of that immediately required, so that 16 benches will ordinarily be out of service and will be available to meet a future increase in gas consumption.

Six generators will be required for the manufacture of water gas. Each of these is to have a capacity of 1,000,000 cubic feet in 24 hours.

Boilers, blowers and engines, oil vaporizers, oil pumps, also six water gas condensers, and other apparatus, is to be provided to make the water gas installation complete.

Six exhausters of the most approved pattern, with engines on the same bed-plate, are to be provided; also six condensers and scrubbers for the coal gas.

The mixed coal and water gas is to be purified in 16 purifier boxes, each 35 feet by 26 feet, equipped with hydraulic apparatus for lifting the purifier covers; also with apparatus for revivifying the oxide of iron in the boxes.

Four station meters, each of a capacity of 2,500,000 cubic feet per day, will register the amount of gas manufactured.

For the storage of gas, five gas holders are proposed, of which one holder of a capacity of 2,000,000 cubic feet and two holders, each of a capacity of 500,000 cubic feet, will be located at the gas works.

Two holders, each of a capacity of 1,000,000 cubic feet, are to be located in the southern part of San Francisco at Army and Rhode Island streets.

These two holders are to be connected with the gas works by a 16-inch pumping main, through which the gas will be forced day and night by means of a pair of gas pumps, one being ordinarily in use and the second one in reserve.

At the gas works a hydraulic plant is to be installed for the supply of power to hoist coal, oxide of iron, and other materials. It will consist in the main of 2 accumulator pumps, 2 accumulators, and 8 hydraulic elevators.

The proposed distributing system of pipes is shown on a map herewith submitted.

A large main 30 inches in diameter will lead from the proposed works to Van Ness avenue, along Van Ness avenue to Market street, along Market street with a diameter of 24 inches, to Guerrero street, along Guerrero street to 20th street, along 20th street to Potrero avenue, along Potrero avenue to 23rd street, along 23rd street to Rhode Island street, and along Rhode Island street to the holders in the southern part of the City.

The other mains and supply pipes through the different parts of the City are clearly shown on the map above referred to.

An office for the manager of the gas works, and a staff of assistants, is to be provided at the works in the same building in which the station meters are placed. The office building is to be 50 by 50 feet, and two stories high.

The cost estimate of the Gas Works and the distributing system complete, is as follows:

ESTIMATE OF COST.

Wharf 80 feet wide, 600 feet long, coal shed 12,000 tons capacity, coal-run, 2 coal hoisting engines, 2 hoisting derricks, and other coal handling machinery	\$53,800 00
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MUNICIPAL GAS PLANT.

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Two oil tanks, each 20,000 barrel capacity, surrounded by concrete or brick wall, including oil pipe line.....	40,400 00
Two retort houses, each 75x220 feet on pile foundation, brick, iron floor, iron roof, covered with galvanized iron.....	99,000 00
Sixty-four full depth benches, all complete to produce 2,000,000 cubic feet in 24 hours.....	260,000 00
Tools, coal cars, scales for retort houses, etc.....	2,000 00
Brick building, 50 feet by 200 feet, for exhausters, scrubbers and condensers.....	31,500 00
Six exhausters, each 2,000,000 cubic feet capacity, erected	15,000 00
Six 12-foot condensers for coal gas, erected.....	47,400 00
Two standard scrubbers, each 1,500,000 cubic feet capacity, erected	11,300 00
Brick building, 65 feet by 275 feet for boilers, engines, blowers, condensers, generators, with iron floor and iron roof.....	56,400 00
Six 150 horse power boilers, feedwater heater, 2 feed pumps, and steel smoke stack.....	26,000 00
Two No. 10 Sturtevant blowers, with engines, one 30-inch blast pipe for generators.....	4,500 00
Six 12-foot condensers for water gas, erected.....	47,400 00
Six water gas generators, each 1,000,000 cubic feet capacity in 24 hours, with oil pumps and vaporizers	60,000 00
Hydraulic pumps and accumulators, 8 hydraulic ram elevators, building and piping for hydraulic apparatus	15,000 00
Two brick buildings, each 75 feet by 175 feet for the purifiers	52,200 00
Sixteen purifier boxes, each 35 feet by 26 feet, with 4 center seals.....	103,000 00
Four hydraulic traveling cranes, piping, revivifying apparatus, gauges, etc.....	6,000 00
Brick building, 50 feet by 100 feet for station meters, and office and office equipment.....	18,500 00
Four station meters, each 2,500,000 cubic feet capacity in 24 hours, erected.....	30,000 00
Two gas holders, each 500,000 cubic feet capacity	90,000 00
Two gas holders, each 1,000,000 cubic feet capacity	158,000 00
One gas holder, 2,000,000 cubic feet capacity.....	150,000 00
Foundation work for gas holders.....	30,000 00
Two exhausters for pumping main, including building for same.....	5,000 00
Pipes at the gas works, gates and specials.....	98,000 00

Distributing system of pipes, consisting of:

15,120 feet 30-inch cast-iron pipe
17,400 feet 24-inch cast-iron pipe
77,100 feet 16-inch cast-iron pipe
51,600 feet 10-inch cast-iron pipe
67,440 feet 8-inch cast-iron pipe

MUNICIPAL GAS PLANT.

76,680 feet 6-inch cast-iron pipe		
1,775,520 feet 4-inch cast-iron pipe		
<hr/>		
Total, 2,080,920 feet, or 394.12 miles.....	1,960,000 00	
Water tanks, water pipes, hydrants, salt water pumps, etc.,	6,300 00	
Steam piping	3,000 00	
Consumers meters	700,000 00	
Station lighting, sewerage, equipment of Gas Engineer's Laboratory, and incidental expenses	20,300 00	
9000 street lamps, including lamp posts and connections	206,000 00	
	<hr/>	\$4,406,000 00
Add for contingencies, engineering, etc., say.....	441,000 00	
	<hr/>	
Total		\$4,847,000 00

Purchase of the necessary real estate and grading of the site for the works has not been included in the above cost estimate.

Respectfully submitted,

(Signed.)

RICHARD FENNER, Consulting Engineer.

MUNICIPAL ELECTRIC-LIGHT PLANT.

In compliance with the provisions of the Charter relative to the acquisition of public utilities, the Board of Supervisors, on August 20, 1900, passed a Resolution, No. 783, asking the Board of Public Works, through its City Engineer, Mr. C. E. Grunsky, to submit an estimate of the cost of the original construction and completion by the City and County of a municipal electric lighting plant of 3,000 arc and 5,000 incandescent light capacity, contemplating an underground system in the proper districts and an overhead system in the outlying districts. Also, the cost of poles and wires of such a system, leaving out the wires in the underground district.

The Resolution is as follows:

RESOLUTION NO. 783.

Resolved, That the City Engineer be and he is hereby directed to submit an estimate of the cost of the original construction and completion by the City and County of San Francisco of a municipal electric lighting plant of three thousand arc light and five thousand incandescent light capacity, contemplating an underground system in the proper districts, and an overhead system in the outlying districts.

Also, the cost of the poles and wires of such a system, leaving out the wires in the underground district.

And the Clerk is hereby directed to advertise this Resolution in the Evening Post Newspaper.

In Board of Supervisors, San Francisco, August 20, 1900.

Adopted by the following vote:

Ayes—Supervisors Booth, Boxton, Brandenstein, Braunhart, Comte, Connor, Curtis, D'Ancona, Dwyer, Fontana, McCarthy, Reed.

Excused from Voting—Supervisor Tobin.

Absent—Supervisors Hotaling, Jennings, Sanderson.

JNO. A. RUSSELL, Clerk.

On March 20, 1901, there was filed in the office of the Clerk of the Board of Supervisors a Communication from the Board of Public Works, inclosing a Report from C. E. Grunsky, City Engineer, on the matters referred to in Resolution No. 783, and also a Report from Professor C. L. Cory, which Communication and Report are as follows:

San Francisco, March 20, 1901.

To the Honorable the Board of Supervisors
Of the City and County of San Francisco—

Sirs: Enclosed is a report of the City Engineer, dated on the 15th instant, prepared under the direction of, and approved by this Board, containing an original project for lighting streets and public buildings by electricity, called for by Resolution No. 783, of the Board of Supervisors.

This report is accompanied by fifteen (15) drawings which illustrate the proposed constructions, plant and lighting arrangements, in sufficient detail

The plant is projected to furnish, beyond lighting requirements, the power necessary to pump sewage under the new system yet to be constructed, and also for elevator service. Provision is made for three thousand (3,000) arc and for seven thousand (7,000) incandescent lights, an amount considerably greater than the number now in use.

There is also provided to be held in reserve, above the requirements above stated, a capacity of 1,000 kilo watts.

The estimated cost of the whole system is \$1,375,390.00.

The generating plant is to be established on the shore at the foot of Fillmore street, upon a City lot, extending from Lewis to Tonquin streets, having water communication by which supplies may be conveniently received, and also water for condensing purposes.

The buildings and other arrangements, for this station, are shown on the drawings herewith. These drawings also show the locations of all street lights, both arc and incandescent.

The distributing station is taken to be at the City Hall. It will be connected with the generating station underground. The City Hall location is very convenient in several important respects.

The report contains comparisons of estimated cost of lighting streets and buildings, with the actual cost as now paid by the City under contract, and with the estimated cost under a proposition made to the City by Mr. E. Brooke Ridley, on August 14, 1900.

There are also comparisons as to cost of poles and wires, in relation to a proposition made by the Independent Electric Light and Power Company, under date of April 30, 1900, and covering the acquiring, by the City, of the pole system used by the Gas and Electric Company.

The report also contains tables of information respecting electric lighting in many other cities.

Very respectfully,

BOARD OF PUBLIC WORKS.

By J. LEO PARK, Secretary.

REPORT OF C. E. GRUNSKY, CITY ENGINEER.

San Francisco, Cal., March 15, 1901.

To the Honorable the Board of Public Works
Of the City and County of San Francisco—

Gentlemen: Complying with your directions, a study has been made of the project to install a municipal plant for the lighting of the streets and public buildings of this City with electricity.

Resolution No. 783 of the Board of Supervisors, requires information as to the cost of a plant having a capacity of 3,000 arc and 5,000 incandescent lamps; also the cost of the poles and wires, leaving out the wires in the underground district. A verbal request was made by the Chairman of the Committee on Public Utilities to report upon the cost of poles and wires in advance of the final report. It was found impossible to separate the study of the distribution system from the main project, and in fact, this study was that part of the work which required most time; so that it has not been practicable to make an earlier separate report on this part of the subject.

The plant, as projected, has a capacity in excess of that called for in the resolution of the Board of Supervisors, but even if operations were to be commenced with an output equivalent to 3,000 arc and 5,000 incandescent lights, no fewer nor smaller units should be taken into consideration and the cost estimate remains the same.

The investigation has been conducted in conjunction with Prof. C. L. Cory, who was retained by your Board as consulting electrical engineer and the main questions considered are fully discussed in his report, which is attached hereto and made a part hereof. The conclusions reached and the cost estimates presented are fully concurred in.

Data obtained from other cities showing cost of street lighting have been tabulated for convenient reference, and the table is hereto appended.

The estimated cost of a municipal electric light and power plant, as fully described in these reports, is \$1,375,930.00. The wires are to be placed in sub-surface vitrified iron-stone ducts in the underground district and wherever the wires to be carried on any line of poles would be so numerous as to make the pole line unsightly.

With one unit of 1,000 kilo watt capacity in reserve, the plant can generate the power which will be ultimately required for pumping sewage, and for public service, and will furnish electricity for 3,000 arc and 7,000 incandescent lamps.

The cost of poles and wires, leaving out the wires in the underground district and leaving out the poles and wires required for the sending of power to sewage pumping stations, would be—

8,049 redwood poles, 40 feet long, 7x7 inches at top, 12x12 inches at butt, dressed, painted and stepped, including crossarms, bolts, pins and insulators in position.....	\$96,590 00
242 ornamental iron poles for arc lamps in underground district in position.....	14,520 00
1,489,000 feet of triple-braid weather-proof wire for overhead arc lighting circuits, in position on poles	36,470 00
464,791 feet of triple-braid weather-proof wire for overhead incandescent lighting circuits, in position on poles.....	11,390 00
491,800 feet of triple-braid weather-proof wire for overhead public building lighting circuits, in position on poles.....	25,370 00
Total	\$184,340 00

The lights necessary to make this a well-lighted city on the basis of an all-electric service are shown on the accompanying sheets, Nos. 1 to 7 and on Nos. 8 to 11.

Arc lights are to be used on the main streets, incandescent lights on unimportant side streets, in alleys and small places.

It was found that 2,032 arc lights and 524 incandescent lights will be at once required for lighting the streets. This will include a line of lights out Ocean House road to Ingleside and along Dewey Boulevard past the Almshouse to Sunset District south of the Park; also lights on Point Lobos avenue to the Cliff House and along the great highway from the Cliff House to Golden Gate Park.

In the public buildings there are now, or should be, about 16,038 incandescent lights, distributed as hereinafter set forth, of which probably not more than 6,000 will ever be in service at one time.

As the City will very soon be in need of power for five sewage pumping stations and also requires some power for the electric elevators of public buildings and other purposes, it will be desirable to make the generating station of sufficient capacity to furnish this power.

Having determined what the general requirements would be that would have to be fulfilled by the generating station, the question came up for consideration

as to whether the several circuits should emanate from the generating station or whether a centrally located sub-station should be introduced with transformers and switchboards from which to effect the distribution.

It was found that less wire would be required if a sub-station be introduced, and that such a station centrally located would most readily permit a connection of the system with the main wires of any electric light and power company from which it might be desired at any time to take electricity.

It is proposed to use the alternating current throughout. Arc lights are to be of the enclosed type on circuits of 100 each.

The lights are ordinarily to be supported by brackets extending well out beyond the curb line of streets or are to be suspended over the centers of street intersections. In the public parks and in outlying districts, they should be on the tops of the poles. Incandescent lights are to be either on top of low posts or supported by brackets attached to the poles which carry the wires.

The sub-station will preferably be located at the City Hall. Space for transformers can be provided in a vault placed underneath the surface of the ground outside of the building, thus avoiding any objection that might be urged to the placing of transformers within the building.

The increased capacity of the plant, above the requirement of lighting streets and public buildings, adds somewhat to the cost of the installation. This added cost, except in the matter of additional poles and wires required, can not be closely estimated, as but little modification of the generating plant would be made, even if no provision for this additional output of power were made.

It can be stated, however, that this reduction in cost for the distributing system would be about \$38,700.

The inquiry which was made to determine what part of first cost could be saved by utilizing ducts of the Independent Electric Company and poles and wires of the San Francisco Gas and Electric Company, so far as they would fit into the proposed system, has led to the conclusion that it would be better to have a separate underground conduit system throughout for the City wires, in case the City establishes its own generating station, but that there would be no objection to making the poles and wires already in service for street lighting purposes a part of the system. The value of these poles and wires has not been estimated. The cost estimate shows, however, how much would be saved in case it were not necessary to duplicate them.

COMPARISONS.

The improved service obtained during this fiscal year from the San Francisco Gas and Electric Company in the matter of street lighting by gas, there having been introduced an improved lamp and mantle burners, has afforded excellent opportunity for comparison of the efficiency of the service to be expected from the use of gas with that which would result from the use of electricity only.

Arc lights at each street intersection where blocks are between 400 and 450 feet in length give an illumination somewhat brighter than single mantle burners at each intersection with two intermediate lights; but in favor of the mantle light it may be noted that its light is better diffused and more pleasing, as the eye adapts itself better to the less intense type of light.

Where a single electric arc light is placed at each street intersection in such districts as the Western Addition, where blocks are 275 by 412.5 feet, each electric light replaces four mantle lights.

Where there are alleys, small streets or cul-de-sacs to be lighted, there is no need of installing arc lights. Either gas lighting might be continued or the incandescent lighting, as shown on the maps, should be substituted therefor.

The cost of 824 gas lights, mantle burners, if used as a substitute for the above 824 incandescent electric lights, at 9 cents per night for 365 nights would be \$27,068.

MUNICIPAL ELECTRIC-LIGHT PLANT.

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The cost of lighting streets and public buildings at present, based on the expenditures from July 1, 1900, to January 31, 1901, is as follows:

STREET LIGHTING.

567 direct current arc lights at 30½ cents per night, 305 nights per year, \$120 47 per light per year.....	\$68,306 00
228 direct current arc lights at 35 cents per night, 305 nights per year, \$106 75 per light per year.....	24,340 00
4,569 gas lights, mantle burners, at 9 cents per night, 305 nights per year, \$27 45 per light per year	125,419 00

LIGHTING PUBLIC BUILDINGS.

City Hall, per year.....	\$12,720 00	
Hall of Justice, per year.....	1,860 00	
City and County Hospital, per year.....	5,630 00	
Police Stations, per year.....	3,920 00	
County Jails 1, 2 and 3, per year.....	3,070 00	
School Buildings, per year.....	6,220 00	
Engine houses, per year.....	3,750 00	
Other buildings, per year.....	1,300 00	\$38,470 00

Total \$256,535 00

The cost of lighting streets and public buildings with a municipal lighting plant, as proposed, installed with sufficient generating capacity to supply power, when required, to elevators of public buildings and to sewage pumps, with lights, every night would be

2,032 arc lights, 365 nights.....	\$180,681 00
824 incandescent lights, 365 nights.....	16,519 00
6,000 lamps, average load, in public buildings....	27,378 00

Total \$224,578 00

The immediate annual expense would, under a 40-year bond issue, be increased by interest and sinking fund to the extent of \$82,555, which amount would gradually decrease in 40 years to \$34,400, at which time the City would have the plant free of debt.

The cost per arc light per night of 10½ hours on the basis of an every night service would be 24 cents.

The cost per incandescent 32 candle power street light per night on the basis of an every night service of 10½ hours would be 5.5 cents.

Assuming four gas lamps with mantle burners as equivalent to one arc lamp and one 32 candle power electric incandescent lamp as equivalent to one gas lamp, the new system of street lighting will provide 2,032 arc and 824 incandescents, while the present system is equivalent to 1,731 arcs and 824 incandescents. The proposed system adds practically 301 arc lamps to the present lighting system. At 24 cents per night, this would amount to \$26,367 per year, by which amount the cost of the proposed lights should be reduced when comparing it with the present cost of street lighting. It is also to be noted in this connection that at present the street lighting is only done on 305 nights per year, while

the proposed system contemplates the operation of the lights 365 nights per year, and that many buildings not now lighted are to be lighted, notably many of the schools.

The estimated cost of lamp poles, poles for the overhead wiring and for the wire in position on the poles is:

242 iron poles.....	\$14,520 00	
8,049 redwood poles set, including painting, pins and insulators.....	96,590 00	
1,483,000 feet of triple-braid weather-proof wire in position on the poles.....	36,470 00	
Total		\$147,580 00

With this estimated cost is to be compared the proposition of the Independent Electric Company, under date of April 30, 1900, to furnish 180 iron poles, 8,300 redwood poles, 1,600,000 feet of wire for the sum of \$225,000.

The San Francisco Gas and Electric Company has 2,373 poles now in position outside of the underground district. If these, together with the wire now in use and the 19 ornamental wooden poles supporting lamps in the underground district, were to be used as a part of the proposed system, the estimated cost of poles and wires would be reduced by \$33,400.

The plant proposed to be furnished to this City by Mr. A. E. Brooke Ridley, as described in his letter to the Chairman of the Committee on Public Utilities of the Board of Supervisors, under date of August 14, 1900, and as illustrated by diagram, would consist of one 1,000 K. W. unit less than the proposed municipal plant. It would afford space for expansion, and would probably not be operated long before the additional unit would be required.

Under his proposition the City would pay for 3,000 arc for 4,000 incandescent lights, per year.....	\$294,000
For 20 years.....	5,880,000

The same service from a municipal plant is estimated to cost:

3,000 arc lights, 305 nights per year at 24 cents lamp per night.....	\$219,600 00	
4,000 incandescent lamps, 5 hours per day, 365 days	18,252 00	
Total		\$237,852 00
For 20 years.....		4,757,040 00
Difference in cost per year in favor of the municipal plant.....		56,148 00
Difference for 20 years.....		1,122,960 00
An annuity of \$56,148 in 20 years at 4 per cent would amount to.....		1,671,975 00

The following maps and diagrams have been prepared and are made a part of this report:

1. Sheet No. 1. Northeast quarter of City, showing arc lighting circuits and arc lamps.
2. Sheet No. 2. Northeast quarter of City, showing incandescent street lighting circuits and incandescent street lights.

3. Sheet No. 3. Northeast quarter of City, showing public building lighting and number of lights and power service circuits and amount of power required.
4. Sheet No. 4. Southeast quarter of City, showing arc lighting circuits and arc lamps.
5. Sheet No. 5. Southeast quarter of City, showing incandescent street lighting circuits, public building lighting circuits and number of lights and power service circuits and amount of power required.
6. Sheet No. 6. Southwest quarter of City, showing arc lighting circuits and arc lamps and public building lighting circuits and number of lights.
7. Sheet No. 7. Northwest quarter of City, showing arc lighting circuits and arc lamps, public building lighting circuits and number of lights and power service circuits and amount of power required.
8. Sheet No. 8. Northeast quarter of City, showing lights, poles and public buildings.
9. Sheet No. 9. Southeast quarter of City, showing lights, poles and public buildings.
10. Sheet No. 10. Southwest quarter, showing lights, poles and public buildings.
11. Sheet No. 11. Northwest quarter of City, showing lights, poles and public buildings.
12. Sheet No. 12. Plan of power station.
13. Sheet No. 13. Elevation of power station.
14. Sheet No. 14. Arrangement of grounds and buildings on power-house site.
15. Sheet No. 15. Comparison of electric and gas lighting.

There is also appended hereto an exhibit in four tables, showing methods and cost of street lighting in other cities. This information was obtained in response to a circular letter sent out under date of June 18, 1900.

Very respectfully,

C. E. GRUNSKY, City Engineer.

REPORT OF PROF. C. L. CORY.

To C. E. Grunsky, City Engineer,
City and County of San Francisco—

Dear Sir: In accordance with your directions I herewith submit the following report on the cost of the original construction and completion by the City and County of San Francisco of a municipal electric lighting plant for lighting the streets and public buildings, using an underground system in the proper districts and overhead construction in the outlying districts, including the approximate cost of operation of such a plant. The underground district for the purposes of this report is made to extend beyond the section of the City officially so designated. These extensions do not add materially to the area, but in the installation of the new plant care has been taken to put the wires underground wherever the number of circuits are excessive. An estimate of the cost of construction is given separately for a complete distribution system covering the entire city, including all necessary poles, underground conduits and circuits for arc and incandescent lights, as well as power for public service.

The proposed plant is designed to fulfill every requirement of the City for electric lighting and power, as hereinafter indicated. The total number of arc lights to be installed at the present time for street lighting is 2,032. Of this number, 1,799 are located outside of the regular City underground district and 242 are within this district. This does not include the lights in Golden Gate Park,

but provision is made in the plant for the operation of these lights if it seems desirable. The plant, as laid out, has an ultimate capacity of 3,000 arc and 7,000 incandescent lamps. When carrying this load, one unit of the generating station is held in reserve. The station building is so designed that an additional generating unit may be added, including the boilers required, whenever the City may need additional power for electric lighting or in connection with a municipal water system.

All of the street arc lights are to be of the enclosed alternating current series type, installed 100 on each circuit. This type of lamp has been in use in several cities for some time, and the system has proved a success. It has many advantages over the old direct current series open arc system, particularly in the efficiency and simplicity of the generating machinery and in the cost of operation. For the most part the arc lamps are to be supported from an iron bracket on a pole set just within the curb. In some districts, center suspension at the junction of streets is advisable, while in others lamps are to be set on the top of poles. In the underground district, ornamental iron poles are to be used exclusively. A detachable coupling, disconnecting the lamp from the circuit when it is lowered for trimming, is to be used, thereby very materially reducing the number of wires and cables ordinarily necessary for arc lamp suspension.

Incandescent electric lamps of 32 candle-power each are also to be used in connection with the street lighting system. Eight hundred and twenty-four of such lamps are to be located on side streets and in such locations where it does not seem necessary to put an arc lamp. Of this number, 93 are located within the City underground district, 731 being outside of such district. The greater part of the incandescent lights are to be placed in a protecting glass case on the tops of short poles, similar to the ordinary gas lamps. Iron brackets are also to be used in some cases, with suitable reflecting hoods. These incandescent lights are to be operated in series, 100 on each circuit. In the present street lighting system, there are 795 direct current arc lamps, no incandescent electric lights whatever being in use. These arc lamps, in addition to 4,569 gas lamps with incandescent or Welsbach burners, cover all the street lighting system at the present time. In the proposed system of street lighting, if, for any reason, it is deemed advisable, portions of the City may be lighted by Welsbach gas lamps. During such period, the incandescent electric lamps and the desired number of arc lamps may be discontinued. The streets could, however, be lighted exclusively with arc or incandescent electric lights at any time if circumstances should render gas lighting undesirable, whether on account of excessive cost or for other reasons. (The comparison between electric arc and gas lamps with Welsbach burners for street lighting is shown in the diagram accompanying this report.)

The buildings to be lighted according to this estimate and the number of 16 candle-power lights, or their equivalent, to be used in each building is hereinafter noted. These buildings include the City Hall, the Hall of Justice and the buildings under the control of the Police Department, the Fire Department, the School Department and the Board of Health. All the schools are not included in the list. Those now lighted, however, and in use for night schools are included in this estimate. In all, these buildings require an equivalent of 16,038 incandescent lights, although in many buildings it is intended that enclosed alternating current lamps are to be used when advisable instead of incandescent lights. It is not probable that all of the lights used in the public buildings would be in use at the same time. Nevertheless, sufficient station capacity has been allowed for the maximum possible load on this system.

The electrical power to be supplied from the proposed plant would be principally for the pumping stations for sewerage. Five of such pumping stations are intended and will ultimately require a total of 514 horsepower, as given below.*

*Report upon a system of sewerage for the City and County of San Francisco by C. E. Grunsky and others, 1899, page 76.

Pumping Station.	Horsepower.
Yerba Buena.....	42
Mission Flats.....	120
Lower Islais Creek.....	180
Bay View.....	35
West Richmond.....	137

— 514

These pumping stations will be run continuously through the day as well as at night, although it is possible to shut the pumps down at such times as may be required in the operation of the plant.

Aside from the electric power for the sewerage pumping stations, a sufficient amount is provided for the elevators in the City Hall and Hall of Justice, the shops of the Department of Electricity, also in the City Hall and such other power as may be required in the other public buildings.

Complete drawings and maps of the City have been prepared, showing the location of all of the arc and incandescent lights to be used in the system of street lighting, also drawings showing the location and number of lights to be used in the various public buildings and schools. The location of the pumping stations is also shown, with the amount of power required in each. All circuits are indicated upon the maps, showing the location of the poles and underground conduit system.

The proposed plant is to be located on the property owned by the City at the foot of Fillmore street. This property extends from Lewis to Tonquin streets. The depth of this lot is 200 feet, and the frontage on Fillmore street is 275 feet. The general arrangement of the buildings on this property is shown in the drawing submitted herewith. By locating the station upon this property, water can readily be obtained for condensing purposes, and fuel, whether coal or oil, can be cheaply landed. A wharf for receiving all the machinery and materials of construction, and to be ultimately used for the unloading of coal or fuel oil is included in the estimate. Storage bins are provided for approximately 7,500 tons of coal, the bunkers in the boiler room having an additional capacity of 600 tons. An iron tank, 50 feet in diameter, having a capacity of 7,000 barrels, is included for receiving oil, so that either coal or oil can be used for fuel.

The station building, as shown in the plan and elevation submitted herewith, is of brick, with cement floor and iron roof construction, and is 175 feet long and 120 feet in width. Both the boiler and engine room extend the entire length of the building, the two rooms being separated by a brick wall. The width of the boiler room is 60 feet and the engine room 53 feet. An electric traveling crane is provided for handling all of the machinery in the engine room, provision being made for bringing the loaded cars from the wharf into the building, the machinery being lifted from the cars by the crane.

The boiler room contains three batteries of two water-tube boilers each, so arranged that the flue gases are carried through an economizer before going to the stack. Coal is discharged directly in front of the fire doors. The boiler room also contains the feed water heaters, feed pumps and the necessary boiler room accessories.

During the day but one boiler will be required, and the load at night will be such that four boilers will furnish all the steam necessary when working under the most economical conditions. This will leave as a reserve one battery of two boilers for cleaning purposes at all times.

The engine room will contain four direct connected units with sufficient space in the building for an additional engine and generator which may be installed when required. At present, a portion of this space will be utilized for a machine shop. Three of the generating sets to be installed at present are of 1,000 kilo watt capacity, and one is of 500 kilo watts. The dynamos are polyphase alter-

nators, and the engines are of the vertical cross compound type to be run condensing, and of sufficient capacity to carry a twenty-five per cent overload on the dynamos. Two engine driven exciters are provided, either one of which will furnish exciting current for the entire plant. The switchboard is located along the side of the engine room, mounted on the main floor. A separate building, just back of the switchboard is provided for the step-up transformers, eliminating all possible chance of the destruction of the plant by fire, in case of trouble with oil insulated transformers, should this type be used.

The load upon this plant is of such a character that the 500 kilo watt unit is of sufficient capacity to carry all power service for pumping sewage and any additional lights which may be in use in the various public buildings during the day. At night when the street lights are necessary, two of the 1,000 kilo watt units will be sufficient to carry the entire load, leaving a reserve unit one 1,000 kilo watt generator.

Current will be transmitted from this station at approximately 10,000 volts to the sub-station or center of distribution of the entire system. This sub-station may either be located in the basement of the City Hall or in some suitable place upon the City Hall property, and will contain all the transformers, switchboards and other devices for controlling the various circuits in use on the entire system. The store room for supplies, lamps, and other accessories will also be located in the sub-station. The transmission line from the plant to the City Hall will be entirely underground along Webster and Fulton streets, and will consist of three complete circuits, any of which will be large enough to transmit the entire output of the plant with but nominal loss. The distance from the plant to the City Hall is 15,300 feet.

The use of the sub-station at the City Hall reduces very materially the length of the distributing circuits, and increases the convenience and simplicity of operation. In addition, if for any reason the City should desire to purchase electrical power from a private company, the current could be delivered by such company at a point most convenient for all purposes. If in the future electricity is transmitted into San Francisco from some distant water power, thereby reducing the cost of such electrical power, the City would be in a position to most effectively take advantage of such new conditions. Any existing company or new corporation could readily furnish the City with such power as is required to light the streets and public buildings and also other power required, with minimum cost, the City having entire control of the distribution and use of such purchased power, delivered at this centrally located sub-station.

All of the circuits from the sub-station are taken out through properly constructed tunnels to the underground system. The conduits of this system vary in size from 2 ducts to 24 ducts, according to the possible demands upon them. The ducts are 3½-inch vitrified glazed clay tile, laid in concrete. The total amount of such conduit to be built is 129,554 feet, of which 77,189 feet is to receive either one or two cables. Provision is also made for all ducts required for the wires of the Fire Alarm and Police Telegraph.

Of the above amount, 78,106 feet of the underground conduit system of the Independent Electric Light and Power Company is located on the same streets. Either one or two cables would be required in 45,716 feet of this conduit. The additional conduit system required aggregates 51,448 feet, of which 31,473 feet is for either one or two cables.

The total number of poles outside the underground system in the overhead system is 8,049. Of this number, 6,300 will support either one or two wires. Of the total number of poles required, 2,373 are now practically in position, belonging to the system of the San Francisco Gas & Electric Company. Upon 484 of these poles arc lights are at present located, and in addition 19 ornamental wood poles, with constant potential direct current enclosed arc lamps, are in use in the underground district.

No provision has been made in this estimate for wiring the school houses or other public buildings for electric lighting. The cost of such wiring would largely depend upon the relative use of enclosed alternating and incandescent lights.

The detailed itemized estimates of the cost of the plant and distributing system, including the arc and incandescent lamps and fixtures, are based upon bids in my possession. In the several items the necessary incidentals, such as engineering services, construction supervision and contingent expenses, are included.

The estimate of the probable cost of operation is based upon present conditions of fuel, cost and guarantees of economy and efficiency, verified by reliable tests of, and data from, existing plants. In determining the cost of operation, it has been assumed that at present the load will consist of the arc and incandescent lights for street lighting every night during the year and the lighting service for the public buildings. The cost of power for sewerage pumping is given separately, as the ultimate demand of 514 horse power is approximately twice that required for some years.

In determining the depreciation of the entire plant, an average life of eighteen years is assumed. The depreciation upon the several portions of the plant is based upon a life of ten years for the poles and street fixtures, fifteen to twenty years for the steam and electric plant and twenty years for the wire and conduits.

LIGHTS REQUIRED IN PUBLIC BUILDINGS.

(16-candlepower lamps.)

BUILDING.	NUMBER.	TOTAL.
City Hall.....	5,170	
Hall of Justice.....	844	
Police Department—		
County Jail No. 1.....	80	
County Jail No. 2.....	250	
County Jail No. 3.....	250	
Police Patrol Stable.....	25	
Police Station, Seventeenth street.....	48	
Police Station, Sacramento street.....	30	
Police Station, Washington street.....	28	
Police Station, Napa street.....	14	
Police Station, Railroad avenue.....	16	
Police Station, O'Farrell street.....	20	
Police Station, Stanyan street.....	27	
Fire Department—		
Engine Houses, Nos. 1 to 36 inclusive, 20 lights each.....	720	
Chemical Engine Houses, Nos. 2 to 5 in- clusive, 20 lights each.....	80	
Hook and Ladder Houses, Nos. 1 to 3 in- clusive, 20 lights each.....	60	
Stables Nos. 1 and 2, 20 lights each.....	40	
Store House.....	20	
Corporation Yard, Sacramento street.....	35	
Water Tower.....	20	
Fire Alarm and Police Telegraph.....	20	
School Department, Schools—		
Polytechnical High.....	480	

LIGHTS REQUIRED IN PUBLIC BUILDINGS—CONTINUED.

BUILDING.	NUMBER.	TOTAL.
Humboldt	420	
Lincoln	480	
Franklin	290	
Horace Mann.....	400	
Richmond	200	
Spring Valley.....	180	
Le Conte.....	180	
Hamilton	400	
Lowell High.....	180	
Girls' High.....	600	
Washington	400	
Clement	80	
Rincon	80	
Webster	180	
Harrison	180	
Irving	100	
Buena Vista.....	80	
Douglas	280	
Redding	80	
Mission High.....	580	
Broadway	80	
Pacific Heights.....	180	
John Swett.....	280	
Haight	40	
Fairmount	180	
Irving Scott.....	180	
Noe Valley.....	80	
Mission Grammar.....	180	

LIGHTS REQUIRED IN PUBLIC BUILDINGS—CONTINUED.

BUILDING.	NUMBER.	TOTAL.
Chinese	40	
Hearst	180	
Denman	250	
Board of Health—		
City and County Hospital.....	421	
Almshouse	250	
Branch Receiving Hospital.....	18	
Morgue	32	
Total		16,038

COST OF PLANT.

	AMOUNT.	TOTAL.
1.—Wharf, including track and scales; coal storage, 7,500 tons capacity; coal handling machinery and oil tank, 7,000 bbls. capacity.....	\$72,500 00	
2.—Station building, including excavation, piling, brick and stone work, stack, concrete footings, engine foundations, concrete floor, mill work, skylights in boiler and engine room, roof and roof trusses, painting, transformer building, complete.....	110,000 00	

COST OF PLANT—CONTINUED.

	AMOUNT.	TOTAL.
3.—Steam plant, consisting of three batteries of two boilers each; three vertical compound condensing engines of 1,670 H. P. each, one of 835 H. P.; two vertical compound engines for exciters; condensers, feed pumps and feed water heaters; induced draught apparatus; electric crane; machine shop; steam piping, valves and steam pipe covering, all erected complete ready for operation.....	317,000 00	
4.—Electric plant, consisting of three 1,000 K. W. and one 500 K. W. polyphase alternators; two 75 K. W. exciters; seven (one spare) 500 K. W. high-tension raising transformers, marble low-tension switchboards for generators, exciters and transformers; high-tension transformers switchboard panels, line panels and lightning arresters; all erected complete ready for operation.....	129,500 00	
5.—Underground conduit from plant to City Hall	38,250 00	
6.—Three cables, making three circuits from plant to City Hall.....	45,900 00	
Total cost of plant, exclusive of real estate ,to deliver 10,000 volt polyphase alternating current to the substation		\$713,150 00

COST OF DISTRIBUTING SYSTEM.

	AMOUNT.	TOTAL.
1.—Substation at City Hall, including tunnels to underground conduit.....	\$15,000 00	
2.—52,365 feet of vitrified glazed clay and concrete underground conduit, including manholes	157,100 00	
3.—77,189 feet of lateral conduit of lap-welded iron pipe, including manholes.....	46,320 00	
4.—242 ornamental iron poles for arc lamps in underground district, in position.....	14,520 00	
5.—8,049 redwood poles, 40 feet long, 7x7 inches top, 12x12 inches butt, dressed, painted and stepped, including cross arms, bolts, pins and insulators in position.....	96,590 00	
6.—113,386 feet of multiple conductor lead-covered and jute-wrapped cable for arc lighting circuits in ducts, including connections	43,600 00	
7.—66,600 feet of multiple conductor lead-covered and jute-wrapped cable for incandescent street lighting circuits, in ducts, including connections.....	20,310 00	
8.—30,388 feet of multiple conductor lead-covered and jute-wrapped cable for incandescent public building lighting, in ducts, including connections.....	18,810 00	
9.—19,650 feet of multiple conductor lead-covered and jute-wrapped cable for power service, in ducts, including connections....	19,650 00	

COST OF DISTRIBUTING SYSTEM—CONTINUED.

	AMOUNT.	TOTAL.
10.—1,489,000 feet of triple braid weather-proof wire for overhead arc lighting circuits, in position on poles.....	36,470 00	
11.—464,791 feet of triple braid weather-proof wire for overhead incandescent lighting circuits, in position on poles.....	11,390 00	
12.—491,800 feet of triple braid weather-proof wire for overhead public building lighting circuits, in position on poles.....	25,370 00	
13.—262,100 feet of triple braid weather-proof wire for overhead power service circuits, in position on poles.....	14,550 00	
14.—Twenty-five 100-light constant current transformers for arc lighting system, with switchboards, including 2,500 enclosed series alternating current arc lamps, installed complete.....	117,500 00	
15.—Incandescent street lights and street fixtures and lowering transformers, 100 K. W. capacity.....	7,100 00	
16.—Lowering and house transformers for public building incandescent system, 1,000 K. W. capacity.....	14,000 00	
17.—Lowering transformers for power service, 500 K. W.....	4,500 00	
Total cost of distributing system, including substation, underground conduit, ornamental iron poles in underground district, lead and jute wrapped cables for arc, incandescent and power service, poles and wires, arc and incandescent lamps, transformers, but no motors for power service.....		\$662,780 00

The total cost of the underground conduit system required as given above is \$203,420. if the underground conduit system of the Independent Electric Light and

Power Company were used as mentioned in the report, the saving in first cost would be \$124,600, making the cost of the underground conduit system necessary, in addition to that used of the Independent Electric Light and Power Company, \$78,820.

SUMMARY.

COST OF DISTRIBUTING SYSTEM.

	AMOUNT.	TOTAL.
Substation	\$15,000 00	
Underground Conduits—		
On same streets as Ind. E. L. & P. Co.....	\$124,600 00	
In addition to conduits of Ind. E. L. & P. Co.....	78,820 00	
		203,420 00
Arc Lighting System—		
Underground cables.....	\$43,600 00	
Expense of poles and overhead wire saved by using present lines of the S F. Gas & Elec. Co....	\$33,340 00	
Poles and overhead wire required in addition to present lines of S. F. Gas & Elec. Co.....	114,140 00	
		147,580 00
25 100-light transformers and 2,500 alternating enclosed series arc lamps.....	117,500 00	
Total arc lighting system.....		308,680 00
Incandescent Street Lighting System—		
Underground cables.....	\$20,310 00	

SUMMARY—CONTINUED.

	AMOUNT.	TOTAL.
Overhead wire.....	11,390 00	
Lowering transformers, 10 100- light regulating coils, lamps and street fixtures.....	7,100 00	
Total incandescent street lighting system	38,800 00	
Public Building Incandescent System—		
Underground cables.....	\$18,810 00	
Overhead wire.....	25,370 00	
Lowering transformers.....	14,000 00	
Total public lighting system.....	58,180 00	
Power Service System—		
Underground cables.....	\$19,650 00	
Overhead wire.....	14,550 00	
Lowering transformers.....	4,500 00	
Total power service system.....	38,700 00	
Total distributing system, including arc and incandescent lamps and all transformers		\$862,780 00

TOTAL COST OF PLANT AND DISTRIBUTING SYSTEM.

	AMOUNT.	TOTAL.
Plant complete to deliver current to sub-station	\$713,150 00	
Distributing system complete with arc lights, etc.	662,780 00	
		\$1,375,930 00

COST OF OPERATION.

	AMOUNT.	TOTAL.
FIXED CHARGES.		
Interest on the net investment, 3½ per cent. of \$1,375,930.....	\$48,157 55	
Depreciation on entire investment, 4 per cent. of \$1,375,930, 18 year life.....	55,037 20	
Insurance, 75 cents per \$100 on \$500,000.....	3,750 00	
Total		\$106,944 75
MAINTENANCE AND OPERATING COSTS.		
Fuel—51,000 bbls. of oil at \$1 per bbl.....	\$51,000 00	
Carbons	3,000 00	
Oil and waste.....	1,450 00	
Globes and incandescent lamp renewals.....	3,500 00	
Maintenance of steam and electric plant, conduits, lamp-posts, lines and cables.....	2,000 00	
Total		\$80,410 00

COST OF OPERATION—CONTINUED.

	AMOUNT.	TOTAL.
SALARIES AND WAGES.		
One general superintendent.....	\$3,000 00	
One assistant superintendent.....	1,500 00	
One storekeeper.....	900 00	
Three first engineers at \$100 per month.....	3,600 00	
One chief electrician at \$100 per month.....	1,200 00	
Three firemen at \$75 per month.....	2,700 00	
Four oilers at \$65 per month.....	3,120 00	
Five switchboard men at \$75 per month.....	4,500 00	
One underground conduit and cable man at \$100 per month.....	1,200 00	
Two conduit and cable men at \$75.....	1,800 00	
One line foreman at \$100 per month.....	1,200 00	
Two linemen at \$90 per month.....	2,160 00	
Five trimmers at \$75.....	4,500 00	
One lamp repairer at \$75 per month.....	900 00	
Six laborers at \$2 per day.....	3,744 00	
Two horses and wagons at \$50 per month each	1,200 00	
Total (thirty-seven employees).....		\$37,224 00
Fixed charges.....	\$106,944 75	
Maintenance and operation..... \$80,410 00		
Salaries and wages..... 37,224 00		
	117,634 00	
Total		\$224,578 75

The amount the City would receive as taxes were the plant owned by a private corporation may be considered as lost taxes. The probable assessed value of such a plant, compared with the assessed value of similar plants, would be \$758,760,

and at a rate of taxation of \$1 10, would make the amount of such lost taxes \$8,324 36. Including such lost taxes, the total annual cost to the City would be \$232,903 11.

If, in addition to the electric lighting, power is furnished for pumping sewage to the amount of 500 K. W. at the generator switchboard for an average of 20 hours per day, 365 days per year, the cost of operation would be increased by approximately \$67,250 per annum.

COST OF OPERATION.

	AMOUNT.	TOTAL.
SUMMARY.		
Arc lighting, 2,032 lights, 365 nights per year..	\$180,681 14	
Incandescent street lighting, 824 32 c. p. lights, 365 nights per year.....	16,519 83	
Public building lighting.....	27,377 78	
Total		\$224,578 75

[Signed:]
San Francisco, Cal., March 9, 1901.

CLARENCE L. CORY.

APPENDIX.

METHOD AND COST OF LIGHTING IN OTHER CITIES.

TABLE No 1.
MISCELLANEOUS.

CITY.	POPULATION.	METHOD OF LIGHTING.	MUNICIPAL OWNERSHIP.			Time in Use (Years.)
			Electricity.	Gas.....	Naphtha or Gasoline.	
Baltimore.....	509,000	Electricity, gas, oil	No..	No..	Yes.	*1 †7
Boston.....	560,000	Electricity, gas, oil	No..	No..	No..	
Buffalo.....	352,000	Electricity, gas.....	No..	No.		
Chicago.....	1,700,000	Several.....	Yes..	No..	No.	
Cleveland.....	400,000	Electricity, gas, oil	No..	No..	No.	
Denver.....	138,800	Electricity.....	Yes.			
Detroit.....	285,700	Electricity.....	Yes.			
Glasgow.....	565,000	Electricity, gas.....	Yes..	Yes.		8
Indianapolis.....	200,000	Electricity, gas, gasoline	No..	No..	No..	8
Los Angeles.....	50,400	Electricity.....	No.			
Minneapolis.....	200,000	Electricity, gas, gasoline	No..	No..	Yes..	5
Montreal.....	300,000	Electricity, gas.	No..	No..	.....	14
Newark.....	246,000	Electricity, gas.....	No..	No.		
New York.....	3,437,000	Electricity, gas.....	No..	No.		
Omaha.....	102,500	Electricity, gas.....	No..	No.		
Peoria.....	56,100	Electricity.....	No.			
Philadelphia.....	1,250,000	Electricity, gas, gasoline	No.			
Providence.....	168,000	Electricity, gas, gasoline	No..	No..	Yes.	‡
Rochester.....	180,000	Electricity.....	No..	No..	Yes.	
St. Louis.....	575,200	Electricity, gas.....	No..	No.		
St. Paul.....	163,600	Electricity, gas, gasoline	No..	No..	No.	
Toledo.....	131,800	Electricity.....	No.			
Washington.....	278,700	Electricity, gas, oil.....	No..	No..	No.	
San Francisco.....	342,000	Electricity, gas.....	No.			

TABLE No. 2.

ELECTRIC LIGHTING.

CITY.	Charge to Private Consumers.....	Number of Arc Lights.....	Number of Incandescent Lights....	Lighting Schedule.	Cost of Arc Lights.	Cost of Incandescent Lights.....
Baltimore.....	10c. K.W.H.....	1345	0	All night ...	35c. per night.	
Boston.....	.....	3024	28	3828 hours..	\$122.27 per year.	
Buffalo.....	Sliding scale ...	2600	0	All night ...	27.4c. per night.	
Chicago.....	.....	3900	.....	All night ...	\$55.93 per year.	
Cleveland.....	{ 12½c. 60 hrs. 5c. over 60 hours..... }	891	.....	3760 hours..	24c. per night.	
Denver.....	.....	1900	.....	All night ...	\$69.05 per year.	
Detroit.....	.....	1944	.....	3810 hours..	\$50.00 per year.	
Glasgow.....	6d. to 12d.	600	.....	3350 hours..	£14 per year....	6d. per K. W. H.
Indianapolis.....	.....	1142	.....	Moonlight..	\$85.00 per year.	
Los Angeles.....	.....	487	.....	All night ...	\$60.00 per year.	
Minneapolis.....	20c. K.W.H.....	830	0	Moonlight..	\$0.031 per hour. \$0.0442 per hour	
Montreal.....	.....	1178	370	All night ...	\$120.45 per year.	\$40.15 per year.
Newark.....	.....	1695	12	4000 hours..	\$98.55 per year..	\$17.00 per year.
New York.....	.....	3558	.....	All night ...	\$125 to \$182.50 per year.	
Omaha.....	.....	237	.....	All night ...	\$114.50 per year.	
Peoria.....	.....	418	.....	All night ...	\$98.00 per year.	
Philadelphia.....	.....	8556	.....	All night ...	30c. per night.	
Providence.....	.....	1898	85	All night ...	\$118.60 per year.	\$0.066 per night.
Rochester.....	.....	2721	3	All night ...	20c. 1600 c.p. 25c. 2000 c.p.	
St. Louis.....	.....	2367	.....	All night ..	\$30 per 1000 lamp hours.	
St. Paul.....	.....	500	0	All night ...	\$94.50 per year.	
Toledo.....	.....	923	.....	All night ...	\$83.00 per year.	
Washington.....	10c. K.W.H.....	662	375	3924 hours..	\$72.00 per year..	\$20.00 per year.
San Francisco.....	12c. K.W.H.....	795	0	305 night ...	\$106.75 per year. \$120.47 per year.	

TABLE No. 3.

GAS LIGHTING.

CITY.	Cost of Gas to City, per 1,000 cu. ft....	Cost of Gas to Pri- vate Consumers, per 1,000 cu. ft....	Number of Gas Lamps with Flat Burners.....	Number of Gas Lamps with Man- tle Burners.....	LIGHTING SCHEDULE.	COST PER LIGHT.	
						Flat Burners..	Mantle Burners..
Baltimore.....	\$1 10	\$1 10	0	6,187	All night ...	\$22.16 per year.	
Boston.....			0	8,320	3828 hours..	\$14.67 per year..	\$0.0822 per night.
Buffalo.....	\$0 80	\$1 00	4,795		0	All.	
Chicago.....	\$0 90 to \$1	\$0 90 to \$1	15,116	0	All night ...	\$15.30 per year.	
Cleveland.....	\$0 80	\$0 80	5,000	0			
Denver.....		\$1 25					
Detroit.....							
Glasgow.....	2s. 2d.	2s. 2d.	17,078	598	3787 hours..		
Indianapolis.....	\$1 00	\$1 00	230	335	Moonlight..	\$17.00 per year..	\$0.083 per night.
Los Angeles.....	\$1 50	\$1 50					
Minneapolis.....	\$1 00	\$1 20	4,800	0	4 cu. ft. p.hr. Moonlight..	\$13.00 per year.	
Montreal.....			642		All night ...	\$17.00 per year.	
Newark.....		\$1 00	2,010		4 cu. ft. p.hr. 4,000 hrs..	\$19.00 per year.	
New York.....	92 ¹ / ₂ c.	65c.			All night ...	\$12 to \$28 pr. yr.	
Omaha.....	\$1 00	\$1 35					
Peoria.....							
Philadelphia.....							
Providence.....	\$1 05		785	0	All night ...	\$20.10 per year.	
Rochester.....		\$1 25	157		All night ...	\$29.20 per year.	
St. Louis.....	\$1 00	\$1 00					
St. Paul.....	\$1 30	\$1 50	2,600	0	All night ...	\$23.00 per year.	
Toledo.....	Free..	\$1 10					
Washington.....	\$1 00	\$1 10	6,605	160	3042 hours..	\$20.00 per year..	\$30.00 p. yr.
San Francisco..	\$1 35	\$1 40	0	4,563	305 nights...		\$27.45 p. yr.

TABLE No. 4.

NAPHTHA AND GASOLINE LIGHTING.

CITY.	COST OF OIL PER GALLON.	NUMBER OF LIGHTS.	COST PER LIGHT PER NIGHT.	LIGHTING SCHEDULE.
Baltimore.....	1,100	\$0 06 ³ / ₄	
Boston.....	2,551	06 ¹ / ₄	3,828 hours.
Buffalo.....
Chicago.....	\$0 10	9,868	077	All night.
Cleveland.....	2,200	.....	.....
Denver.....
Detroit.....
Glasgow.....
Indianapolis.....
Los Angeles.....
Minneapolis.....	\$0 09 ¹ / ₂ to \$0 11	,040	\$8 40 per year	Moonlight.
Montreal.....
Newark.....
New York.....
Omaha.....
Peoria.....
Philadelphia.....
Providence.....	1,635	\$0 062	All night.
Rochester.....
St. Louis.....
St. Paul.....	2,700	\$16 70 per year	All night.
Toledo.....
Washington.....	1,073	\$19 60 per year	3,942 hours.
San Francisco.....

CARNEGIE LIBRARY.

The following is a communication from His Honor the Mayor transmitting a copy of the letter received from Andrew Carnegie offering the City and County of San Francisco \$750,000 for the erection of a Central Library and Branch Libraries, and stating that the thanks of our City are due to our generous benefactor:

San Francisco, July 8, 1901.

To the Honorable the Board of Supervisors
Of the City and County of San Francisco—

Gentlemen: I have the honor to transmit to you copy of the letter received from Andrew Carnegie, offering the City and County of San Francisco \$750,000 for the erection of a Central Library and branch Libraries. The thanks of our City are due to our generous benefactor.

The Board of Supervisors has the power to acquire land and transfer real estate belonging to the City from one department to another, and also to authorize the erection of Library buildings by the Board of Library Trustees. The Board of Library Trustees will probably communicate with your Honorable Body on this subject at an early date.

Respectfully,

JAMES D. PHELAN, Mayor.

LETTER OF MAYOR JAMES D. PHELAN TO ANDREW CARNEGIE.

Executive Department, Mayor's Office,
City and County of San Francisco, March 22, 1901.

Hon. Andrew Carnegie, Scotland—

Dear Sir: San Francisco is a large, wealthy and well-governed municipality. It is living under a charter which went into effect on the first of January, 1900, which is regarded as a model of its kind. Among other things it does not permit the rate of taxation to be more than one dollar upon a one hundred dollars of assessed valuation, now \$405,000,000. The budget amounts annually to about \$5,000,000, which is one-half of the amount which it costs the Greater New York, in proportion, to maintain its municipal establishment. This organic check upon expenditures, which you will agree is wise and prudent, allows nothing, except by bond issues, for extraordinary public work. The citizens are reluctant to increase their indebtedness, which may be done by a two-thirds vote, and therefore we look to private benefactions for adornment of public places and for the non-essentials of our municipal life.

The City, however, has been very generous in its organic law by providing for the maintenance of public libraries. Not less than one and one-half cents nor more than two and one-half cents on the one hundred dollars of valuation shall be appropriated annually for the support of public libraries, is a mandate of the Charter. On the present valuation of property in this City, the minimum thus guaranteed is \$60,000 a year, and the maximum \$100,000, constantly increasing with the assessment roll.

In our City Hall, in unfit quarters, inadequate and inconvenient, we have housed a splendid library of more than 100,000 volumes, which is growing every year. We have rented, in different parts of the City, stores where we have branch Libraries, bringing the people in direct communication with the Central Library, whence the books circulate, and at the same time we keep on the shelves of the branch Libraries large numbers of current volumes. This service is absolutely free to the public. In common with your own views, we appreciate the importance of having a Central and Branch Library system, properly housed, because with the increase of these facilities will follow a more general enjoyment of the benefits which a free library confers. Our Board is a permanent one, filling vacancies in our own body as they occur, and our employees are under civil service rules.

Your splendid gifts to the cities of New York, St. Louis and Philadelphia, all on the Eastern seaboard, emboldens us, for the first time, to make a request that you consider San Francisco among the cities worthy of your recognition. We remember meeting you pleasantly at the entertainment given by the University Club, when, in company with Andrew D. White, you visited the Pacific Coast; so San Francisco is not a stranger to you.

It is needless to say that our people would rejoice beyond measure should you see fit to grant their request and enroll San Francisco among the municipalities that shall have a special reason for applauding the generous promptings of your heart and the public spirit which animates, no matter where the benefits may fall, your wise and munificent philanthropy.

Yours very respectfully,

JAMES D. PHELAN,

Mayor and ex-Officio Library Trustee.

Committee of the Library Trustees—Jos. O'Connor, John H. Wise, Ralph C. Harrison, P. N. Lillenthal.

LETTER OF ANDREW CARNEGIE TO HIS HONOR MAYOR JAMES D. PHELAN.

Telegrams, Clashmore Station, Bonar Bridge.

Skibo Castle, Ardgay, N. B., 20th June, 1901.

Mayor James D. Phelan, San Francisco—

Dear Mr. Mayor: Your letter of March 22d is before me this morning. If San Francisco will furnish proper sites for Libraries and agree to expend \$75,000 a year in their maintenance, I shall be very glad to give \$750,000 as needed to pay for the buildings. About half (not more, I think less), of this sum should be expended on the Central Library and the remainder on Branch Libraries. The site for the Central Library should be amply sufficient to provide for additions in the future, for San Francisco is a growing City.

Very truly yours,

ANDREW CARNEGIE.

On July 22, 1901, the Board of Supervisors passed Ordinance No. 336, accepting the munificent gift of Andrew Carnegie and extending the thanks of the Board to the generous donor, which Ordinance is as follows:

BILL NO. 425—ORDINANCE NO. 336.

ACCEPTING THE ANDREW CARNEGIE GIFT OF \$750,000 TO THE CITY AND COUNTY OF SAN FRANCISCO FOR PUBLIC LIBRARY PURPOSES.

Whereas, The Board of Library Trustees having declared that public necessity and convenience required library buildings for the use of the Free Library and appointed a Building Committee in pursuance thereto; and

Whereas, Subsequently, Andrew Carnegie made gifts of library buildings to the cities of New York, St. Louis and Philadelphia, cities of the first class, which

gratefully accepted them, and at the same time he declared his intention of making gifts to other cities for the same laudable purpose, the Mayor and the Building Committee of the Board of Library Trustees wrote to Mr. Carnegie to the end that he might also consider the needs of the City of San Francisco;

And, Whereas, Mr. Carnegie did, by letter dated the 20th day of June, 1901, generously offer to give San Francisco \$750,000 for a central Library and branch Library buildings, provided the city agrees to maintain therein libraries at a cost of \$75,000 a year, and to provide the sites therefore;

And Whereas, The city does now appropriate, approximately, the same amount for Library purposes, owns eligible sites and is in a position to acquire others;

And Whereas, The Board of Free Library Trustees recommend the acceptance of the gift;

Therefore, be it ordained by the People of the City and County of San Francisco as follows:

Section 1. That the gift of Andrew Carnegie be and the same is hereby accepted, and that the thanks of the Board of Supervisors of the City and County of San Francisco be and are hereby extended to him; and, further, that the example set by Mr. Carnegie in distributing his vast private fortune to great public purposes and at the same time inducing municipal co-operation in channels which might otherwise be neglected, should serve as an example to other citizens and meet the approval and encouragement of all.

Section 2. This Ordinance shall take effect and be in force from and after its passage.

In Board of Supervisors, San Francisco, July 22, 1901.

After having been published five successive days, according to law, taken up and passed by the following vote:

Ayes—Supervisors Booth, Boston, Braunhart, Connor, D'Ancona, Hotaling, Jennings, Reed, Stafford, Tobin, Wilson.

Absent—Supervisors Brandenstein, Comte, Curtis, Dwyer, Fontana, McCarthy, Sanderson.

JNO. A. RUSSELL, Clerk.

Approved, San Francisco, July 23, 1901.

JAS. D. PHELAN,

Mayor and ex-officio President of the Board of Supervisors.

On July 15, 1901, his Honor James D. Phelan was authorized by Resolution No. 1724 of the Board of Supervisors to appoint three members of the Board, whose duty it shall be to report to the Board concerning the best locations for the proposed Library, which Resolution is as follows:

RESOLUTION NO. 1724.

Resolved, That the Mayor is hereby authorized to appoint a committee to consist of three members of the Board of Supervisors, whose duty it shall be to report to this Board concerning the best locations for the proposed Library, and particularly with reference to the terms and conditions on which the "Pavillon Block" of the Mechanics' Institute may be acquired by the City.

And the clerk is hereby directed to advertise this resolution in the Evening Post Newspaper.

In the Board of Supervisors, San Francisco, July 15, 1901.

Adopted by the following vote:

Ayes—Supervisors Booth, Boston, Braunhart, Comte, Connor, Curtis, Dwyer, Jennings, McCarthy, Reed, Wilson.

Absent—Supervisors Brandenstein, D'Ancona, Fontana, Hotaling, Sanderson, Stafford, Tobin.

JNO. A. RUSSELL, Clerk.

REPORT OF THE COMMITTEE ON SELECTION OF SITE FOR PROPOSED
LIBRARY BUILDING TO BE ERECTED UNDER THE PROVISIONS
OF THE CARNEGIE GIFT.

To the Honorable the Board of Supervisors
Of the City and County of San Francisco—

Gentlemen: Your Special Committee on Selection of Site for the proposed new library building to be erected under the terms of the Carnegie gift, begs leave respectfully to report as follows:

Your Committee, pursuant to the call of its Chairman, met Thursday evening, August 29, 1901, at the committee rooms of the Board, to consult with His Honor Mayor Phelan, the Building Committee of the Public Library Trustees, the President of the Mechanics' Institute, and other interested persons notified to attend, with the purpose in view of obtaining such information and of making such investigations as would enable it to recommend to your Honorable Board a site suitable to the munificence of the gift and a course of action appropriate to the acquisition of the necessary lands therefor.

His Honor Mayor Phelan stated that he had discussed the matter of the disposition of the gift with the Public Library Trustees, who believed that \$600,000 should be expended on a main library building and \$150,000 on branch libraries.

Mrs. Lovell White, President of the California Club, addressed your Committee regarding the use of the main library building when constructed, and expressed the sentiment of the club by requesting that the top floor of the proposed building be reserved for the purpose of a Free Art Museum. Your Committee assured Mrs. White and the ladies who accompanied her that at the proper time it would fully consider the club's wishes and undoubtedly lend its assistance to this end.

During the course of general discussion the following sites were mentioned, viz: Lincoln School lot, Market and Fifth streets; Fair estate property, bounded by California, Sacramento, Powell and Mason streets; gore lot belonging to the De Laveaga estate, situated at Van Ness avenue, Fell and Market streets; Mechanics' Pavilion site, Hayes and Larkin streets.

LINCOLN SCHOOL LOT.—This property consists of a plat 275 feet square, situate at southeast corner of Market and Fifth streets, and at present under leasehold. The site is not favored by the Public Library Trustees for this reason, and also because the location is not deemed suitable.

FAIR ESTATE PROPERTY.—This property was mentioned by Library Trustee John H. Wise as being available for purchase for a reasonable consideration, estimated to be between \$200,000 and \$250,000, and consists of six fifty-vara lots on California and Powell streets. The site is a splendid one, standing, as it does, on an eminence, and commanding a magnificent view of the bay and the surrounding country for miles around. From the standpoint of art and beauty, no better selection could be made, the environments being all that could be desired. Objection is made, however, to this location as not being convenient to pedestrians who may desire to visit the library, but so many advantages exist in the shape of convenient street-car facilities that the objections raised may possibly be overcome.

Your Committee has decided to thoroughly investigate this proposition, and will report in detail at some future time.

GORE LOT, MARKET STREET AND VAN NESS AVENUE.—This site was mentioned by Library Trustee P. N. Lillenthal as being very desirable, but it appears from testimony given by Mr. A. J. Rich that some defect exists in the title of the De Laveaga property of which this site is a portion, and also objection is raised that the location is much too valuable, fronting, as it does, on Market street.

MECHANICS' PAVILION SITE.—This site appeared to meet with the favor of many of the gentlemen present at the meeting, none of the objections made against the other properties being raised. The Library Trustees, by Joseph O'Connor, reported in favor of selecting this site, provided it could be purchased for a reasonable sum, stating that they had other locations in view, but deemed this property the most centrally located and convenient. The Lincoln School site was regarded by the Library Trustees with disfavor, it being leased at the present time, and the location not being suitable.

A communication was presented by the Market Street and Eureka Valley Improvement Club, expressing its belief that the Pavilion site was the most appropriate and desirable location for a great central public library building, and, in connection with the expression of opinion contained in the communication, F. A. Elliott and W. L. Coles of said club addressed your Committee, strongly urging the purchase of the site mentioned.

S. C. Irving, President of the Mechanics' Institute, also addressed your Committee, and stated that, while not prepared to authoritatively offer for sale the property to the city, or to speak on the question of granting the same without consideration, he would give the assurance that the Trustees of the Institute would endeavor to aid, by all means, the transfer of the property to the municipality for a reasonable consideration. He further assured your Committee that the Trustees were in favor of disposing of the property to the city at a less figure than to any other prospective purchaser. A postal vote was recently taken by the Institute, and the members evinced a desire to sell to the city.

A quarterly meeting of the members of the Mechanics' Institute will be held on the 7th of September, at which time the matter of the value of the property will be considered. Your Committee will attend this meeting, and obtain an expression of opinion from the members of the Institute in regard to the disposition of the property.

The question of the method of procedure in submitting the proposition for the acquisition of lands for library purposes to the electors being raised, and also the suggestion that the Lincoln School site might be made available by the purchase of the leasehold, your Committee has prepared a Resolution containing a series of questions to be propounded to the City Attorney, covering these matters, which it recommends to your Honorable Board for adoption.

CHAS. BONTON.

HENRY U. BRANDENSTEIN.

IN MEMORIAM WILLIAM MCKINLEY.

On September 14, 1901, upon being notified of the death of President William McKinley, his Honor Mayor James D. Phelan called a special meeting of the Board of Supervisors to take appropriate action.

The Board of Supervisors met at 3 o'clock in the afternoon, and the Mayor briefly stated the object of the meeting.

"I have called this special meeting," he said, "so that in view of the sad intelligence that has reached us we may take appropriate action for the expression of the grief felt by this community which has so lately had the honor of entertaining our beloved President. The personal qualities of President McKinley endeared him to every citizen of our community and every citizen of San Francisco feels deep sorrow at his death. It has been suggested that we hold memorial services on the day of the funeral. I will now entertain any motion that you may have to offer."

Supervisor Joseph S. Tobin arose and offered the following Resolution, which was adopted without discussion:

RESOLUTION NO. 1868.

Whereas, William McKinley, President of the United States, has passed from this mortal life, the victim of cowardice and assassination; and

Whereas, The sorrow of the people is profound, and no words can adequately express either their grief or their resentment; and

Whereas, The exalted character, the public services and the personal virtues of our late President have so endeared him, in his public and private capacity, to the people of this City, that some special honor should, by this Board, speaking in the name of all citizens, be shown his memory; therefore, be it

Resolved, That the heartfelt sympathy of our community be tendered to Mrs. McKinley in her great bereavement and the nation's sorrow; and be it

Resolved, That the city departments respect the customary period of mourning; that the Board of Public Works be directed and authorized to drape the entrances of the City Hall and Hall of Justice, and that the flags on public buildings be lowered to half-mast for a period of thirty days; and be it further

Resolved, That his Honor, the Mayor, be authorized and directed to appoint a citizens' committee of one hundred to make arrangements for a memorial service to be held on the day of the President's funeral; and be it further

Resolved, That the expenses necessary for these purposes be defrayed out of the Urgent Necessity Fund of the Board of Supervisors.

Supervisor Tobin again arose and said: "I make a motion that we adjourn out of respect to the memory of the late President of the United States, William McKinley."

The meeting adjourned, and the members of the Board went to the Mayor's office, where, in pursuance to the above Resolution, a Committee of One Hundred was chosen.

The following are the names of the Committee:

- Hon. George C. Perkins,
Hon. E. F. Loud,
Gen. S. M. B. Young, U. S. A.;
Admiral Silas Casey, U. S. N.;
Gen. J. H. Dickinson, N. G. C.;
Gen. R. H. Warfield, N. G. C.;
Colonel George Stone,
Colonel W. R. Smedberg,
W. H. Jordan,
Henry T. Scott,
C. M. Hays,
A. H. Payson,
J. W. Byrne,
Simon Newman,
Frank Deering,
Claus Spreckels,
Leon Sloss,
S. G. Murphy,
W. H. Crocker,
Horace Davis,
Henry Lunstedt,
Walter Van Dyke,
Irving M. Scott,
P. H. McCarthy,
Henry S. Martin,
William Goff,
J. M. Gleaves,
F. W. Dohrmann,
A. A. Watkins,
A. Sbarboro,
George A. Newhall,
Hon. Asa R. Wells,
Hon. Washington Dodge,
Hon. W. H. Beatty,
Hon. Frank H. Dunne,
Paris Kilburn,
W. H. L. Barnes,
Henry F. Wynne,
Patrick Crowley,
C. R. Allen,
J. F. Sullivan,
P. J. Tomalty,
J. C. Currier,
A. Schilling,
Alfred Meyerstein,
Wakefield Baker,
Dr. Julius Rosenstirn,
Dr. C. A. Clinton,
Dr. Hugh Lagan,
Dr. Max Magnus,
Rolla V. Watt,
James Coughlan,
Charles Bundschu,
F. J. Symmes,
A. O. Lindstrom,
William Greer Harrison,
Raphael Weill,
Colonel J. R. Howell,
Truxton Beale,
John Fitzpatrick,
P. C. Rossi,
D. J. O'Leary,
A. P. Giannini,
Alfred Borel,
Hon. Wm. Alvord,
P. N. Lilienthal,
Dr. Louis Bazet,
Colonel Thomas F. Barry,
Hon. E. B. Pond,
E. J. Banning,
H. J. Crocker,
F. H. Wheelan,
J. J. Sweeney,
Hon. W. W. Morrow,
Hon. Frederick Stratton,
Hon. W. W. Montague,
Hon. Joseph F. Spear,
George E. Morse,
Colonel J. C. O'Connor,
I. S. Rosenbaum,
Sydney M. Smith,
William Sproule,
Frank Leach,
Colonel William McDonald,
L. E. Stover,
J. P. Young,
Dent H. Robert,
J. D. Spreckels,
Fremont Older,
Hugh Hume,
James P. Booth,
Charles Bixton,
S. Braunhart,
H. U. Brandenstein,
A. Comte Jr.,
John Connor,
Peter J. Curtis,
A. A. D'Ancona,
L. J. Dwyer,
M. J. Fontana,
R. M. Hotaling,
W. N. McCarthy,
Thomas Jennings,
Charles W. Reed,
George R. Sanderson,
H. J. Stafford,
Joseph S. Tobin,
Horace Wilson.

The following are the names of the various sub-Committees:

EXECUTIVE COMMITTEE.

James D. Phelan (Chairman),	William Greer Harrison,
H. U. Brandenstein (Hon. Sec.)	Dr. C. A. Clinton,
Rolla V. Watt,	Raphael Weill,
General R. H. Warfield,	E. B. Pond,
Henry J. Crocker,	William H. Alvord,
William H. Jordan,	Julius R. Rosenstirn,
D. J. O'Leary,	L. Edmund Stover,
A. Sbarboro,	A. A. Watkins,
F. W. Dohrmann,	W. W. Montague,
Colonel J. R. Howell,	P. H. McCarthy,
Supervisor Horace Wilson,	B. J. Cahill,
Irving M. Scott,	Truxton Beale.

DECORATION COMMITTEE.

William Greer Harrison,	E. B. Pond,
	B. J. Cahill.

PROGRAMME COMMITTEE.

Rolla V. Watt,	Colonel Howell,
	Chas. Bundschu.

PRESS AND PRINTING.

A. A. Watkins,	A. Sbarboro,
	D. J. O'Leary.

INVITATION AND RECEPTION.

F. W. Dohrmann,	Truxton Beale,
Irving M. Scott,	General Warfield,
William H. Jordan,	Supervisor Wilson,
P. H. McCarthy,	Henry J. Crocker,
	Dr. Clinton.

EXERCISES AT THE MECHANICS' PAVILION.

The exercises at the Mechanics' Pavilion were held on September 19, 1901, at 2 P. M., and were attended by thousands.

Mayor James D. Phelan, in delivering a brief introductory address, said:

A sad mission has called us together. Our city is bowed in grief. We mourn the loss of our President. But recently he was with us, beloved and honored of all men, but now he is lying low, the victim of a cruel and cowardly crime which humiliates the Republic and disgraces humanity. But this hour is sacred to sorrow, and resentment yields to the tender emotions which have brought us here.

We are a joyous people. We celebrate holidays and welcome distinguished guests with garlanded streets and decorated houses; and so did we go out dutifully, it seems but yesterday, to greet the President of the United States, when, accompanied by his Cabinet, in all the power of his position, he honored our city

by a visit. I say, dutifully did we go out to greet him, but well do we remember how duty was enthusiastically transmuted by his simple presence into the sweetest offices of love! Our country's chosen chief at once became our friend, as we became his champion. Ah! too brief a time did he linger with us, but long enough to awaken in every honest breast the sincerest appreciation of his virtues and his patriotism.

But now he is gone forever. His last kindly speech is spoken: "Good-by, all. It is God's way. Let His will, not ours, be done."

Good-by, William McKinley!

No more, my friends, shall his inspiring words fall upon our delighted ears; nor shall his eyes ever again reflect the love he bore his fellow-man; nor shall his benignant face picture again for us the unfeigned joy with which he beheld the reciprocal devotion of a happy and prosperous people.

He is dead, and we are assembled to honor his memory. Let us strive to do it worthily. Our feeble expression is burdened, however, with the weight of sorrow; each man's house is a house of mourning; but each fireside shall be a Temple of Fame and a stronghold of Patriotism! Our people shall, in their heart-offerings of this day, pledge themselves to the God of Nations that the lesson of the life and death of William McKinley shall not be lost, and that the gain in an aroused love of country, which would have been so pleasing in his eyes, shall be equal to the magnitude of the sacrifice. Let this be our consolation.

We cannot recall the past. The President is dead; William McKinley is no more; San Francisco, loyal and loving, mourns passionately at his grave; but our Country survives, and is made more sacred to us still by the blood of its martyred President and the tears of an afflicted people.

The "Gottterdammerung" funeral march was played by the orchestra. Then "Lead, Kindly Light," was sung by the chorus, with orchestral accompaniment.

Prayer by the Rev. Dr. Simeon D. Hutsinpillar, pastor of the Central Methodist Church, was as follows:

Let us pray. Lord God of Hosts, an afflicted people is before Thee. Throughout all the earth Thy children this day lift heart and voice, and make supplication in time of sorrow unto that God who is their refuge and strength, an ever-present help in trouble. And Thou art, by this great bereavement, directing the hearts of the nations closer together and making the heart of humanity to pulsate with the impulse and affection of one sacred brotherhood. We give thanks to Thee that this day the things that are true and honorable and beautiful and good and lovely and pathetic are uppermost in the minds of the people of all the world. We desire that Thy compassion and Thy mercy may descend upon all the people, and that the words of our mouths, the motives of our hearts and the feelings of our better nature may be acceptable in Thy sight, O Lord, our strength and our Redeemer.

Mercifully regard all that are in authority in the world this day, that they may be influenced by Thy spirit unto the impulses and thoughts and affections of universal manhood and the supremacy of government that is rich and pure and fraternal and good. Be pleased to regard our own stricken nation, O Lord, God of our fathers, with that mercy which is due from the infinite Father unto His suffering children. And from the far, sentinelled line of our army and navy to the most central and humble hearthstone of this great people, let there come the blessing of the all-beneficent Father and the most gracious God.

We pray Thee to bind up the broken hearts of all the people. Grant that the light of Thy countenance and the comfort of Thy holy spirit may be given unto the great and unto the humble, unto those that are in authority and unto all this great people.

Lord, God of our fathers, Thou didst guide those who have been our rulers and our exemplars in the past. Thou wast especially near to him whose memory we

revere, whose friendship we prize and whose goodness and character we love. Thou hast been to such in all times a pillar of cloud by day, a pillar of fire by night, a good shepherd, a leader, a God of love.

We pray Thy blessing upon those in high places in this land to-day that were associated with him in the councils of the Government, and who to-day are as little children in their sorrow and in their great bereavement. Bless all Judges and magistrates, all Governors of States and all Mayors and authorities of cities. Bless, we beseech Thee, all Senators and representatives of the Government. Bless all leaders in church and state. And grant that henceforward the mantle of the good and great having rested upon them, and the memory of the good and great lingering like a benediction upon us, we may be joined in the councils of a purer civic life, of a broader and deeper Christian and church life and of a sweeter and more beautiful home life.

O Lord, our God, bless with divine compassion, with tenderness and consolation and with divine strength that good woman, the chief mourner in this great land to-day. Bind up her broken heart. Give to her the kiss of the angel of peace. Turn Thou her affliction into serene hope and into blessed consolation and comfort through Thy divine grace. Mercifully, O God, and with wisdom from on high, bless the President of the United States in these trying days of his sudden and new responsibility. Give to him that wisdom which becomes the Chief Magistrate of this land. Give to him the hearts and prayers and support of all the people of this goodly nation.

Accept our thanksgiving, O God, our Father, that this man to whom we pay tribute in memory, in music, in prayer, in oration, in tear, in kindly word and in noblest thought, has lived among us, has been our leader, has been our friend. We thank Thee, God, that we have seen the light of his eyes, heard the music of his voice, felt the warmth of his brotherly hand, known the goodness and greatness of his character, and have, in some sense, partaken of his principles and his manhood. Accept the tribute that we bring, our sorrow, our tears, our eulogiums, our music, our flowers, our consecration to his God and his country, his principles and his ideals of manhood, his faith in God and in the things that are purest and best.

Merciful God, hold Thy spirit upon this congregation, in unison with great congregations throughout the length and breadth of this land to-day. Bring us through our sorrow and our battles, through our tears and our joys, in the pathway of those that have gone before us, until at last we all come home. For Thy name's sake. Amen.

The Lord's Prayer was chanted by the Knickerbocker Quartet, the Elks' Quartet and the California Quartet.

Musical numbers next on the programme were the hymn "Nearer, My God, to Thee," in which the audience joined with the chorus, the Gounod "Ave Maria," sung by Signorina Nice Barbareschi, and the Beethoven overture, "Egmont."

ORATION OF W. H. L. BARNES.

Two weeks ago to-night commenced at the Capitol of the Nation the march that ended to-day at Canton, Ohio.

The President of the United States, in a train that was the ultimate reach and finish of mechanical skill, guarded on every foot of the rail, treasured as something priceless and to be guarded by everybody, sat in his car at the end of the train—and the King of Terrors rode on the pilot. With covered head he beckoned with his grisly hand the President to his fate; no eye saw him, no ear heard his voice, and in the daylight and the sunshine, in front of the Temple of the Pan-American Exposition, dedicated to harmony, the President received that fatal shot which, after six long days and nights of pain, brought him to his death. His

murderer stands mute before his earthly judge; but about him and around him is a rising ocean of tears and rage sweeping over and submerging a continent; all the more violent because it is powerless to repair the loss and utterly incapable of punishing the crime that brought the President to his death.

Oh, my friends, of all the decrees of Providence since this Government has had an existence, that one whose dreadful results we are here to commemorate is the most inscrutable.

We know, and faith teaches us, that God is wise; that His thoughts are not like our thoughts nor His ways like our ways; but it seems as though I could lift my face to Jehovah and ask, "Why is it that a man like William McKinley, all love and purity, devoted son and true husband, faithful legislator, gallant soldier, twice elected President of the United States and crowned with the blessings of his people, should have been put into his grave by such an instrument?" How can we answer the question? All that we can do is to stretch out our faint hands of faith and grope and gather dust and chaff and call on what we feel is Lord of All, and faintly trust the large hope.

For myself, I cannot realize this thing. It seems like some hideous nightmare. The nations stand about his grave—and oh, how small the world is when it is bound together by a common instinct—the world has stood to-day bareheaded about a single grave, and it asks, as I ask: "Why is it? Did he die for his sins; or like Christ, did he die for ours?" I cannot realize it. It seems as though those gray clouds that hang in mourning unison over the city to-day must roll away; that these emblems of mourning must turn into those of joy; that we shall awake, that we shall be aroused from slumber to know that all the sorrow we have had and are having was but the passing dream of a night.

How short a time it seems since this friend of ours left the Capitol to pass over the lands of his country, everywhere he went surrounded by admiring crowds, cheered by the applause of millions. And at last he came to us. With what pleasure we welcomed him I need not speak, not so much by reason of his high station as because of the intense human sympathy that enveloped him while he was here like a garment and drew him to our hearts. In the presence of an impending domestic sorrow the thought of him, and the good prayed for him; and when we saw his gentle and benign face no longer in our midst, when we could no longer listen to his inspiring and patriotic thoughts, there was not a house in San Francisco that did not at its altar of worship pray that he and his might go in safety the long journey to the capital of the Nation, and that the great sorrow that hung over him here might be put away from his dear lips, and that the sweet companion of his early trials and his later triumphs might live to see that bright career rounded out to its fullness and might descend hand in hand with him to a happy and glorious sunset.

We prayed for her life; but no one thought of his. Who thought to pray to God to keep William McKinley from assassination? Who ever dreamed of such a contingency? On the morning of the day he went away, robed in the dignity of his own noble presence, and underneath the flag of his country that shivered in the breeze and shone in the morning sun, the crowd about the train stretched out their hands in benison, and he stood bareheaded on the platform until his voice was lost in the chorus of love that sang in his ears. "Good-by," said he, "Good-by all." "Good-by, good-by." And as the train disappeared we could see his lips still moving in the farewell words, "Good-by." Who could have thought in so short a time and for such a cause he should lie dying on a bed of agony, saying to those about him in that same sweet voice and with that ineffably gentle manner, "Good-by, all; good-by. It is God's way. Let His will, not ours, be done."

It is said that Socrates died like a philosopher; and that He who perished upon the cross with the rent veil and the rending rock died like a God. What shall be said of the death of this man, who, from the first hour of his wound, accepted it with resignation and gentleness and bade farewell without fear to all

that made life happy—to honor, to hope, to love—and descended, leaving all behind him, into such a grave?

This great man was for all the world a pure type of the capacity of a system of government and education such as exists under the Constitution of the United States. Born in Ohio; his ancestors a part of that band of patriots who moved into the Northwest Territory and formed that State, were of those men of whom Washington said, "Many of them I know personally, and there were never men better fitted to establish government and make a magnificent prosperity than the colonists now on the banks of the Muskingum." Of that stock he came—He was of the people—not born to the purple, but essentially, in every respect, of the common sort. His education had scarcely begun at a country academy when the Civil War brought him a soldier under the flag, and at 18 years of age, beardless, clear-eyed, this handsome boy shouldered his musket and went out as a soldier of the Union. Promotion was rapid—commissary sergeant, Second Lieutenant, First Lieutenant, Captain and Major by brevet—and he came home every inch of him a soldier, better and nobler for the struggles in which he had taken part and in which he had borne himself so honorably, but of which we have no time here to speak.

He embarked upon the study of the law and practiced his profession with honor. But his peculiar ability for keen and concise statements of public questions soon brought him into requisition, and after eight or nine years of private life the district in which he lived sent him to Congress, and there, for seven successive terms, fourteen years, this friend of ours toiled and labored for the public good.

No man ever lived in this country whose ambition has been so pure, whose life has been so devoid of what may be termed the arts and tricks of the politician.

With the great measures of finance always before him, handling the great system of revenue of the country, where, if he had had one touch of cupidity in his nature, he could have amassed a fortune as great as some other gentlemen have done, he went to Congress without a dollar and never made or received one during all of his career except the meager salary a Congressman receives.

A Spartan, simple in his habits, without personal ambition, he marched through life and did his duty without ostentation as few men have ever done.

He became Governor of Ohio, elected by the largest majority by which any Governor was ever elected to office in his State, and became the logical candidate for the Presidency of the United States. We know what that campaign was. It is not the time nor the place to discuss his position and his views. Suffice it to say that they met the approval of the majority of his countrymen, and he took his seat in Washington as the executive head of seventy-five millions of people, adored by those who had placed him there and infinitely respected by those whose views differed from his on political and economic questions. He served his term and was elected again. He lived to see the principles he advocated triumphant and successful. He had seen the country happier than it had been for many a year, enjoying greater prosperity than had ever been its fortune—all classes and all conditions of men happier; more houses, more schools, more churches, more development on every side; and he conducted the country through a foreign war forced upon his judgment, but which, once embarked upon, filled the full measure of national expectation and made the flag of our country as respected abroad as it was loved at home.

And yet, in the midst of this, with his term unfinished, his work undone, he died; and the poor woman he loved so well and he cared for so tenderly goes back to Canton a desolate and childless widow.

There is nothing in the history of man more pathetic than this story. There is no tale the human imagination can invent more calculated to touch the heart than the story of this life, and the agony of this death; and I say again we do not understand why! We know that the man was absolutely pure in life. We know that he was the incarnation of justice. We know that he loved everybody and hated nothing but sin. Why did he die?

There are subjects that might here be discussed, but, as the Mayor said to you in his opening address, this is perhaps not the time nor the place to indulge in recrimination and discussion of new and pressing questions of public interest. Let us cast the veil over such; let us leave the story of libel, of caricature, of misrepresentation, the habitual holding-up of this man, as we knew him, to those who did not know him, as an oppressor and a tyrant, and an enemy of his kind. Let us leave all that behind us. But this is certainly the time for the citizens to say that hereafter there must be no more of it. The public patience has been taxed far enough; public endurance has reached its limit, and he who, from this day forth (and the American people say it standing around that solitary grave at Canton), assails without cause the honor, the integrity, the character of those who are selected to preside over the destinies of the Nation—I do not refer to criticism, but you know to what I refer—he who indulges in that shall die.

Let the past go—forgive, as our dear President forgave; but let him who proposes to renew that kind of business look out for himself.

We have all learned a lesson. I believe we have come to the conclusion that there is too much glittering generality of the Constitutional declaration that no law shall be passed abridging the liberty of the press or the right of free speech. Liberty is one thing, but license is a very different thing. The right to live in this country of ours that has thrown open its arms so widely to the people of all nations—the right of refuge is one thing, and the right of the anarchist, an enemy of human society, to stalk among us, to live among this people, to spread his doctrines and excite and hurry on feeble mental organizations to the commission of crime such as he would never dare commit himself—is another thing. It must stop. If there is no law for it the law will be found; if it does not exist upon the statute books it shall be put there. If it requires an amendment to the Constitution of the United States it shall be amended; and these people who have been so long permitted to plot here in our selfish and cold indifference to what happens in other lands, must cease their work. What was it to us if Alexander perished by a bomb? What was it to us if the good King of Italy was murdered also? What to us if the President of our sister republic died by the hand of an assassin; what to us if Elizabeth of Austria met her death by the poinard of one of this spawn of hell! What was it to us? Why, it was nothing to us, but the chicken has come home to roost. Will we act now? Will we deal with this subject as it should be dealt with? I firmly believe that we will; that before another year has passed we shall have laws—not precisely as the "Allen and Seditious" laws of John Adams were—but which if we had to-day would be a good kind of legislation—we shall have a law that will enable the authorities of this country to take the known anarchist and those who associate with him, and put them on board a Government ship and send them to some unoccupied island. I think that is one reason why God gave us some of our uninhabited islands—and give them some agricultural tools and a few barrels of dynamite and say to them, "Now, you have what you want—you have no government and you can kill one another."

If this shall be the result—if our people shall be reformed and regenerated, if out of this horror shall come a higher and a nobler ambition on the part of the great teacher of the time, the public press; if there shall come a higher ideal as to the protection that ought to be thrown about the executive head of the Nation, if it shall be so arranged that hereafter there shall be no power that can assail him; or, if it does, shall be disposed of in a way that I will not attempt now here to discuss, but that shall forever intimidate and hold back the hand that would strike, or the pen that would defame, or the pencil that would libel and caricature without cause any man selected by his fellow-men to discharge the law. I believe in the widest right of criticism; I believe that every public man in this Nation is a light set on a hill, and that the nature and character of his illumination should be known of all men; but there is that that ought not to be; there is that which the American people have this day served notice must not be. If so, our dear

friend did not die in vain; his life, shortened though it was, will have new glory placed upon its conclusion, and the setting of his sun will send rays of light and glory into the zenith ages after his form shall have passed away.

It is said that matter never perishes; that every particle is preserved in one form or another, and that nothing is lost. It is equally true of that which is great and good in life. What influence the dead President will have upon the future, no man can estimate its weight, nor can we exaggerate it. His place is fixed. His home is as the stars, permanent as the Nation, enduring as the high, clear, bright, glorious; and no human tongue from this hour forward shall vilify him; no hand shall be raised to drag that divine form down from the pedestal upon which the American Nation has placed it. There it will live, and he will be remembered long after his detractors have returned to dust and their works have followed them.

History will write of this man what is deserved to be written; and when the book is made up, his life and time and service will form its most beautiful and glowing page. I make no exception. I place him below no man who has ever lived in this country of ours; and history will so record him. There were great men before Agamemnon; there were great men after him. There were great men before McKinley, and there will be great men after him, who will have in view as he had the honor and glory and prosperity of the hundreds of millions who shall come to live in this country. We shall have them because the conditions make such men possible. We have never been in danger, but what God has raised up a living shield to defend us and ward off harm; and when those who thought they would bury Theodore Roosevelt made him Vice-President, they builded better than they knew. Never in an hour of agony did a man exhibit greater wisdom and prudence than when he said, as he took the sacred oath of office to protect and defend the Constitution of the United States, that it should be his aim and his purpose to carry out the plans and principles of his predecessor. The words fell like a benison upon the people of the United States. They fell like the calmness of God coming down upon a troubled nation; and when he gathered around him again those faithful associates of the dead man and took them to his heart and said to the people, "He is gone, but I am here; be not afraid," he was as truly a patriot as ever took the oath of office in this country.

We need have no fear for the future. It is full of glory, full of hope and happy with the bow of promise extending from one end of the land to the other. We have only to do as William McKinley—be just, obey the law, live as he lived, teach children to be as he was—and this will be a nation of patriots, of Honorable women and God-fearing men.

PROGRAMME.

Overture, "Melpomene".....Chadwick
Full Orchestra.

August H. Rodemann, Conductor.

Introduction.....Mayor James D. Phelan

Funeral March, "Götterdämmerung".....Wagner
Full Orchestra.

Paul Stelndorff, Conductor.

Hymn, "Lead, Kindly Light".....Newman
Chorus and Orchestra.

J. W. McKenzie, Conductor.

Lead kindly Light, amid the encircling gloom,
 Lead thou me on!
 The night is dark, and I am far from home;
 Lead thou me on!
 Keep thou my feet; I do not ask to see
 The distant scene, one step enough for me.

I was not ever thus, nor prayed that thou
 Shouldst lead me on;
 I loved to choose and see my path; but now
 Lead thou me on!
 I loved the garish day, and, spite of fears,
 Pride ruled my will. Remember not past years!

So long thy power hath blessed me, sure it still
 Will lead me on
 O'er moor and fen, o'er crag and torrent, till
 The night is gone,
 And with the morn those angel faces smile
 Which I have loved long since, and lost awhile!

Prayer.....Rev. S. D. Hutsinpiller, D. D.

Chanting of the Lord's Prayer.

Knickerbocker Quartette.

Elks Quartette.

California Quartette.

Hymn, "Nearer, my God, to Thee".....Adams

Chorus and Orchestra and Audience.

J. W. McKenzie, Conductor.

Nearer, my God, to thee!	Though, like the wanderer,
Nearer to thee,	The sun gone down,
E'en though it be a cross	Darkness be over me,
That raiseth me;	My rest a stone,
Still all my song shall be,	Yet, in my dreams I'd be,
Nearer, my God, to thee!	Nearer, my God, to thee!
Nearer to thee!	Nearer to thee!

There let the way appear,
 Steps unto heaven;
 All that thou sendest me,
 In mercy given;
 Angels to beckon me
 Nearer, my God, to thee!
 Nearer to thee!

Soprano Solo, "Ava Maria".....Gounod

Signorina Nice Barbareschi.

Overture, "Egmont".....Beethoven

Full Orchestra.

Paul Sieindorff, Conductor.

Eulogy.....General W. H. L. Barnes

Funeral March, 2nd movement from Symphony, "Eroica".....Beethoven
Full Orchestra.

August H. Rodemann, Conductor.

Hymn, "America".....Smith
Chorus and Orchestra and Audience.

Paul Steindorff, Conductor.

My country! 'tis of thee,
Sweet land of liberty,
Of thee I sing:
Land where my fathers died!
Land of the pilgrim's pride!
From every mountain side
Let freedom ring!

Our fathers' God to thee,
Author of liberty,
To thee we sing:
Long may our land be bright
With freedom's holy light;
Protect us by thy might,
Great God, our King!

Benediction.

"Star-Spangled Banner".....Key
Chorus and Orchestra and Audience.

Paul Steindorff, Conductor.

Oh, say, can you see, by the dawn's early light,
What so proudly we hailed at the twilight's last gleaming,
Whose broad stripes and bright stars, thro' the perilous fight,
O'er the ramparts we watched were so gallantly streaming?
And the rocket's red glare, the bombs bursting in air,
Gave proof thro' the night that our flag was still there.

Chorus.

Oh, say, does that star-spangled banner yet wave
O'er the land of the free and the home of the brave?

Oh, thus be it ever when free men shall stand
Between their loved home and wild war's desolation;
Blest with vict'ry and peace, may the heav'n-rescued land
Praise the power that hath made and preserved us a nation!
Then conquer we must, when our cause it is just,
And this be our motto: "In God is our trust!"

Chorus.

And the star-spangled banner in triumph shall wave
O'er the land of the free and the home of the brave.

McKINLEY MEMORIAL FUND.

After the Memorial Services and before the Committee of One Hundred adjourned, Mayor Phelan appointed one hundred gentlemen to raise a fund to erect an enduring monument to the late President, William McKinley. This committee organized as follows: James D. Phelan, Chairman; Irving M. Scott, Vice-Chairman; H. U. Brandenstein, Secretary; S. G. Murphy, Treasurer.

This circular was issued, signed by the full committee:

MAYOR'S OFFICE, San Francisco, Sept. 21, 1901.

Dear Sir: The McKinley Committee, appointed by the Mayor pursuant to a resolution of the Board of Supervisors, and obedient to a public demand, has resolved itself into a committee to receive subscriptions for a monument to be erected in San Francisco in honor of our martyred President.

We respectfully appeal to all patriotic men and women who loved William McKinley for his public and private virtues and who abhor the cowardly crime that outraged the Republic and deprived us of our chosen chief, to make their subscriptions, be they small or large. Let the people among whom he loved to move and in whose midst he died, give their little.

The President honored San Francisco with a visit and our people learned to love and respect him; his administration will be renowned in history for the successful conduct of a great war on land and sea, which resulted in opening the trade of the Pacific and the far East, of which we are natural beneficiaries.

Here a memorial, in some form to be hereafter determined, should stand in lasting commemoration of his public service and private worth. A sorrowing, yet grateful and patriotic people, will make their offerings as their generous impulses may dictate. It is estimated that a fund of \$50,000 would not be too much for this purpose.

It is not the intention of the Committee to personally call, relying on you to act as you see fit, without any persuasion, on account of the character of the fund.

Send subscriptions to the Mayor's office, City Hall, San Francisco, Cal., where they will be promptly acknowledged, or to any member of the Committee. Make checks payable to S. G. Murphy, Treasurer. Committeemen will report all collections to the Chairman, who will issue all receipts and make public acknowledgment.

COMMITTEE:

James D. Phelan, Chairman;
H. U. Brandenstein, Secretary;
S. G. Murphy, Treasurer;
Rolla V. Watt,
General R. H. Warfield,
Henry J. Crocker,
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Hugh Hume,
Thos. B. Ross, Financial Secretary.

The following subscriptions were received and acknowledged:

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Bee, Geo. & Co.....	5 00	California Hotel.....	25 00
Chinese Merchants.....	300 00	Cutting Packing Co.....	25 00
Crocker, H. J.....	150 00	Columbian Banking Co.....	25 00
Carpenters' Union No. 22.....	100 00	Clark, N. & Son.....	25 00
Crocker, H. J. (2d donation).....	100 00	California Jewelry Co.....	25 00
Crowell, Henry.....	100 00	California Barrel Co.....	25 00
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California Fruit Cannery Ass'n em-		store).....	21 50
ployees.....	97 75	Columbia Grammar School.....	20 60
Crescent Club (Misses Quinlan,		California Transfer Co.....	20 00
Bauer, Tuttle).....	89 50	Corbus, A. T.....	20 00
California Cotton Mills employees...	76 45	Crocker Grammar School.....	18 23
California Powder Works employees	52 00	Cooper Primary School.....	18 00
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Cynthia Literary and Social Society.	10 00	Cash (M. Bros. & Co.).....	5 00
Carpet Mechanics.....	10 00	Concord Juv. Social Club.....	5 00
California Savings & Loan Society..	10 00	Chung Ny.....	5 00
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Cerruti, Antonia.....	10 00	Cowing, Mrs. Clara.....	5 00
Curtis, S. S.....	10 00	California Employment Agency.....	5 00
Cash (Woods M. & S).....	10 00	Clark, J. G.....	5 00
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Crocker, A. & Bro.....	10 00	Compagno & Co.....	5 00
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MCKINLEY MEMORIAL FUND.

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Dennigan, Thomas Sons Co.....	20 00	Dye, Wm. M.....	5 00
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Duffy, J. J. & Co.....	10 00	Everett School.....	27 00
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Dairymen's Union of California.....	10 00	Emerson Primary School.....	21 00
Dupas, J. N.....	10 00	Edison Primary School.....	11 10
Dennison, E. G.....	10 00	English, J. F. & Co.....	10 00
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De Lano Bros.....	10 00	Erlanger & Galinger.....	10 00
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Dechman, Mr. and Mrs. W. J.....	5 00	Eggers, Herman.....	5 00

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Gutta Percha & Rubber Co.....	10 00	Hale Bros.....	100 00
Godchaux, Edmond.....	10 00	Hotaling, A. P. & Co.....	100 00
Greenzweig, Geo.....	10 00	Hellman, Isaias W.....	100 00
Gray, C. H.....	10 00	Him Wong, Dr.....	100 00
Gebhardt, C. B.....	10 00	Hamilton Grammar School.....	56 25
Golden City Lodge No. 63, K. of P..	10 00	Haas Bros.....	50 00
Grey, Richard H.....	10 00	Heller, Samuel W.....	50 00
Gruenhagen Bros.....	10 00	Hirschfelder, Dr. J. O.....	50 00
Getz Bros. & Co.....	10 00	Heller, Bachman & Co.....	50 00
Gozlinsky & Co.....	10 00	Hoffman, Rothschild Co.....	50 00
Garroutte, Hon. H. L.....	10 00	Hartford Fire Ins. Co. of Hartford..	50 00
Golden Gate Lodge Plasterers.....	10 00	Hooper, F. P. & J. A.....	50 00
Garfield Primary School.....	9 60	Hearst Grammar School.....	26 48
		Hooker & Co.....	25 00
		Hoey, John.....	25 00

DONORS AND AMOUNTS DONATED.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
Hirschfelder & Meany.....	25 00	Hey-Grauerholtz Co.....	10 00
Herman, Geo. & Co.....	25 00	House Movers' Union.....	10 00
Harries, W. H.....	25 00	Hendy, Chas. J. & Sons.....	10 00
Hind, Rolph & Co.....	25 00	Hunt Bros. & Co.....	10 00
Hume, G. W. & Co.....	25 00	Hromada & Co.....	10 00
Hamilton Grammar School.....	22 85	Herring-Hall-Marvin Safe Co.....	10 00
Hawes, Alexander G.....	20 00	Humboldt School.....	9 65
Heller, E. S.....	20 00	Harrison Primary School.....	7 20
Hueter, E. L.....	20 00	Harris, Fred E.....	5 00
Hornlein & Krumb.....	20 00	Hickmott, Mrs.....	5 00
Hayne, Robert Y.....	20 00	Herman, John.....	5 00
Harvey, J. Downey.....	20 00	Hebbard, Hon. J. C. B.....	5 00
Hawthorne School.....	17 00	Heyman, Jacob.....	5 00
Hunt, Aaron B.....	15 00	Hanson, John R. & Co.....	5 00
Hunt, Hon. John.....	15 00	Huerne, Zetle.....	5 00
Hjal, H. H.....	15 00	Hilp, Henry.....	5 00
Hancock Grammar School.....	14 35	Haight, Fred B.....	5 00
Humboldt Evening School.....	14 00	Harris Bros. & Co.....	5 00
Haight Street School.....	14 00	Hanford, Ben T.....	5 00
Hammersmith & Field.....	10 00	Ha Ha Moriah No. 3, O. K. S. P....	5 00
Healey, Benjamin.....	10 00	Herold, Rudolph Jr.....	5 00
Hickmott Asparagus Canning Co...	10 00	Henderson, Percy L.....	5 00
Haas, Geo. W.....	10 00	Italian-American Bank.....	50 00
Hawks, J. L.....	10 00	Italian-Swiss Colony.....	50 00
Hochstadter, Robert B.....	10 00	Irving Institute (Young Ladies)....	35 00
Hicks-Judd Co.....	10 00	Ivancovich, I. & Co.....	10 00
Hansen & Elrick.....	10 00	Independent Italian Benevolent So-	
Hammer, F. H. & Co.....	10 00	ciety.....	5 00

DONORS AND AMOUNTS DONATED.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
Ishiguro.....	5 00	Kappa Eta Theta.....	10 00
Johnson-Locke Mercantile Co.....	100 00	Koenig, Frank.....	10 00
Josselyn, Geo. M. Co.....	25 00	Kast & Co.....	10 00
Johnson, J. C. & Co.....	25 00	Kline, G. W.....	10 00
Judis, Alphonse.....	20 00	Kirkpatrick, John C.....	5 00
Jacobs, Hon. Julius.....	20 00	Knights and Ladies of Honor.....	5 00
Journeyman Stone Cutters.....	20 00	Keyes, Alexander D.....	5 00
Jackson, Byron, Metal Works.....	10 00	Kenny, F. T.....	5 00
Jonas-Erlanger-Davis Co.....	10 00	Keeney, Miss Ethel.....	5 00
Judkins, T. C.....	10 00	Kerr & Douglas.....	5 00
Jennings, Thomas.....	10 00	Katschinski, Benjamin.....	5 00
Jackson Primary School.....	7 15	Kohlberg & Co.....	5 00
Jefferson Primary School.....	6 85	Knudson, C. N. Co.....	5 00
Jeter, W. T. (Santa Cruz).....	5 00	Keithley, E. A.....	5 00
J. J. S.....	5 00	Korn, Eugene.....	5 00
Jack's Rotisserie.....	5 00	Kilburn, Paris.....	5 00
J. M. B.....	5 00	Lynch, Jeremiah.....	100 00
Kohl, Mrs. Wm. (San Mateo).....	500 00	Langley & Michaels.....	50 00
Kohl, Miss Mary (San Mateo).....	200 00	Lacknan & Jacobi.....	50 00
Kimball, G. G. (Red Bluff).....	50 00	Liebes & Co.....	50 00
Kingsbury, Geo. W.....	50 00	Lincoln Evening School.....	37 00
Kullman, Salz & Co.....	25 00	Longfellow School.....	27 00
Kohler & Chase.....	25 00	Lincoln Post No. 1, G. A. R.....	25 00
Koshland, S. & Co.....	25 00	Lathrop, Chas. G.....	25 00
Kingsbury, Mrs. Geo. W.....	25 00	Lincoln Relief No. 3, Aux. G. A. R.	25 00
Kohlberg, Strauss & Frohman.....	20 00	Laumeister, C. S.....	25 00
Kelly, James R.....	15 00	Levi, Henry & Co.....	25 00
Kutner, Goldstein & Co.....	10 00	Legallet-Hellwig Co.....	25 00

McKINLEY MEMORIAL FUND.

DONORS AND AMOUNTS DONATED.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
Leipnitz, G. & Co.....	25 00	Lowenthal, M. S.....	5 00
Levy, Jules & Bro.....	20 00	Lundy, A. L.....	5 00
Leroy, Eugene G.....	20 00	L. S. G.....	5 00
Lyons, Charles.....	20 00	Lundstrom & Johnson.....	5 00
Lick Grammar School.....	15 35	Market Street Cable R. R. Co.....	500 00
La Grande Laundry.....	10 00	Murphy, Grant & Co.....	200 00
Levy, A. & Co.....	10 00	Montague, W. W. & Co.....	100 00
Lewis, Sol.....	10 00	Miller, Sloss & Scott.....	100 00
Lebenbaum, B. Co.....	10 00	Merchants' Association.....	100 00
La Estrella Parlor No. 89, N. D. G. W.....	10 00	Mutual Savings Bank.....	50 00
Lewis, Wm. & Co.....	10 00	Mack & Co.....	50 00
Lynch, James.....	10 00	Marye, Geo. T. Jr.....	50 00
Lincoln Council No. 2.....	10 00	Mutual Life Insurance Co.....	50 00
League of Cross Cadets.....	10 00	Meyerstein & Co.....	50 00
Lincoln Grammar School.....	9 05	Morton Draying and W. H. Co.....	50 00
Lafayette Primary School.....	7 50	Montague, W. W.....	25 00
Levy, H.....	5 00	Main & Winchester.....	25 00
Lockwood, A. D.....	5 00	Mossley, Andrew S.....	25 00
Lacoste, Frank.....	5 00	Murphy, S. G.....	25 00
Lengfell, A. D.....	5 00	Moore, C. C. & Co.....	25 00
Levaggio, G. B.....	5 00	Meese & Gottfried Co.....	25 00
Larzelere, L. R. Co.....	5 00	Mercantile Trust Co.....	25 00
Lecarl, Perl & Co.....	5 00	Morgan Oyster Co.....	25 00
Leland, Dr. T. B.....	5 00	Mutual Label Co.....	25 00
Larzelere, W. R., Commission Co...	5 00	Musto, G. & Sons.....	25 00
Lennon, John A.....	5 00	Moore, Ferguson & Co.....	25 00
Lowry, W. J.....	5 00	Moore, Hunt, Jesse & Co.....	25 00
		Mahoney Bros.....	25 00

MCKINLEY MEMORIAL FUND.

DONORS AND AMOUNTS DONATED.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
Magee, Thos. & Sons.....	25 00	Michels & Wand.....	10 00
Mackintosh, Wm. (London and S. F. Bank).....	25 00	Muller & Raas Co.....	10 00
Martin, Mrs. Eleanor.....	25 00	Myrtle Lodge No. 42, A. O. U. W..	10 00
Merle & Co.....	25 00	Merchants' Ice & Cold Storage Co..	10 00
Mann, Horace School.....	24 95	Mission High School.....	8 05
Martenstein & Co.....	20 00	Moise, E. H.....	5 00
Mendelsohn Bros.....	20 00	Maguire, A. B.....	5 00
Madison, Bruce & Sellers.....	20 00	Meyer, C. H. & Bro.....	5 00
Metzger, Louis & Co.....	20 00	Meyerfield, Mitchell & Co.....	5 00
Morgan, Percy T.....	20 00	Moulton, Mrs. Harriet.....	5 00
Martin, John & Co.....	20 00	Mauzy, Byron.....	5 00
Marshall Primary School.....	15 10	Meyer, Julian J.....	5 00
Mandel, Pursch & Welner.....	15 00	Meyer, Alford F.....	5 00
Mayo, Chas.....	15 00	Marks, Jesse E.....	5 00
Monroe Primary School.....	12 25	Milani & Co.....	5 00
Madison Primary School.....	11 00	Micheletti, Pietro.....	5 00
Mission Grammar School.....	11 00	Mitchell & Goodall.....	5 00
Moulder Primary School.....	10 00	Moore, A. W.....	5 00
Morton, Sargent Shaw.....	10 00	Monteagle, Louis F.....	5 00
Mitsui & Co.....	10 00	Marsilla, Guiseppe.....	5 00
Moulton, Irving M.....	10 00	Murasky, Hon. Frank J.....	5 00
Moulton, Mrs. Irving M.....	10 00	Niantonomah No. 9. I. O. R. M....	5 00
Miller, R. E. (Owl Drug Co.).....	10 00	Memorial Lodge No. 174, A. O. U. W.	5 00
Moffitt, J. K.....	10 00	Merrill, Geo. A.....	5 00
Meyer, Edna A.....	10 00	Martha Washington Council No. 2, Daughters of Liberty.....	5 00
Maskey's Candy Co.....	10 00	McDonald, James M.....	1,000 00
Martin, Feusier & Co.....	10 00	McCreery, Andrew B.....	250 00

MCKINLEY MEMORIAL FUND.

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DONORS AND AMOUNTS DONATED.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
McNear, George.....	100 00	Nauman, A. & Co.....	5 00
McCreery, Lawrence.....	50 00	Neil, Charles S.....	5 00
McCreery, Walter.....	50 00	O'Connor, Moffatt & Co.....	100 00
McDonough & Runyon.....	20 00	Ohio Society.....*	100 00
McNab & Smith.....	20 00	Occidental Hotel.....	25 00
McLeod, Daniel.....	10 00	Otis, McAllister & Co.....	20 00
McLaughlin, M. A.....	10 00	O'Callaghan, Nelson & Co.....	10 00
McCann, Belcher & Allen.....	10 00	Oro Fino Parlor, N. D. G. W.....	10 00
McIntosh, C. K.....	10 00	Orinda Parlor No. 56, N. D. G. W....	10 00
McDonald, P. A.....	10 00	Okai & Co.....	10 00
McFarland, Hon. T. B.....	10 00	Orrick, O. S.....	5 00
McNell, D. R.....	5 00	Omey & Goetting.....	5 00
McKinley, Archibald.....	5 00	Oakville School.....	4 25
McL. G. M. (per. "Morning Call")...	5 00	Phelan, Hon. James D.....	1,000 00
Neill, James (first subscription)....	50 00	Phelan, Miss Mary L.....	100 00
Nathan, Dohrman Co.....	50 00	Parrott, Mrs. Abbey.....	100 00
Neustadter Bros.....	50 00	Pope & Talbot.....	100 00
Neville & Co.....	25 00	Pacific Coast S. S Co.....	100 00
Newman & Levison.....	25 00	Pond, Hon. E. B.....	100 00
Nonotuck Silk Co.....	25 00	Payot, Upham & Co.....	100 00
National Parlor No. 118, N. S. G. W..	25 00	Payot, Upham & Co. (Employees)...	63 50
Nelson, Charles Co.....	25 00	Porter Bros. Co.....	50 00
Norton Tanning Co.....	20 00	Post, Geo. H Thomas, No. 2.....	50 00
National Fire Ins. Co.....	10 00	Pacific Mutual Life Ins. Co.....	50 00
Norton, Teller & Roden.....	10 00	Pacific & Nav. Co.....	50 00
Naber, Alfs & Brune.....	10 00	Pacific Heights School.....	28 70
Noe Valley School.....	5 35	Pacific Auxillary Fire Alarm.....	25 00
Newbauer, J. H. Co.....	5 00	Porter, Dwight.....	25 00

MCKINLEY MEMORIAL FUND.

DONORS AND AMOUNTS DONATED.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
Pelton Water Wheel Co.....	25 00	Postoffice—Station K.....	10 50
Paraffine Paint Co.....	25 00	Postoffice—Station M.....	2 50
Palladini, A.....	25 00	Postoffice—Station O.....	1 50
Phillips, M.....	20 00	Peabody Primary School.....	7 55
Patrick, A. B. & Co.....	20 00	Parker, Jean School.....	7 00
Pacific Transfer Co.....	20 00	Pastene, A. & Sons.....	5 00
Park, Mrs. E. F. (San Rafael).....	20 00	Pitto & Milani.....	5 00
Payson, Capt. Albert H.....	20 00	Pastene, John.....	5 00
Palache, James.....	20 00	Parcells, Greenwood & Co.....	5 00
Pillsbury, E. S.....	20 00	Pike, D. D. & Co.....	5 00
Port Costa School.....	12 00	Pappenback, W.....	5 00
Pacific Savings, Loan & Building Co.....	10 00	Pocahontas Tribe No. 11, I. O. R. M..	5 00
Palache, G.....	10 00	Chonachee Tribe No. 10.....	5 00
Pacific Coast Syrup Co.....	10 00	Pidwell, Cyril T.....	5 00
Pasquale, B. & Co.....	10 00	Prosperity Lodge No. 300, A.O.U.W.	5 00
Prager, A. J. & Sons.....	10 00	Pike, Chas. W.....	5 00
Pacific Coast Waiters' Association..	10 00	Phillips, Smyth & Van Orden.....	5 00
Potter, Ed E.....	10 00	Pallies, A.....	5 00
Pacific Metal Works.....	10 00	Quinn, Jno. E.....	10 00
Plum, Chas. M. Co.....	10 00	Quinn, Jno. J.....	5 00
Postoffice—Station A.....	17 00	Roos Bros.....	100 00
Postoffice—Station B.....	20 50	Rollean, A.....	100 00
Postoffice—Station C.....	10 75	Rosenfelds, Jno. & Sons.....	100 00
Postoffice—Station E.....	19 75	Red Cross Monument Association...	100 00
Postoffice—Station F.....	14 50	Robbins Press Works, F. A.....	100 00
Postoffice—Station G.....	10 00	Redington & Co.....	50 00
Postoffice—Station H.....	11 00	Russ Estate, the.....	50 00
		Richmond School.....	29 00

MCKINLEY MEMORIAL FUND.

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DONORS AND AMOUNTS DONATED.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
Rosenstirn, Dr. Julius.....	25 00	Richardson, D. S.....	5 00
Rosenblatt Co, The.....	25 00	Spreckels, Claus.....	1,000 00
Reid & Bro.....	25 00	Spreckels, John D.....	250 00
Rosenberg Bros. & Co.....	25 00	Strauss, Levi & Co.....	200 00
Robinson, Aubrey (Menlo Park)....	25 00	Spreckels, Rudolph.....	100 00
Rothschild & Hadenfeldt.....	20 00	Sperry Flour Co.....	100 00
Roth Blum & Co.....	20 00	Shreve & Co.....	100 00
Redding Primary School.....	13 30	Schussler, Herman.....	100 00
Ray Manufacturing Co.....	10 00	Sherman, Clay & Co.....	100 00
Reiss Bros. & Co.....	10 00	Stanford, Mrs. Jane L.....	100 00
Reinstein, J. B.....	10 00	S. F. Savings Union.....	100 00
Rinaldo Bros.....	10 00	Sloane, W. & J. & Co.....	100 00
Ryan, James.....	10 00	Schilling, A. & Co.....	100 00
Rednall, W. W.....	5 00	Society of California Pioneers.....	100 00
Rourke, Jno. W.....	5 00	Smith, F. M.....	100 00
Rolph, James.....	5 00	Sachs, Lippman.....	50 00
Roesch, Louis.....	5 00	Stanton, James.....	50 00
Russ, Early & Harville.....	5 00	Stockton Milling Co.....	50 00
Reilly & Co.....	5 00	Shirley, John.....	50 00
Rathjen Bros.....	5 00	Stein, Simon & Co.....	50 00
Ritley, H. W.....	5 00	Savings & Loan Society.....	50 00
Rossi, Jno. F.....	5 00	Sheldon, Mark.....	50 00
Roussel & Co.....	5 00	Stratton, Hon. Frederick S.....	50 00
Rode, C. B. & Co.....	5 00	Standard Shirt Co. Employees.....	40 00
Rose Hill Dist. School (Sonoma Co.)..	5 00	Spring Valley Grammar School, (Berkeley).....	38 40
Reith, N. R.....	5 00	Stone, Dudley, School.....	27 85
Refoot Cherra Shaare.....	5 00	Swett, John, Grammar School.....	25 55
Royal House.....	5 00		

DONORS AND AMOUNTS DONATED.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
Sussman, Wormser & Co.....	25 00	S. F. Stove Works.....	10 00
Stanford Parlor No. 76, N. S. G. W.	25 00	Schluetter & Volberg.....	10 00
Swiss American Bank.....	25 00	Sanders & Kirschman.....	10 00
Shafter, Gen. W. H.....	25 00	Schneldell Estate Co.....	10 00
S. F. Aerie No. 5, F. O. O. E.....	25 00	St. Nicholas Laundry.....	10 00
Sanborn, Vail & Co.....	25 00	Sotoyome, No. 12, I. O. R. M.....	10 00
Schussler, M. & Co.....	25 00	Smedberg, Wm. R.....	10 00
Sneath, R. G.....	20 00	So. S. F. Parlor, No. 157, N. S. G. W.	10 00
Slade, S. E.....	20 00	Smith, A. W.....	10 00
Splivado, C. R. & Co.....	20 00	Spear, Hon. Jos. S., Jr.....	10 00
Simpson & Fisher.....	20 00	Sterling Furniture Co.....	10 00
Stafford, W. G. & Co.....	20 00	Sing Fat & Co.....	10 00
Schoenfeld, Jonas.....	20 00	Starr King Primary School.....	10 00
Schmidt, John A.....	20 00	Stoll & Van Bergen.....	5 00
Sanborn, John A.....	20 00	Sigma Delta Chi.....	5 00
Samuels Lace House.....	15 00	Star, Geo. E.....	5 00
Sherman Primary School.....	12 85	Sala, J. C.....	5 00
Scott (Irving M.) Primary School.....	12 35	Scatena, L.....	5 00
South End Primary School.....	10 80	Silverman, J.....	5 00
Swan, Benjamin R.....	10 00	Spiegel, L.....	5 00
Schmidt, A. H. R.....	10 00	Snow, Louis T.....	5 00
S. F. Timber Preserving Co.....	10 00	Spohn, Patrick & Co.....	5 00
Snedaker, W. H.....	10 00	Sideman, Lachman & Co.....	5 00
Sievers & Boland.....	10 00	Smith, B. J.....	5 00
Southern Pacific Milling Co.....	10 00	Seven Pines Circle, No. 3, Ladies'	
Smith, H. Le Baron.....	10 00	G. A. R.....	5 00
Schulz, Martinelli Luhman Co.....	10 00	Spiegel, L. M.....	5 00
Stanyan, Charles.....	10 00	Somer, E. A. O.....	5 00

MCKINLEY MEMORIAL FUND.

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DONORS AND AMOUNTS DONATED.

DONOR.		AMOUNT.	DONOR.		AMOUNT.
Stowell, W. L.....		5 00	Towe, Charles.....		5 00
Sartori, Dr. H. J.....		5 00	Toggery, "The".....		5 00
Shaw, Henry G.....		5 00	Tuchler & Ranzulo.....		5 00
Sargeant Lodge, No. 368, I. O. O. F		5 00	Toncovich & Boro.....		5 00
St. John, Chauncey.....		5 00	Thornley, Wm. H.....		5 00
Gloss, M. C.....		5 00	Tyler, G. H. & Sons.....		5 00
Sutro Primary School.....		4 45	Tappenbeck, W.....		5 00
Sunnyside Primary School.....		4 00	Tyson, R. J. & Co.....		5 00
Scott, Winfield, Primary.....		4 51	Tiedman, Tudor J. A.....		5 00
Theatrical Managers' Association			Tomalty, P. J.....		5 00
Benefit.....	1,409 00		Troutt, James M.....		5 00
Tubbs Cordage Co.....	100 00		Union Iron Works.....	250 00	
Willman & Bendel.....	100 00		U. S. Mint Employees.....	30 00	
Tay, Geo. H., & Co.....	100 00		Union Can Co. of S. F.....	25 00	
Thompson, R. R.....	50 00		Union Pulp & Paper Co.....	20 00	
Tatum & Bowen.....	25 00		United Carriage Co.....	20 00	
Tyson, Geo. H.....	20 00		U. S. Customs (Civil Service), Mail		
Thompson, Mrs. R. R.....	20 00		Deck.....	20 00	
Thomas Dyeing Works.....	20 00		United Lodge, No. 273, I. O. B. B....	10 00	
Cobin, Joseph S.....	20 00		Union Litho Co.....	10 00	
Cobin, R. J.....	15 00		Unity Post, No. 171, G. A. R.....	10 00	
Cobin, R. M.....	10 00		Unna, Harry Co.....	10 00	
Cobin, Clement.....	10 00		U. S. Grant Council, No. 19, United		
Crobock & Bergen.....	10 00		American Mechanics.....	10 00	
Childen, H. N. & Co.....	10 00		Utschig, John.....	5 00	
Fryon, E. H.....	10 00		Uhto, D. B.....	5 00	
Thierbach, Chas. F. & Co.....	5 00		Ungas, Wm.....	5 00	
Tetzen, Chas. & Co.....	5 00		Viavi Co, "The".....	50 00	

MCKINLEY MEMORIAL FUND.

DONORS AND AMOUNTS DONATED.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
Van Bergen, N. & Co.....	50 00	Waterhouse & Lester.....	25 00
Voorsanger, J. (Donation Temple		Wood, S. N. & Co.....	25 00
Emanu-El Sabbath School Children...	42 01	Wierike & Plageman.....	20 00
Veteran Firemen's Ass'n.....	22 00	Weinstock, Lubin & Co.....	20 00
Vogelsang, Alexander.....	10 00	Williams, Marvin & Co.....	20 00
Van Vales, M. D. & Co.....	10 00	Watt, Rolla V.....	20 00
Vickery, Atkins & Torrey.....	10 00	Whittier School.....	13 75
Van der Naillen (Incorporated).....	10 00	Waterhouse & Price.....	10 00
Van Dyke, Hon. Walter.....	10 00	Williams Bros. & Co.....	10 00
Vollman, C. M. & Co.....	5 00	Wonder Millinery Co.....	10 00
Van Huson & Co.....	5 00	Wetmore Bros.....	10 00
Von Renn, Lorsbach Co.....	5 00	Wheeler & Wilson.....	10 00
Vignier & Co.....	5 00	Wichman, Lutgen & Co.....	10 00
Vice, Thomas, Sr.....	5 00	Wolf, Albert.....	10 00
Vavoline Oil Co.....	5 00	Wampum of Bald Eagle, No. 75, I. O. R. M.....	10 00
Weill, Raphael.....	500 00	White Eagle, No. 72, I. O. R. M.....	10 00
Wells, Fargo & Co.....	250 00	Wood, Wire and Metal Lathers.....	10 00
Walter, D. N. & E.....	100 00	Wright, Jno. C.....	5 00
Wilson, J. C. Co.....	100 00	Whiteley, Henry M.....	5 00
Wolf & Sons.....	50 00	Wilson, A. W.....	5 00
Williams, Dimond & Co.....	50 00	Wright, F. F. (Walkover Shoe Co)..	5 00
Western Sugar Refinery Employees..	39 00	Webster & Dunbar.....	5 00
Western Iron Works.....	25 00	Whiting, R. V.....	5 00
Western Meat Co.....	25 00	Witzel & Baker.....	5 00
Walker, David F. (San Mateo).....	25 00	Wheeler, Judson.....	5 00
Wangenheim, Sol. Co.....	25 00	Wiedero, H. O.....	5 00
Whaton, Pond & Harrold.....	25 00	Wright & Wright.....	5 00
Wilson & Bro.....	25 00		

DONORS AND AMOUNTS DONATED.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
Willey Enc., No. 23, I. O. O. F.....	5 00	Zan Bros & Co.....	10 00
Wynne, Henry F.....	5 00	Zellerbach, A. & Sons.....	5 00
Washington Grammar School.....	4 00	115 Donations, each 25c.....	28 75
West End Grammar School.....	4 00	301 Donations, each 50c.....	150 25
Yokohama Specie Bank.....	25 00	550 Donations, each \$1 00.....	550 00
Yates & Co.....	25 00	105 Donations, each \$2 00.....	210 00
Yerba Buena Parlor, N. S. G. W.....	25 00	122 Donations, each \$2 50.....	305 00
Young, J. S.....	5 00	69 Donations, odd amounts.....	110 25

The Committee met January 3, 1902. The Treasurer reported \$30,334.84 on hand. The following circular was authorized. A Sub-Committee was appointed, whose names are appended. \$30,000 was ordered deposited at interest in the City Savings Banks by the Treasurer, and an appeal was made for additional subscriptions.

To Sculptors Resident in California—

The McKinley Memorial Committee has on hand \$30,000, and expects that the sum will be raised to \$50,000 by popular subscription. It invites plans for a memorial monument or shaft, to be constructed of California materials and erected at the junction of Van Ness avenue and Market street, San Francisco. It asks for designs or models for a memorial to cost \$30,000 and \$50,000, so in case the latter sum is raised, there will be no delay in making awards.

All plans must be submitted to the Committee at the Mark Hopkins Institute of Art, San Francisco, on or before April 10, 1902. The Committee will pay the cost of expressage and will make a contract with the successful competitor for the building of the monument, subject to the approval of the General Committee. The Committee reserves the right to reject any and all plans.

- JAMES D. PHELAN,
- IRVING M. SCOTT,
- H. U. BRANDENSTEIN,
- S. G. MURPHY,
- A. A. WATKINS,
- R. V. WATT,
- WM. GREER HARRISON,
- B. J. S. CAHILL,
- D. J. O'LEARY,

Sub-Committee on McKinley Memorial.

DEWEY MONUMENT.

The following Citizens' Committee was appointed to erect a Monument in San Francisco to the American Navy, in commemoration of Admiral Dewey's victory of Manila Bay: James D. Phelan, Chairman; Claus Spreckels, Vice-Chairman; Irving M. Scott, Vice-Chairman; Captain R. H. Fletcher, U.S.A., retired, Secretary; Mercantile Trust Co. of San Francisco, Treasurer; F. W. Van Sicklen, Vanderlyn Stow, R. P. Schwerin, George D. Clark, W. G. Stafford, E.W. Hopkins, C. L. Patton, J. D. Grant, Leon Sloss, Joseph S. Tobin, J. B. Reinstein, H. G. Platt, Charles Hirsch, Professor C. H. Murphy, Charles Bundschu, E. B. Pond.

In response to the following appeal, subscriptions were received:

REASONS WHY CALIFORNIA AND SAN FRANCISCO SHOULD HONOR DEWEY'S VICTORY.

(1) He added glory to American arms, and gave the United States a position in the world as one of the great powers, thus extending American influence and exalting American citizenship.

(2) He destroyed the Spanish fleet, thereby saving the California coast from ravage, and San Francisco from being placed under forced tribute to the enemy.

(3) His flagship, the Olympia, was constructed in our City and is a credit to our mechanics who share the success of the war.

(4) He opened the ocean to our commerce and by directing the world's attention to that great body of water, he has greatly increased the importance of San Francisco, the chief port of the United States on the Pacific.

(5) Such a monument will adorn our City and reflect credit on the citizens of California.

(6) Thus patriotism and gratitude unite with local pride in this movement, which should receive the generous support of all.

We subscribe the sums set opposite our names, payable on demand to the Committee:

SUBSCRIPTIONS PAID IN, AS PER E. B. POND'S ACCOUNT.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
Claus Spreckels.....	\$10,000 00	Murphy, Grant & Co.....	\$500 00
John W. Mackay.....	5,000 00	Alaska Packers' Association	500 00
James D. Phelan.....	5,000 00	J. A. Folger.....	500 00
Alaska Commercial Co.....	1,000 00	Tillman, Bendel & Co.....	500 00
Dodge, Sweeney & Co.....	500 00	A. Schilling & Co.....	500 00
Mrs. Wm. Kohl.....	500 00	Levi Strauss.....	500 00

DEWEY MONUMENT.

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SUBSCRIPTIONS PAID IN—CONTINUED.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
Bank of California.....	\$500 00	Mrs. James Phelan.....	\$100 00
Lloyd Tevis.....	500 00	Joseph Tobin.....	100 00
Haas Bros.....	500 00	Dunham, Carrigan & Hayden	
Nevada Bank.....	300 00	Co.....	100 00
M. J. Brandenstein & Co....	250 00	Jules Levy & Bros.....	100 00
Greenebaum, Weil & Mig-		Langley & Michaels.....	100 00
hels.....	250 00	C. E. Whitney & Co.....	100 00
Crocker-Woolworth Bank....	200 00	Miller, Sloss & Scott.....	100 00
Redington & Co.....	200 00	E. B. Pond.....	100 00
D. Ghiradelli & Co.....	100 00	L. Dinkelspiel & Son.....	50 00
Hoffman, Rothschild & Co....	100 00	Helmer, Bordhoff & Schulz..	50 00
S. Bachman & Co.....	100 00	Pacific Lumber Co.....	50 00
Anglo-American Crockery Co	100 00	California Cotton Mills.....	25 00
Crown Distilleries Co.....	100 00	John Barrett.....	25 00
Roth, Blum & Co.....	100 00	J. B. F. Davis & Son.....	25 00
W. P. Fuller & Co.....	100 00	Lachman & Jacobi.....	25 50
J. K. Armsby Co.....	100 00	John Dolbeer.....	25 00
Geo. W Hume & Co.....	100 00	Hulse, Bradford & Co.....	20 00
Griffith-Durney Co.....	100 00	The Wonder Millinery Store..	20 00
Fireman's Fund Ins. Co.....	100 00	J. Pinet & Co.....	10 00
H. Levi & Co.....	100 00	C. Neumann & Co.....	10 00
Stein, Simon & Co.....	100 00	J. B. Stanford.....	10 00
E. S. Pillsbury.....	100 00	J. G. Geisting.....	10 00
Meyerstein & Co.....	100 00	Louis Weule.....	10 00
Holbrook, Merrill & Stetson..	100 00	A. Lietz & Co.....	10 00
F. W. Van Sicklen, Trustee..	100 00	Williams Bros.....	10 00
John Nightingale.....	100 00	M. Schussler & Co.....	5 00
Thoma Denigan, Son & Co..	100 00	Weister & Co.....	5 00

DEWEY MONUMENT.

SUBSCRIPTIONS PAID IN—CONCLUDED.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
Chas. W. Pike & Co.....	\$5 00	W. M. Searby.....	\$100
Schmiedell Estate.....	5 00	Runa Bradford.....	1 00
Woods, Mailliard & Schmiedell.....	5 00	Wallace Bradford, Jr.....	1 00
Chas. Guillet.....	5 00	Donald Bradford.....	1 00
J. P. Fraser.....	5 00	Roy Bradford.....	1 00
Hadenfeldt & Rothschild.....	5 00	Dorris Bradford.....	1 00
C. G. Minifie.....	5 00	R. T. Baccus.....	2 00
Dorothy Wilkinson.....	2 50	John Rosenfeld.....	100 00
W. D. Wilkinson.....	2 50	Mrs. E. Martin.....	100 00
C. M. Alexander.....	1 00	Colonel C. H. Murphy.....	50 00
Wm. Wertsch.....	1 00	Total.....	\$31,096 50
H. Beveridge.....	1 00		

The committee employed Newton J. Tharp, architect, and Robert I. Aitken to make a design. The approved design consists of a granite shaft with a figure of Victory in bronze, 96 feet in height, to be located in the center of Union Square, inscribed as follows:

"Erected by the Citizens of San Francisco to Commemorate the Victory of the American Navy Under Commodore George Dewey at Manila Bay, May 1, 1898." And, "On May 23, 1901, the Ground for This Monument Was Broken by President William McKinley."

RECEPTION TO VOLUNTEERS

(RETURNING FROM PHILIPPINE ISLANDS.)

The Executive Committee for the reception of the returning U. S. Volunteers, in response to a circular letter addressed to them by Hon. James D. Phelan, Hon. M. H. De Young, Mr. A. M. Lawrence and Mr. W. S. Leake, a number of gentlemen assembled, at the hour of three o'clock in the afternoon of Thursday, July 13, 1899, at the offices of Mayor Phelan in the New City Hall, for the purpose of arranging for the reception of the Oregonians, who had just arrived from the Philippines. Thereafter, at a meeting in the chambers of the Board of Supervisors of the City and County of San Francisco, a resolution was passed requesting Mayor Phelan to name a committee, of which he himself should be one, to take charge of all matters connected with the reception and entertainment of the returning U. S. Volunteers from the Philippines. Accordingly, Mayor Phelan appointed on this committee Mr. William R. Hearst, proprietor of the San Francisco Examiner, Mr. John D. Spreckels, proprietor of the San Francisco Call, and Hon. M. H. De Young, proprietor of the San Francisco Chronicle.

The first meeting of this committee took place at the office of Mayor Phelan on the 1st day of August, 1899. Mr. Hearst was represented by Mr. Andrew M. Lawrence, Managing Editor of the Examiner, Mr. Spreckels was represented by Mr. W. J. Martin, Business Manager of the Call. There were present at the meeting Hon. M. H. De Young, Mr. Andrew M. Lawrence, Mr. W. J. Martin, and Mayor Phelan, and Henry C. McPike as Secretary, and F. W. Dohrmann served as Treasurer.

From time to time thereafter, meetings were held by the committee, until all of the returning Volunteers from the Philippines had been received and entertained by the citizens of San Francisco under the management and direction of this Executive Committee. A large amount of money was collected by the committee, and a great deal disbursed. After all of the bills for the entertainment and reception of the Volunteers had been paid, there was left in the hands of the committee the sum of twenty-five thousand dollars, which was immediately deposited in five of the leading Savings Banks in San Francisco, and has been drawing interest ever since, which is used for Red Cross work. It is the purpose of the committee to use this fund in erecting some kind of a memorial in commemoration of the acts and deeds of the American soldiers in the late war with Spain.

The following is a full list of the names of the contributors to this fund, with the amount contributed by each, set opposite:

RECEPTION TO VOLUNTEERS.

DONORS AND AMOUNTS DONATED.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
Aachen & Munich & Hanover..	\$25 00	Allen, Chas. R.....	20 00
Abbott, Chas. H.....	10 00	Alpers, Geo.....	2 50
Abbott, Wm.....	2 50	American Box Factory.....	5 00
Abrams, H.....	1 00	American Oil & Paint Co.....	5 00
Abramson, Heunisch & Co.....	25 00	American Steel & Wire Works.	50 00
Ackerman & Kohn.....	5 00	American Tract Society.....	5 00
Adams, A. H.....	5 00	American Tool Works.....	5 00
Adler, Max.....	10 00	Ames & Harris.....	100 00
Aetna Insurance Co.....	25 00	Andrews, A.....	50 00
Ahlers, Feht. J.....	1 00	Anderson, C. H.....	1 00
Ahlers, Henry.....	1 00	Andrews, T. P.....	5 00
Ahlers, H. C.....	2 50	Andrews, W. P.....	2 00
Ahrens, N.....	5 00	Anglo-Californian Bank.....	250 00
Aigeltinger, E.....	10 00	Anspacher Bros.....	20 00
Akers, Emil.....	50	A. O. U. W. Association.....	93 80
Alaska Packers Association.....	100 00	A. O. U. W. Association.....	11 50
Alameda Baseball Club.....	16 25	Arctic Oil Works.....	25 00
Alameda Sugar Co.....	25 00	Arlon Benefit.....	1,304 50
Alanson & Phelps.....	5 00	Armer & Weinschenk.....	2 50
Alaska Commercial Co.....	250 00	Armes & Co.....	1 00
Alaska Commercial Co.....	50 00	Armsby, J. K.....	25 00
Alexander, Yost & Co.....	5 00	Armstrong, Newton.....	1 00
Alexander, Mrs. Chas.....	100 00	Arnold, Thos C.....	5 00
Alexander, R. D.....	10 00	Arnold & Walsh.....	2 50
Albion Lumber Co.....	5 00	Aronson G.....	5 00
Alford, Wm.....	25 00	Armstrong, W. H.....	5 00
Allen, E. T. Co.....	20 00	Atlas Association Co.....	25 00
Allen, Higgins L., Co.....	10 00	Auditor's Office.....	15 00
Allen, I. F.....	5 00	American Chinese Association...	5 00
Alliance Marine & General As- surance.....	20 00	Asiatic Union Association.....	5 00
Alms House.....	78 00	Bachman, S. & Co.....	25 00
Allens Press Clipping Bureau...	10 00	Bachman, S. & Co.....	2 50
		Bacon, F. T.....	1 00

RECEPTION TO VOLUNTEERS.

DONORS AND AMOUNTS DONATED.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
Gaglietto, Capt. Louls.....	1 00	Baumgarten, J. Co.....	20 00
Bahrs, Geo. H.....	10 00	Bazet, Dr. L.....	5 00
Bailey, E. W.....	2 50	Baudin, A.....	1 00
Baker & Hamilton.....	50 00	Eean, I. W.....	5 00
Baldwin Annex Cafe.....	10 00	Beamish, P.....	5 00
Baldwin & Howell.....	20 00	Beattie, John.....	1 00
Baldwin Jewelry Company.....	20 00	Beattie, W. H.....	10 00
Baldwin, O. D. & Co.....	20 00	Beck, Adam.....	5 00
Ballard & Hall.....	10 00	Beck, R. R. & Co.....	20 00
Balz Bros. & Finkeldry.....	2 50	Bechtel, F. C.....	1 00
Bank of British North America.	100 00	Beer, B. & Co.....	2 00
Bank of British Columbia.....	100 00	Bellenberg & Weniger.....	10 00
Bank of California.....	500 00	Belasco, Harris & Co.....	5 00
Banner, The.....	1 00	Belcher, Ed. A.....	5 00
Bar Pilots.....	100 00	Bell, W.....	1 00
Bare Bros.....	20 00	Bellingham Bay Imp. Co.....	5 00
Barg, Kllen & Evans.....	5 00	Bender, D. A.....	5 00
Barker, H. L.....	1 00	Bennett Bros.....	5 00
Barner & Kehlenbach.....	2 50	Bennett & Wetmer.....	10 00
Barnett, Col. & Officers Tenth Pennsylvania Regiment.....	155 00	Berbert, A. & Bros.....	5 00
Barratt, John.....	10 00	Ber, Mrs.....	50
Basidy, J. A.....	2 50	Bergerot, F. A.....	25 00
Bass, Hueter Paint Co.....	25 00	Bergez, John.....	5 00
Bastrup, H.....	10 00	Bergren, J.....	50
Bateman, W.....	10 00	Bernhard Mattress Co.....	20 00
Bates & Co.....	5 00	Berry Bros. Limtd.....	10 00
Bathe, L.....	1 00	Betts Spring Co.....	2 50
Batthaser, G. M.....	5 00	Betz & Black.....	10 00
Bauer, A. C.....	10 00	Betz, Wm. & Bro.....	5 00
Bauer Kros. & Co.....	25 00	Bieber & Clark.....	2 50
Bauer, Joe.....	3 00	Bing Bros.....	1 00
Baughman, C. P.....	5 00	Bingham, J.....	5 00
		Birch, W. H. & Co.....	5 00

DONORS AND AMOUNTS DONATED.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
Birdsey, A.....	2 50	Bolton, de Ruyter & Co.....	10 00
Bishop, Chas. R.....	25 00	Boltz, Clyrner & Co.....	10 00
Bishop, Phos. B.....	25 00	Bonanza Cigar Company.....	2 00
Bissinger & Co.....	20 00	Bonestell & Co.....	50 00
Bjorn Bros.....	2 50	Bonestel, K. G.....	1 00
Ben Hing Kork.....	1 00	Bonnalie, H.....	1 50
Big Jim.....	300 00	Bon Bros.....	5 00
Bing Kong Tong, F. Masons....	30 00	Boole, Wm. & Son.....	25 00
Black Diamond Coal Company..	25 00	Bordwell, Geo.....	1 00
Blaisdell, N.....	5 00	Borneman, Geo. C. & Co.....	1 00
Blakely, J. H.....	1 00	Boston Insurance Co.....	20 00
Blake, Moffitt & Towne.....	50 00	Boston Woven Hose & Rubber Company.....	10 00
Blaskower, M. & Co.....	25 00	Bourne, R. A.....	2 00
Bliss & Fairville.....	10 00	Bovee, Toy & Co.....	20 00
Block, A.....	50	Bowers Rubber Co.....	50 00
Block, Achille.....	2 00	Bowen, Wm. B.....	25 00
Block, H. & L.....	10 00	Boyce, J. W.....	2 50
Bloom, Sam & Sons.....	5 00	Boyd, John F.....	20 00
Blum, M. & Co.....	10 00	Boysen, J. H.....	2 00
Blumenberg, S. P.....	10 00	Boykens Pharmacy.....	2 00
Blumenthal, B. & Co.....	20 00	Bow Yuen Art.....	1 00
Blythe & Trott.....	10 00	Bow Chung Art.....	1 00
Board of Education.....	21 50	Bow Mone Quan.....	50
Board of Supervisors, Clerks and Attaches.....	135 00	Boon Man.....	50
Boardman, Hooper & Co.....	20 00	Bock Oy Kew.....	30 00
Boesch Lamp Co.....	10 00	Bock Oy Jan.....	20 00
Bogart, S. B.....	2 50	Bock Oy Him.....	15 00
Bogen, Wm.....	20 00	Bock Jan.....	10 00
Boger, F. E.....	1 00	Bow Hing.....	5 00
Bolander, Perkins & Co.....	10 00	Bock Toy Kue.....	5 00
Boldt & Dabel.....	5 00	Bow Wing, Chong Kee & Co...	10 00
Bollman, Jno. & Co.....	10 00	Bow Tsen Hong & Co.....	5 00

RECEPTION TO VOLUNTEERS.

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DONORS AND AMOUNTS DONATED.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
Brady, Matt.....	5 00	Buan, Chas.....	1 00
Brady, A.....	1 00	Buckingham & Hecht.....	20 00
Brandenstein, M. & Co.....	100 00	Buckley, John.....	50
Brandt, Jacob.....	2 50	Buffalo Cigar Store.....	3 00
Brasca, Mrs.....	1 50	Bugfeld, H. H.....	1 00
Bass & Wittenberg.....	5 00	Brick, W.....	1 00
Braunschweiger & Co.....	5 00	Bull, Henry M.....	5 00
Bray & O'Connor.....	1 00	Bullock & Jones.....	25 00
Brennen, H.....	2 00	Bunemann, H.....	10 00
Brenner, Ulman & Co.....	25 00	Burns, Con.....	1 00
Breslauer, L.....	10 00	Burns, Dan.....	100 00
Brett & Dollmann.....	5 00	Burns, T. P.....	2 00
Brett, J. & Co.....	25 00	Bush Bros.....	20 00
Brewers' Protective Assn.....	1,000 00	Butler, Chas. H.....	5 00
Brigden, Turry & Botkin.....	2 50	Butler, John.....	5 00
Brigham, Hoppe & Co.....	25 00	Butler, Robt.....	1 00
Bright, J. A.....	1 00	Butler, Thos.....	5 00
Brilliant, T.....	5 00	Butler, Schutz & Co.....	10 00
Britt, E. W.....	5 00	Buttle, F. S.....	5 00
Brittain & Co.....	5 00	Butchers' Board of Trade.....	100 00
British & Foreign Marine Ins...	20 00	Butcher, T. W.....	5 00
Bryan, A. L. Shoe Co.....	20 00	Buganoff, R.....	2 50
Brude & Clarke Iron Works.....	5 00	Byron Jackson Machine Works...	15 00
Broemmel, B.....	2 00	Byrne, J. P.....	50
Brooklyn Hotel.....	5 00	Bun Tar Law & Co.....	1 00
Brown & Adams.....	5 00	Cafe Royal.....	50 00
Brown Bros. & Co.....	50 00	Cailleau, A.....	5 00
Brown, H. H. & Co.....	5 00	Cain, J. H. & Co.....	10 00
Brown, J. E. H.....	1 00	Cairns, James.....	2 00
Brown & Power.....	5 00	Calre, Justinian Co.....	20 00
Brown, R.....	1 00	Cahen, H.....	2 00
Brown, Thomas.....	25 00	Cahn, Nickelsberg & Co.....	20 00
Brumm, A. H.....	2 50	Caiey & Roeder.....	10 00

RECEPTION TO VOLUNTEERS.

DONORS AND AMOUNTS DONATED.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
California Art Glass Works.....	2 50	Campi's Restaurant.....	5 00
California Barrel Company.....	25 00	Cantor, Mrs. R.....	1 00
California Boiler Works.....	10 00	Cardell & Hesse.....	5 00
California Brass Works.....	5 00	Carlson, Currier & Co.....	20 00
California Cafe.....	10 00	Carolan, James.....	10 00
California Con. Co.....	5 00	Carr, F. J.....	5 00
California Electrical Works.....	20 00	Carran & Green.....	10 00
California Fig Syrup Co.....	10 00	Carroll & Carroll.....	10 00
California Furniture Co.....	25 00	Carroll & Tilton.....	10 00
California Cap. Co.....	25 00	Cartan, McCarthy & Co.....	10 00
California Fuse Company.....	25 00	Carton Insurance Office.....	20 00
California Hotel.....	25 00	Castle Bros.....	50 00
California Jewelry Co.....	10 00	Castro Street Pharmacy.....	50
California Jockey Club.....	100 00	Cathcart, A. B.....	1 00
California Mantel Co.....	1 00	Catton, Bell & Co.....	10 00
California Mill.....	5 00	Cavitt, W. C.....	1 00
California Notion & Toy Co.....	25 00	California Chemical Co. Wks....	20 00
California Optical Company.....	10 00	Cash.....	5 00
California Paint Co.....	10 00	Cash.....	5 00
California Powder Works.....	250 00	Cash.....	2 50
California Safe Deposit & Trust Company.....	100 00	Cash.....	5 00
California Saw Works.....	25 00	Cash.....	2 50
California Cable R. R. Co.....	250 00	Cash.....	1 00
California Wine Association....	100 00	Cash.....	10 00
California Wine Makers' Cor- poration.....	25 00	Cash.....	2 50
California Wire Works.....	25 00	Cash.....	2 50
California Wire Works.....	25 00	Cash.....	5 00
Californian A., San Jose.....	1 00	Cash.....	2 50
Call, S. F.....	100 00	Cash.....	2 50
Campbell, Robt.....	3 00	Cash.....	5 00
Campe, Henry & Co.....	5 00	Cash.....	10 00

RECEPTION TO VOLUNTEERS.

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DONORS AND AMOUNTS DONATED.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
Cash.....	5 00	Cash, J. M., Jr.....	5 00
Cash.....	5 00	Cash, C. T. M. P.....	1 00
Cash.....	8 50	Cash.....	1 00
Cash.....	5 00	Cash.....	1 00
Cash.....	1 00	Cash.....	1 00
Cash.....	1 00	Cash.....	25
Cash.....	2 50	Cash.....	25
Cash.....	1 00	Cash.....	1 00
Cash.....	2 00	Cash.....	50
Cash.....	1 00	Cash.....	50
Cash.....	1 00	Cash.....	25
Cash.....	50	Cash.....	1 00
Cash.....	1 00	Cash.....	50
Cash.....	1 00	Cash.....	75
Cash.....	2 50	Cash.....	10
Cash.....	50	Cash.....	1 00
Cash.....	5 00	Cash.....	1 00
Cash.....	50 00	Cash, 720 Minna street.....	2 50
Cash.....	1 00	Cash, T. C. S.....	20 00
Cash.....	1 00	Cash.....	5 00
Cash.....	2 00	Central Gas Light Co.....	50 00
Cash.....	1 00	Central Lumber Mill Co.....	5 00
Cash.....	1 50	Cereghino, C. J.....	1 00
Cash.....	5 00	Cerkel, W.....	5 00
Cash.....	1 00	Cesthiani, J.....	50
Cash.....	1 00	Chamber of Commerce.....	100 00
Cash.....	1 00	Charla, San Jose.....	20 00
Cash.....	20 00	Charleston Saloon, The.....	20 00
Cash.....	5 00	Chase, James B.....	5 00
Cash, E. H. H.....	2 50	Chase, W. W. & Co.....	5 00
Cash, J. R. G.....	5 00	Chenoweth, E. D.....	5 00
Cash, F. & C.....	5 00	Chiapas Rubber P. & I. Co.....	20 00
Cash, H. H.....	5 00	Chicago Clock Co.....	2 50

RECEPTION TO VOLUNTEERS.

DONORS AND AMOUNTS DONATED.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
China Traders Insurance Co.....	20 00	Chew, Kim Sing.....	1 50
Chinda & Botto.....	2 50	Chew Ker Thin.....	1 00
Chisholm, C.....	5 00	Chey, Moy.....	1 00
Christian.....	50	Chew, Chick Sing.....	50
Chistoffer, C. M.....	2 50	Chew, Do Yuen.....	1 00
Christie Machine Works.....	5 00	Ching, Shew.....	5 00
Christie & Wise.....	10 00	Cheng, Gane.....	1 00
Chronicle, S. P.....	100 00	Chung, Lee Lim.....	10 00
Chutes Beneit.....	450 00	Chung Tal.....	10 00
Canton Chinese L. Assn.....	10 00	Chong Jong Lung.....	5 00
Cervo, Hoover & Co.....	60 00	Chong Tong.....	2 00
Cero, Georges & Co., Lee Mow.	30 00	Chee Sang.....	1 00
Chan Gor Hing.....	2 00	Chinese Education Society.....	10 00
Chew Chow.....	2 00	Chinese Laundry Association....	100 00
Cheng Why.....	1 00	Chinese (Cal.) Club.....	10 00
Ching Wo & Co.....	2 00	Chinese N. Parlor, N. S. G. S...	50 00
Choy Jan & Co.....	1 00	Chinese Mut. P. & B. Assn.....	25 00
Chong Tsue.....	2 00	Chinese S. F. & S. Club.....	20 00
Chung Key.....	10 00	Chinese Mer. Club.....	5 00
Chung, Hing & Co.....	5 00	Cal. Chinese Union Club.....	10 00
Choy Bros.....	2 00	Chinese Mer. Club of S. F.....	5 00
Chong, M. & Co.....	2 00	Chung Sin.....	1 00
Choy Hop.....	1 00	Chin Lup.....	1 00
Chan Mue Wun.....	5 00	Chung Ping Lung.....	50
Chong, Wo & Co.....	1 00	Can Ching.....	50
Choy, George Yuen Bow.....	3 00	Chew Sing.....	50
Chong, Wo.....	4 00	Chong Chee.....	50
Chong, Hing Lem.....	2 00	Chun Tuck.....	1 00
Chow, Jon Chu.....	1 00	Chun Tal.....	50
Chew, Chung.....	1 00	Chong Kun.....	50
Chew, Fun.....	1 00	Cheun Hei Kow.....	50
Chew, Gay Chin.....	1 00	Chue Chong.....	50
Chew, Do Hong.....	1 00	Chun Tong Chon.....	50

RECEPTION TO VOLUNTEERS.

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DONORS AND AMOUNTS DONATED.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
Cheun Chong.....	50	Chew Chong Lung & Co.....	5 00
Chong Jan.....	50	Chiu Yen Sam Kee.....	3 00
Chong Tseong.....	50	Chung Wo & Co.....	1 50
Chin Chy Fong.....	10 00	Chun Chew.....	3 00
Chun Hong.....	10 00	Cineograph Parlor Benefit.....	12 00
Chy Lung & Co.....	120 00	Citizens of Berkeley.....	62 25
Chan Ching.....	100 00	City of Paris.....	100 00
Chew Ming Lung & Co.....	30 00	City and County Hospital.....	31 25
Chee Chong & Co.....	20 00	Clark, G. D.....	5 00
Chew Chong & Co.....	20 00	Clabrough, Golcher & Co.....	20 00
Chew Hong Lung & Co.....	20 00	Clark, Geo.....	5 00
Chung Jan.....	15 00	Clark, G. W. & Co.....	10 00
Chung Wo Chong.....	10 00	Clarke, G. W. & Co.....	6 50
Chun Ban.....	10 00	Clarke, N. & Son.....	50 00
Chum Song.....	10 00	Clarke, T.....	25
Chung On.....	10 00	Clarke, Wise & Co.....	10 00
Chew Kee.....	10 00	Clary, A. K.....	1 00
Chun Hing.....	10 00	Clauson, D. E. & Co.....	5 00
Ching Chong.....	10 00	Clayburgh, A.....	2 50
Chew Kee.....	3 00	Clein, Gus.....	2 50
Chung Yun.....	2 00	Clinch, C. G. & Co.....	25 00
Choy Yow Kee.....	2 00	Cluff, Wm. & Co.....	25 00
Chung Sing Gee.....	1 00	Cluett, Peabody & Co.....	25 00
Chun Yick.....	1 00	Cluin.....	10 00
Chew Hin.....	1 00	Coates & Co.....	5 00
Chicago Cigar Store.....	20 00	Coburn, Tevis & Co.....	25 00
Chun Ning Tuck Kee & Co.....	10 00	Code-Portwood Canning Company	10 00
Chew Ching Chung & Co.....	10 00	Coffey, A. J.....	5 00
Chew Kum.....	5 00	Coffey, J. V.....	10 00
Chew Fung & Co.....	5 00	Coffin, Alonzo.....	5 00
Chew Sang Tang & Co.....	5 00	Cohen, Benj.....	11 50
Choy Jee Tong & Co.....	5 00	Cohn Bros.....	1 00
Chee Sang Fong & Co.....	5 00	Cohn, Herman.....	20 00

RECEPTION TO VOLUNTEERS.

DONORS AND AMOUNTS DONATED.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
Cohn, G.....	5 00	Costigan, A. B.....	10 00
Cohen, Mrs. M.....	50	County Clerk's Office.....	69 00
Cohen, Sig.....	5 00	Covert, Geo. H.....	5 00
Cohnreich, Eug.....	1 00	Coughlan, Mrs.....	5 00
Coleman, Edward.....	75 00	Coxhead & Coxhead.....	1 00
Coleman, E. J.....	25 00	Cook Oy Guyee.....	10 00
Coleman, H.....	1 00	Craig, Hugh.....	2 50
Coleman, J. V.....	20 00	Craig, C. W. & Co.....	10 00
Collins, Chas. J.....	5 00	Crane & Co.....	25 00
Collins G. D.....	5 00	Cranz, Dr. L. T.....	5 00
Collins, J. T.....	2 00	Cremieux L. No. 325, I. O. O. F..	10 00
Columbian Auction House.....	2 50	Crescent Corset Co.....	5 00
Columbia Bank.....	20 00	Crocker, A. Bros.....	10 00
Columbia Coffee & Spice Co.....	2 50	Crocker, Geo.....	100 00
Columbia L. No. 127, I. O. B. B..	10 00	Crocker, H. S. & Co.....	50 00
Commercial Hotel.....	20 00	Crocker-Woolworth Nat. Bank..	200 00
Commercial Union Assurance Co	20 00	Cronqule, M.....	50
Compressed Air Machinery Co...	10 00	Cronin, John.....	1 00
Comstock Cigar Co.....	10 00	Crosighn, Mamie.....	1 00
Commission on Badges.....	2 50	Crowley, Jno.....	5 00
Conlan, C. F.....	10 00	Crown Paper Co.....	25 00
Conean, M.....	1 00	Crown Distilleries.....	50 00
Conklin Bros.....	2 50	Cumberland Coal Co.....	25 00
Conradi & Goldberg.....	5 00	Cummings.....	5 00
Consumers' Ice Company.....	2 50	Cunningham, Curtiss & Welch...	50 00
Conway, M. J.....	2 00	Curlett.....	10 00
Cook, G. A.....	1 00	Curtin, C.....	5 00
Cook, Carroll.....	10 00	Curtaz, Benj. & Son.....	20 00
Cook, H. N. Belting Co.....	25 00	Custom House Employees.....	200 00
Cooper, J. A.....	5 00	Custom House Employees, addl..	50 00
Cooper & Co.....	10 00	Custom House.....	15 00
Corbus, A. T.....	10 00	Custom House.....	100 00
Cosmopolitan Hotel.....	10 00	Cowne Chong Kee.....	5 00

RECEPTION TO VOLUNTEERS.

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DONORS AND AMOUNTS DONATED.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
Daingerfield, Wm. R.....	10 00	Deutsch, I.....	10 00
Dairymen's Union of Cal.....	10 00	Devlin, Chas. J. I.....	10 00
Dallam, F. B. & Co.....	5 00	Devany, Hopkins & Co.....	2 50
Darbee & Immel.....	10 00	Devlin, H. A.....	1 00
Davis, Belau & Co.....	10 00	Devoto, A.....	50
Davis, Geo.....	1 00	Dewey Nav. & Trading Co.....	10 00
Davis, J. B. F. & Son.....	25 00	Diamond, A.....	2 50
Davis, R. D. & Co.....	15 00	Diamond Parlor.....	5 00
Davis, Schonwasser & Co.....	10 00	Dickens Lumber Co.....	5 00
Davis, W. & Son.....	20 00	Dickey, J. R.....	5 00
Davidson, D. M. & Co.....	20 00	Dierks, Theo.....	2 50
Davidson, D. M. & Co., emp..	15 00	Dietz, F. E.....	10 00
Davidson & Lee.....	5 00	Dinkelspiel, L. & Sons.....	25 00
Davy Crockett.....	10 00	District Attorney's Office.....	33 60
Dawson, Geo.....	5 00	Dixon Bros.....	2 50
Day, Clinton.....	10 00	Doble, Abner Co.....	10 00
Day, Mary L.....	50 00	Dodge, A. B.....	5 00
Day, Thos. H. & Son.....	5 00	Dodge, Sweeny & Co.....	100 00
Deacon, Wm.....	10 00	Doe, C. F. & Co.....	10 00
Dean, W. E.....	25 00	Dohrmann, F. W.....	25 00
Deere Implement Co.....	25 00	Dolbeer, John.....	25 00
Degen, L. P.....	10 00	Dollar, Robert.....	5 00
Deleharty, T.....	1 00	Donagty, M.....	25
Del Monte Milling Co.....	50 00	Donnelly, J. J.....	2 50
Delmonico's Restaurant.....	10 00	Donohue-Kelly Banking Co.....	50 00
De la Montague, J.....	25 00	Doolittle, J. E.....	25 00
Demartini, John.....	2 00	Donnelly, Dunn & Co.....	20 00
Demartini, Phil. de.....	5 00	Doyle, Henry & Co.....	20 00
Denigan & Son, Thomas.....	25 00	Dow Steam Punip Works.....	25 00
Dennett's Coffee House.....	15 00	Dong Ching Pong.....	2 00
Deming, Palmer M. & Co.....	50 00	Dong Gong.....	3 00
Dennison, Fielding & Co.....	10 00	Doap Lung Hing & Co.....	3 00
Dennison Mfg. Co.....	5 00	Dock Chong & Co.....	2 00

DONORS AND AMOUNTS DONATED.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
Drinkhouse, J. A. Co.....	25 00	Elliott, J.....	2 50
Duffy, J. J. & Co.....	5 00	Ellis, H. C.....	10 00
Duggan, J. B.....	2 50	Emanuel, L. & E.....	10 00
Dunbar, A. T.....	10 00	Emmons, G. W. & Co.....	20 00
Dundon, F.....	20 00	Empire Laundry.....	10 00
Duneberger, J. A.....	50	Empire Novelty Co.....	5 00
Dunham, Carrigan & Co.....	100 00	Empire Shoe Company.....	5 00
Dunne, Frank H.....	10 00	Emporium & G. Rule Bazaar...	200 00
Dunn, D.....	1 00	Ensign, Beckford & Co.....	25 00
Dunn, J. P. & Co.....	10 00	Ensign & McGuffich.....	5 00
Dunn, W. J.....	5 00	Enterprise Foundry.....	10 00
Dunsmuir, R. Sons & Co.....	25 00	Enterprise Soda Works.....	5 00
Dutard, H.....	20 00	Epsilo, G.....	50
Dusenbery, L.....	5 00	Eppinger & Co.....	25 00
Dwyer, Lawrence J.....	5 00	Ehrman, E. & Co.....	25 00
Dun Boo.....	10 00	Eureka Boiler Works.....	5 00
Duck Lung.....	2 00	Eureka Boiler Works, addl.....	15 00
Eagan, Henry.....	1 00	Evans, Chris.....	5 00
Eagleson & Co.....	25 00	Evans, C. H. & Co.....	10 00
Eastern Outfitting Co.....	5 00	Eveleth, Nash & Co.....	10 00
Easton, Eldridge & Co.....	20 00	Everett Pulp & Paper Co.....	25 00
Eby, John D.....	5 00	Examiner, S. F.....	100 00
Edwards, L. B.....	2 50	Excelsior Cigar Co.....	2 00
Edwards, Wm.....	1 00	Excelsior, The Redwood Co.....	5 00
Egar Bros.....	5 00	Byre, M. G.....	1 00
Eggert, A.....	1 00	Faber, Fred.....	50
Eisenberg, A. & Co.....	5 00	Fachutar, S. P.....	2 00
Eisenberg, I. N. & H.....	1 50	Fair, Chas. L.....	250 00
Elder & Shepard.....	5 00	Fairbanks, Morse & Co.....	20 00
Eldorado Linseed Oil Works.....	5 00	Fairchild, Geo. E.....	10 00
Eldridge, C.....	25 00	Fahys, Jos. & Co.....	5 00
Elkus, The L. Co.....	25 00	Faktor & Bolt.....	5 00
Elliott Bros.....	1 00	Fargo, E. A.....	10 00

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DONORS AND AMOUNTS DONATED.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
Farley, John F.....	10 00	Ford, Thos.....	1 00
Farmer, Lee.....	1 00	Foster & Fay.....	20 00
Feder, S.....	10 00	Ford, Tirey L.....	15 00
Feldmann, L. & Co.....	5 00	Fan Shing.....	1 00
Fennell, Jas.....	5 00	Fong Song Lung & Co.....	10 00
Ferguson, T. M.....	10 00	Fook Lung.....	1 00
Ferguson, T. M.....	10 00	Fook Sang.....	2 00
Ferry Cafe.....	5 00	Fook Wo Tong.....	5 00
Fetz, Jos.....	2 50	Fong Shu Lock.....	50
Fai Sun & Co.....	50 00	Fong Mon Louie.....	1 00
Findley, T. B.....	5 00	Fong Yuey.....	1 00
Fink, Wm. C.....	5 00	Fong Lun Goey.....	1 00
Finn, John.....	10 00	Fong Pack.....	1 00
Fire Association.....	25 00	Fong Chung.....	1 00
Fireman's Fund & Home Mutual	100 00	Fong Hing Wing.....	1 00
Fisher & Co.....	10 00	Fong Yow.....	1 00
Fisher, E. R.....	2 50	Fong Mon Dye.....	1 00
Fisher, E. A.....	10 00	Fong Jong.....	1 00
First National Bank.....	250 00	Fong Yuen Jung.....	1 00
Flamm, G.....	2 50	Foo Chong Ben Social.....	5 00
Fletcher, G. R.....	5 00	Foon Sure Tong & Co.....	1 00
Fleisher, W. R.....	10 00	Fong Hing & Co.....	4 00
Fleishhacker, A. & Co.....	50 00	Fong Quong.....	50
Flint Carriage & Hardware Co..	5 00	Foon Hing.....	1 00
Flint & McLennan.....	10 00	Fong Mon Yin.....	5 00
Flood, J. L.....	100 00	Fong Foon.....	5 00
Flood, P. P.....	5 00	Foo Lung Art.....	5 00
Floyd, J. D.....	5 00	Fong Lum Dong.....	3 00
Folger, J. A. & Co.....	100 00	Fong Shue Jung.....	2 00
Folkers, J. H. A.....	5 00	Fong Wah.....	2 00
Foitz, Clara.....	5 00	Fong Mon Chung.....	2 00
Foote, W. W.....	50 00	Fong Mon Noon.....	1 00
Ford, Chas. H.....	1 00	Foy Joseph.....	2 00

DONORS AND AMOUNTS DONATED.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
Fook Lay Zin.....	2 00	Fulton Eng. & Ship Bldg.....	50 00
Foo Quim Time.....	1 00	Gage, W. S.....	5 00
Foo Chew Shon.....	1 00	Gale, J. W.....	1 00
Fook On Kue.....	10 00	Galli, F.....	50
Fong Lay Kue.....	5 00	Gallagher, D.....	2 50
Fow Yuen.....	3 00	Gallagher & Flynn.....	2 50
Fong Yick Jan & Co.....	10 00	Gall, A. Fruit Co.....	5 00
Fook Wah & Co.....	10 00	Gamble, J. M.....	100 00
Fook Sang Tong & Co.....	5 00	Garcia & Maggini.....	5 00
Foo Yie Hong L. Assn.....	10 00	Camble, Jos.....	50
Fung Yuen.....	1 00	Garratt, W. T. & Co.....	50 00
Fung Hai & Co.....	5 00	Garritz, Jas.....	2 50
Frapoli & Co.....	10 00	Garrouette, C. H.....	10 00
Frank Bros.....	5 00	Garson, G.....	5 00
Frank, Leon.....	5 00	Gashini, R.....	50
Frank Mfg. Co.....	5 00	Gassaway & Wood.....	5 00
Frank, S. H. & Co.....	25 00	Gatto, A.....	1 00
Fredericks, Jos. H. & Co.....	20 00	Gauthier Bros. & Co.....	10 00
Freeman, J. E.....	5 00	"G".....	1 00
Freese, A. C.....	25 00	Gebhardt, C.....	5 00
Freet, Chas. J.....	50	Geggus & Sheridan.....	5 00
Friedlander, —.....	50	Gender & Hink.....	5 00
Friedman & Rogers.....	5 00	General Electric Light Co.....	25 00
Friedman, M.....	20 00	George Bros. & Co.....	5 00
Friend, A.....	1 00	George, E. El., Shoe Co.....	2 50
Fritch, Geo.....	10 00	German-American.....	25 00
Froelich, C.....	20 00	German Press Club.....	10 00
Fry, R. D.....	25 00	German Trust Co.....	25 00
Fry, Willis B.....	5 00	German Savings & Loan Society	100 00
Fugaze, J. T. & Co.....	25 00	Gerson, N. & Co.....	5 00
Fuller, C. F.....	1 00	Gerson & Baer.....	5 00
Fuller, Geo. H. Desk Co.....	20 00	Gerberding, A.....	5 00
Fuller, W. P. & Co.....	25 00	Getz Bros.....	25 00

RECEPTION TO VOLUNTEERS.

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DONORS AND AMOUNTS DONATED.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
Getz, J. Jules.....	1 00	Gobey, J.....	10 00
Getz, N. & Co.....	5 00	Goecken, H. B.....	2 50
Gay Gip.....	1 00	Goetzen & Muller.....	2 50
Gee Sing.....	2 00	Goldberg, Bowen & Co.....	50 00
Gee Sing & Co.....	1 00	Golden, Ben L. H.....	2 50
Gee L. & Co.....	5 00	Golden Gate Cloak Co.....	25 00
Gee Jan & Co.....	1 50	Golden Gate Woolen Mills.....	25 00
Gee Tow Tung.....	2 00	Golden Rule Restaurant.....	5 00
Gee Chon Wo.....	3 00	Golden Eagle Hotel.....	10 00
Gem Yee Tong Union.....	50 00	Golden Gate Lodge, B. P. O. E	5 00
Gee Lee.....	2 00	Golden Gate Park Employees...	201 25
Ghee Kung Tong.....	20 00	Golden West Hotel.....	25 00
Glanette, F.....	25	Goldstone Bros.....	10 00
Giant Powder Works.....	100 00	Golinsky, Chas.....	2 50
Gibbs, Geo. W. & Co.....	100 00	Golinsky, E. & Co.....	10 00
Gibson, J. T.....	2 00	Goodall, Perkins & Co.....	100 00
Gilbert Mrg. Co.....	10 00	Goodman, A.....	2 50
Gildea, J. J.....	5 00	Goodyear Rubber Company.....	100 00
Glersen Bros.....	1 00	Gorham Rubber Company.....	10 00
Gilleran, Jas.....	5 00	Gosselk, —.....	1 00
Gilmartin, Chas. F.....	1 00	Gove, D. M.....	1 00
Ginocchio, G.....	2 50	Gog Leng Kim.....	1 00
Girardin, M. H.....	1 00	Goey Lung.....	5 00
Girvin, Eyre.....	25 00	Goo Wing Wo.....	10 00
Gisreltani, S.....	5 00	Gray, W. A.....	5 00
Gladding, McBean & Co.....	5 00	Grace, W. R. & Co.....	50 00
Gladding, McBean & Co.....	50 00	Graeber, C.....	1 00
Glander, H.....	1 00	Graf Bros.....	5 00
Gless, A.....	1 00	Graham, Judge, and attaches Police Court.....	15 00
Glein, Mrs. C.....	10 00	Graham, Matt.....	2 00
Glidden Bros.....	2 50	Granger Business Assn.....	5 00
Glidden, W. B.....	5 00	Grannis, J. G.....	2 50
Globe Brass & Bell Foundry.....	5 00		

RECEPTION TO VOLUNTEERS.

DONORS AND AMOUNTS DONATED.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
Grant, A. A.....	5 00	Haight, F. B.....	10 00
Gray & Mitchell.....	10 00	Hainque & O'Brien.....	5 00
Great Western Smelting & Ref..	10 00	Hakalau Plant. Co.....	25 00
Green Bros.....	10 00	Hale Bros.....	100 00
Green, Frank T.....	50	Hall, A. J. & Son.....	25 00
Green, Chas.....	2 00	Hall, Jas.....	5 00
Green, R. J.....	1 50	Halsted & Co.....	10 00
Greenbaum, Weil & Michaels....	1 0 00	Hamburger & Co.,.....	10 00
Greenbaum, M. S.....	25 00	Hamburg & Bremen Ins. Co.....	25 00
Greenberg & Greenberg.....	10 00	Hamilton, James.....	10 00
Green Valley Stables.....	20 00	Hammersmith & Field.....	10 00
Greenzweig, Geo.....	10 00	Hansbrough, J. W.....	5 00
Greese, —.....	1 00	Hanify, J. R. & Co.....	20 00
Greenwood, Fred A.....	15 00	Hanlon, Chas. F.....	20 00
Gross, Ph.....	1 00	Hanley & Spohn.....	2 50
Growall, W. L. & Co.,.....	5 00	Hann, W. E.....	50
Grubb, J. R. D.....	10 00	Hansen & Elrick.....	10 00
Grunberg, M.....	5 00	Hansen, L.....	1 00
Gualala Milk Company.....	20 00	Haquette, E.....	10 00
Guggenheim & Co.....	10 00	Harbor Commissioners.....	100 00
Guittard, Mrs. E.....	5 00	Harbor Commissioners, naval excursion.....	1,800 71
Gullixan Bros.....	2 50	Harding, Anna E.....	25
Gump, S. & G.....	25 00	Hardwin-Swain Mfg. Co.....	1 00
Gundlach, Bundschu W. & Co..	25 00	Harman, Weldeck & Co.....	10 00
Gunn, B. M. & Co.....	10 00	Harmon, H. S., Lumber Co.....	5 00
Gunst, M. A. & Co.....	50 00	Hartje, F.....	1 00
Gutta Percha & Rubber Co.....	10 00	Happersberger, —.....	2 50
Gutte & Frank.....	20 00	Harris, C.....	1 00
Haas Bros.....	50 00	Harris, C. W.....	1 00
Haas, Carl F.....	2 50	Harris, J.....	10 00
Haas, G. & Co.....	25 00	Harris, J. A.....	5 00
Hage, Mr.....	50	Hart, B.....	10 00
Hahn, Bohlmann & Co.....	1 00		

RECEPTION TO VOLUNTEERS.

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DONORS AND AMOUNTS DONATED.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
Hart, M.....	1 00	Hellburg, H.....	1 00
Hart, M.....	10 00	Heller, Bachman & Co.....	50 00
Hart, W. H. H.....	5 00	Hellman Bros. & Co.....	5 00
Hartley, Hayes & Co.....	5 00	Hellman, I. W.....	100 00
Hartford, —.....	25 00	Hemmel, E. J.....	1 00
Haskell & Co.....	2 50	Hendy, J., Machine Works.....	25 00
Haskell, R. H.....	2 00	Henshaw, Buckley & Co.....	10 00
Hastings, E. E.....	50	Henshaw, W. G.....	100 00
Hastings, The.....	25 00	Herrin, R.....	5 00
Haussler's Studio.....	3 00	Hernz, J.....	1 00
Havens & Toeppe.....	10 00	Herzstein, M.....	2 50
Hawkins, E. W.....	5 00	Hawsen, Arthur.....	2 00
Hayne, Robt. Y.....	25 00	Heyneman, H.....	100 00
Hayes, W. C.....	2 50	Heynemann & Co.....	50 00
Haynes, Jno.....	5 00	Haywood Bros. & Wakefield Co..	20 00
Hayward, A.....	50 00	Hibernia Savings & L. Society.	100 00
Hall, G. C. & Co.....	10 00	Hickmott Asparagus Canning Co	10 00
Harppan & Jansen.....	10 00	Hicks, Judd & Co.....	25 00
Hay Lee & Co.....	4 00	Hicke, T. J.....	1 00
Hang Hing & Co.....	3 00	Hilderbrandt, Chas.....	5 00
Han Ford & Co.....	2 00	Hills Bros.....	20 00
Hang Fai Low & Co.....	5 00	Hilmer, Bredtoff & Schultz.....	10 00
Hang On.....	2 00	Hill, Dr. E. E.....	20 00
Hang Fur Low & Co.....	10 00	Hindee, E. W.....	5 00
Haug Chun Lun & Co.....	5 00	Hinz & Landt.....	10 00
Hee Tai Wo & Co.....	5 00	Hinz & Plageman.....	10 00
Health Department.....	40 00	Hirsch & Kaiser.....	10 00
Hearst, Phoebe.....	500 00	Hirshfeld Emil.....	1 50
Hedges, G. W.....	1 00	Hirshfelder & Meaney.....	10 00
Hegerherst, J.....	1 00	Hirschman, A.....	10 00
Heldt, W.....	5 00	Hitchcock, D. W.....	10 00
Helms, J. D.....	5 00	Hing Sing & Co.....	5 00
Helbing & Wendeles.....	10 00	Hing Chon Jan.....	2 00

RECEPTION TO VOLUNTEERS.

DONORS AND AMOUNTS DONATED.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
Hip Yee.....	20 00	Huber Bros.....	10 00
Hing Kee.....	10 00	Huffschtid, Chas.....	2 50
Hobart Estate.....	100 00	Huerne, Mrs. Z.....	5 00
Hobbs, Wall & Co., employees...	45 25	Hughson & Mertens.....	5 00
Hobbs, Wall & Co.....	20 00	Huline & Hart.....	10 00
Hochstadter, R. B.....	20 00	Hulse, Bradford & Co.....	20 00
Hockett Bros. & Co.....	10 00	Hunt, A. B.....	5 00
Hocking, W. J.....	1 00	Hunt, John.....	10 00
Hodge, M. J.....	2 50	Hunter, John R.....	1 00
Hoey, John.....	10 00	Humboldt Savings & L. Society	25 00
Hoter, G.....	1 00	Husey, Walter.....	50
Hoffman Cigar Store.....	10 00	Hutchinson Sugar P. Co.....	25 00
Hoffman Cafe (Sullivan).....	20 00	Humboldt Bay Life Sav. Emp.....	20 50
Hoffman, Rothchild & Co.....	100 00	Hop Lee & Co.....	2 00
Holbrook, Merrill & Stetson.....	100 00	Hop Chong Jan & Co.....	2 00
Holman, L.....	5 00	Hop Sang.....	1 00
Holtum Bros.....	5 00	Hop Lung & Co.....	2 00
Holt Bros.....	10 00	Hong Fat.....	1 00
Holz, Ike.....	1 00	Hop Wo Ben. Assn.....	50 50
Hooker & Co.....	10 00	Hong Lee.....	4 00
Hooker & Lent.....	20 00	Hong Tai.....	4 00
Hooper & Jennings.....	25 00	Hop Wo Co.....	2 00
Hooper, F. P. & J. A.....	25 00	Hong Low Gee.....	1 00
Horn, Bernard.....	20 00	Hoo Yee Think.....	1 00
Horn & Co.....	5 00	Hoo Lung Shay.....	1 00
Hortsman, John & Co.....	5 00	Hoo Di Hor.....	2 00
Hotaling, A. P. & Co.....	25 00	Hoo Fat.....	1 00
Howard, E. A. & Co.....	5 00	Hom Ting.....	20 00
Hotel Pleasanton.....	20 00	Hon Gan Duck.....	20 00
Houghton, Sawyer.....	5 00	Horn Shun Wah.....	10 00
Howard, Geo. H.....	2 50	Horn Gan Loke.....	10 00
Howard, Wm. H.....	10 00	Hom Yee Toy.....	5 00
Hopkins, E. W.....	50 00	Hom Sing Poy.....	3 00

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DONORS AND AMOUNTS DONATED.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
Hong Hai Art.....	3 00	Huey Hing.....	50
Horn Mon Dong.....	2 00	Hut Nam.....	50
Horn Mon Ming.....	2 00	Hue Kai.....	5 00
Horn Ging Poon.....	2 00	Ideal, The.....	50
Horn Jack Young.....	2 00	Ils, John G.....	10 00
Horn Si Kwaire.....	2 00	Indemnity Mut. Marine I. Co....	20 00
Hom Sue Fong.....	2 00	Inglewood Vineyard Agency.....	20 00
Horn Sue Chew.....	2 00	International Cakewalk.....	505 60
Horn Ed Dun.....	2 00	Internal Rev. Col. and Emp.....	56 00
Horn Mon Jong.....	2 00	Indianapolis Fur. Co.....	20 00
Horn Git Hinn.....	2 00	Irvine, Jas.....	10 00
Hong Fook Tong & Co.....	4 00	Isle, Louis.....	1 00
Hong On Tong & Co.....	5 00	Italian Bank.....	50
Hong Tuck Tong Cigar Union W	50 00	Italian-Swiss Colony.....	25 00
Hop Hing.....	1 00	Ivancovich, J. & Co.....	5 00
Hong Hop.....	3 00	Iverson, M. J.....	2 50
Horn Hing.....	2 00	Jacobs, B.....	1 00
Horn Moon Doo.....	2 00	Jacobs & Co.....	7 50
Horn Git Lai.....	1 00	Jacobs, Henry.....	5 00
Horn Ed Moon.....	1 00	Jacobs, Julius.....	20 00
Horn Kung Yan.....	1 00	Jacobsen, J.....	2 50
Hong Tong.....	50	Jackson, H. J.....	1 00
Hop Wo Lung.....	10 00	Jackson, J. G.....	5 00
Hong Sng.....	2 00	Jackson, P. H. & Co.....	5 00
How Sheong.....	50	Jackson, W. E.....	5 00
Ho Yuen.....	50	Jarblu, E.....	5 00
Ho Hing Len.....	50	Jamieson, R. A.....	1 00
Ho Cheong.....	50	Jardin Machine Works.....	5 00
Hoo Foy.....	10 00	Janitors City Hall.....	41 50
Hoo Low.....	20 00	Jennings, Thos.....	10 00
Horn Hong.....	15 00	Jewett, G.....	2 50
Hong Fook.....	10 00	Jear Nuen Ng.....	50
Hop Lee.....	1 00	Jear Mock Shu.....	10 00

RECEPTION TO VOLUNTEERS.

DONORS AND AMOUNTS DONATED.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
Jee Wo Tong.....	5 00	Jung Sing.....	1 00
Jee Yuen.....	50	Jue Kee.....	10 00
Jee Bung.....	10 00	Jung One.....	1 00
Jear Lung.....	50	Jung Own Shin.....	2 00
Jear Jack Sing.....	50	Jong Sure Ham.....	1 00
Jear Chong.....	50	Jung One Duck.....	1 00
Jear Shou.....	50	Jung Sing Kee.....	1 00
Jear Shun.....	50	Jung Tip Chon.....	1 00
Jear Yuen.....	50	Jung Bing.....	1 00
Jear Sang.....	50	Jung Tai Chun.....	1 00
Jenchimsen, H. L.....	5 00	Juan Kam.....	50
Johnson's Creamery.....	20 00	Kahn Bros.....	5 00
Johnson & Gogan.....	1 00	Kahn Bros., Klein & Co.....	25 00
Johnson-Locke Mer. Co.....	25 00	Kahn, Henry & Co.....	10 00
Johnson, J. C.....	25 00	Kallman, O. & Sons.....	1 00
Johnson-Locke Mer. Co., 2d sub..	25 00	Kast & Co.....	20 00
Johnstone, John.....	1 00	Kast, Granville, Show Company.	5 00
Joost Bros., M.....	2 50	Katscinski, B.....	10 00
Jones, Chas. A.....	1 00	Kattenhone, J. H.....	1 00
Jones, F.....	1 00	Kauff, D.....	1 00
Jones & Davis.....	1 00	Kaufman, Chas.....	1 00
Jones, Munday & Co.....	20 00	Kaufman, Davidson & Co.....	2 50
Jones, Samuel.....	5 00	Kauffman, —.....	10 00
Josselyn, G. M. & Co.....	50 00	Kaufner, M.....	5 00
Jovovich, V.....	50	Kavanaugh, R. K.....	5 00
Jong Foo.....	50	Kam Sue Chong.....	5 00
John Chong & Co.....	2 00	Kam Koo Yuen.....	2 00
Judis, Alphonse.....	10 00	Kam Chan.....	1 00
Judson Mfg. Co.....	10 00	Kee Hon Quan.....	2 00
Judson Powder Works.....	100 00	Kee Fook.....	10 00
Justice of Peace and Clerks.....	50 00	Kearn, G. W.....	5 00
Jung Chay Bin.....	1 00	Keating, M.....	2 00
Jung Bing Lew.....	1 00	Keefe, D.....	10 00

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DONORS AND AMOUNTS DONATED.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
Keefe, D. & Co.....	5 00	Knongbin & Coffey.....	50
Kellus, Chas. & Co. (The Hub)..	20 00	Know, Andrew B.....	1 00
Kelleher, M.....	5 00	Knowles, F. E.....	5 00
Kelleher, Simon.....	1 00	Knust, Henry.....	2 50
Kelly, F. J.....	10 00	Knox, Geo.....	1 00
Kelly, Geo.....	2 50	Kong Goon Chung.....	6 00
Kelley & Fulton.....	2 50	Ko Loy.....	50
Kelley & Liebes.....	50 00	Kock Tan.....	50
Kemp Van Ee, J. C.....	5 00	Ko Cheong.....	50
Kennedy, J. F.....	5 00	Ko Tong.....	50
Kennedy, R. T.....	5 00	Ko One.....	50
Kent, S. H.....	10 00	Ko Pun.....	50
Kerr, F. W.....	2 00	Kock Wor Choom.....	50
Kerr, G.....	1 00	Kock Tong.....	50
Kerr, T.....	1 00	Ko Chen Kon.....	50
Keyes, A. D.....	2 00	Ko Yuck Thing.....	50
Keystone Boiler Works.....	50 00	Ko Tseong.....	50
King, Moss & Co.....	5 00	Kong Chow & Co.....	50 00
Kingman (Ariz.) Lodge No. 468, E. P. O. E.....	20 00	Koenig, F.....	25 00
Kirschner, Fred.....	50	Koeser, F.....	1 00
Kirschner, M.....	50	Kohlberg, M. P. & Co.....	5 00
Kittmacher, —.....	5 00	Kohlberg, Strauss & Frohman...	25 00
Kim Lung Co.....	30 00	Kohl, Mrs. Sarah.....	100 00
King Chong & Co.....	2 00	Korn, E.....	5 00
King Fong.....	5 00	Kohler & Chase.....	20 00
Kline, Louis & Co.....	10 00	Kolb & Denhard.....	5 00
Kliner, Herman.....	5 00	Komfort, The.....	10 00
Knierr & Allan.....	50 00	Kowaisky, J. N. & Co.....	5 00
Kneting, John.....	50	Koshland, Max I. & Co.....	5 00
Knight, George A.....	25 00	Kowalsky, H. I.....	2 50
Knight, W. R.....	10 00	Koshland, M.....	25 00
Knoles & Kennedy.....	1 00	Kragan Furniture Co.....	5 00
		Krone F. W.....	20 00

DONORS AND AMOUNTS DONATED.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
Kron Tanning Company.....	25 00	Langer, Jno.....	1 00
Krug, Anton.....	5 00	Langham Hotel.....	10 00
Kruse, J. H.....	10 00	Langley, Michaels & Co.....	50 00
Kuh, Louis.....	1 00	Lands, H.....	1 00
Kullman, Salz & Co.....	25 00	Larsen, C. G.....	25 00
Kum Fong Yee Chinese Theater.	20 00	Larsen, N. P.....	2 50
Kue On.....	30 00	Lassalle, Frank.....	1 00
Kum Tie & Co.....	5 00	Lathrop, Chas. G.....	10 00
Kum Fong Low & Co.....	2 00	Laton, Chas. A.....	25 00
Kwong Fong Tai.....	50 00	Laumeister, C. S.....	50 00
Kwong On Lung Co.....	5 00	Lawler, W. P.....	10 00
Kwon Sing Co.....	2 00	L. Q. C. C. Association.....	5 00
Kwong On & Co.....	3 00	Lai Sang & Co.....	10 00
Kwong Hop & Co.....	1 00	Law Town Choy.....	1 00
Kwong Chun Yuen Co.....	5 00	Lay On & Co.....	2 00
Kwong Yuen.....	1 00	Lai Dong Leong.....	2 00
Kwong Yick & Co.....	20 00	Lau Hong.....	50
Kwong Lum Hing Co.....	10 00	Lau Long.....	50
Kwong Chew Yum & Co.....	10 00	Law Wah.....	50
Kwong Wo Tai & Co.....	10 00	Lai Yoi.....	50
Kwong Wah Yuen Co.....	5 00	Lee Jan Shon.....	5 00
Kwong Hang Lee & Co.....	5 00	Lee Sing.....	1 00
Kwon Man Yuen & Co.....	4 00	Lee Song.....	5 00
Kwong Hing Lung & Co.....	2 00	Leung Kai Hay.....	2 00
Lachman & Jacobi.....	50 00	Leung Mon Shew.....	1 00
Lacrasini, C. A.....	2 00	Lew Kung Yick.....	50
Ladouceir, F.....	2 50	Lee Soot.....	5 00
La Fonciere Mar. Ins. Co.....	20 00	Lee On.....	10 00
Landers Bros.....	1 00	Lee Yon.....	50
Landers' Shoe Store.....	5 00	Lew Chuen.....	50
Lander Bros.....	1 00	Lew Yuen.....	50
Lane & Connolly.....	5 00	Lee Shing.....	50
Landsberger, H. M.....	5 00	Lee Yuk.....	2 00

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DONORS AND AMOUNTS DONATED.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
Lee Soon.....	1 00	Leong Fook.....	10 00
Lee Tien Choy.....	50	Leong Chu.....	10 00
Lee Chee Chen.....	50	Lee Hoy.....	10 00
Lee Tuck You.....	50	Lee Song.....	2 00
Lee Cheap.....	50	Leong Hop.....	1 00
Lee Ty.....	50	Lee Sing Hong.....	25 00
Lee Choy.....	50	Lee Fook Long Chan & Co.....	40 00
Lee Sang.....	50	Lee Shee Kai.....	5 00
Lee Yee.....	50	Lee Yuen & Co.....	5 00
Lee Yick Tie.....	50	Lee Yon Qiu.....	2 00
Lee Sang.....	50	Lee Yong & Co.....	1 00
Lee Chong.....	50	Lee One Lung.....	2 00
Lee Nam.....	50	Leavitt, S. B. & Co.....	10 00
Leong Lay.....	50	Lebenbaum & Co.....	20 00
Lee Yee.....	50	Le Count Bros.....	50 00
Lee Ming.....	50	Lee, John.....	10 00
Lee Kon.....	50	Leeba & Bohlen.....	5 00
Lee Wing.....	50	Legallet & Hellwig Tanning Co	20 00
Lee Chow Tin.....	50	Le Gal & Ostrander.....	5 00
Lee Sue.....	50	Lehmann, G.....	50
Lee Ah Gin.....	50	Lemman, William.....	25 00
Lew Queen.....	50	Lemmon, J. W.....	2 50
Lei Quai Fon.....	50	Lelpnitz & Co.....	10 00
Lee Cheong.....	50	Lenfesty Bros.....	50
Lee Kin.....	50	Lengsfeld Pharmacy.....	20 00
Lee Jen.....	50	Lennon, John A.....	10 00
Leong Boey.....	50	Lenormand & Bro.....	10 00
Lee Shu Sam.....	50	Lent & Humphrey.....	10 00
Len Yuen.....	50	Lent, William M.....	25 00
Lee Tack.....	50	Lewis, M.....	5 00
Leong Kai.....	10 00	Lewis Packing Company.....	5 00
Leong Gow.....	10 00	Lewis, Sol.....	10 00
Lee Yuen.....	10 00	Leventritt, M.....	10 00

DONORS AND AMOUNTS DONATED.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
Lever, Lemmon.....	1 00	Lloyd, Scovel Iron Co.....	5 00
Levinson, Mrs. I. M.....	1 00	Li King & Co.....	2 00
Levinson & Co.....	2 50	Li Ngan.....	50
Levin, A. J. & Co.....	2 00	Li Sang.....	50
Levin Bros.....	2 50	Lombardi Restaurant.....	5 00
Levin & Co.....	5 00	London, A.....	1 00
Levin, H. & Co.....	50 00	London Assurance Corporation & Ocean Marine Insurance.....	20 00
Levy, Jules & Bros.....	50 00	London Broom Factory.....	2 00
Levy, M. L. & Co.....	10 00	London & Lancashire.....	25 00
Levy, M. W.....	5 00	London, Paris & American Bank	250 00
Levy, N. & Co.....	5 00	London & Providence Marine In- surance Company.....	20 00
Levy, W. H.....	5 00	London & S. F. Bank.....	100 00
Liebes, H. & Co.....	50 00	Long Syrup Refinery Co.....	10 00
License Collection Office.....	33 00	Low, C. A.....	5 00
Lick House.....	10 00	Lowell High School.....	3 00
Liedt, Paul.....	2 50	Lowenberg & Co.....	50 00
Lieber, John.....	1 00	Lo Duck.....	50
Lievre, Fricke & Co.....	20 00	Loi Guen Chong Co.....	2 00
Life Saving, 12th District Em- ployees.....	87 00	Lou Fong.....	5 00
Lillenthal, Alfred.....	2 50	Low Yick Fay.....	2 00
Lillenthal & Godat.....	2 50	Low Tip Cheong.....	1 00
Lillie, Alfred.....	2 00	Low Yick Pew.....	1 00
Lipman, Charles.....	1 00	Low Bing Sing.....	1 50
Lind, C. H.....	1 00	Low Gim.....	1 00
Lion & Imperial.....	15 00	Lone Chuck Foy.....	5 00
Lipman Bros.....	10 00	Low Fat.....	10 00
Lippert, John.....	1 00	Low Si.....	10 00
Liverpool, London & Globe.....	25 00	Low Chee.....	10 00
Livingston Bros.....	20 00	Low Song.....	10 00
Livingston & Co.....	50 00	Low Tam & Co.....	5 00
Livingston, Smith & Co.....	5 00	Low Quon.....	5 00
Lloyd, C. R.....	5 00		

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DONORS AND AMOUNTS DONATED.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
Loo Ban.....	3 00	Maguire & Gallagher.....	10 00
Lucke, B. H.....	20 00	Mahler, J. D.....	1 00
Lucy, Jas. W.....	50	Mahoney & Conway.....	1 00
Lunstedt Bros.....	5 00	Mahoney Bros.....	25 00
Lunsmann, Chas. H.....	1 00	Mahoney, J. B.....	1 00
Lydon, J. T.....	1 00	Maier, Charles.....	5 00
Lyon, E. G. & Co.....	10 00	Majestic Saloon.....	5 00
Lyons, Chas.....	20 00	Mallett, A. H.....	1 00
Lyons, Robert.....	2 50	Malm, C. A. & Co.....	10 00
Lions, William.....	5 00	Mangeis, Chas. D.....	5 00
Lun Foon.....	5 00	Mangles, Pursch & Weiner....	10 00
Lum Wo & Co.....	2 00	Manning, William.....	5 00
Lum Mow Leung.....	5 00	Marchands Restaurant.....	25 00
Lum Hay Gee.....	50	Marcuse, M. & Co.....	10 00
Lum Chong & Co.....	5 00	Marshall, Joe B.....	2 50
Lum Sing.....	10 00	Marsh, G. T.....	10 00
Lung Shing.....	1 50	Marks Bros.....	5 00
Lum Yow.....	1 00	Marks, J. C. & Co.....	10 00
Lum Chong.....	50	Markus, Louis.....	2 00
Lum Yong.....	50	Marine Insurance Company.....	20 00
Lum Wing.....	50	Marshall, J. E.....	1 00
Lum Fong.....	10 00	Marston, F. W.....	20 00
Lee Kum Shu.....	5 00	Martin, E. & Co.....	50 00
Lem Chong.....	3 00	Martenstein, J. & Co.....	10 00
Lum Chong & Co.....	5 00	Mau, A.....	50
MacDonald, D. B.....	5 00	Mauvais, Zeno Music Co.....	5 00
Mackie, W.....	5 00	Mauzy & Reed.....	10 00
Mack & Co.....	50 00	Mauzy, Byron.....	10 00
Macmanogle, Dr. B.....	20 00	Mayre, Geo. T.....	20 00
Madison & Burke.....	20 00	Mayrish, A. W.....	2 00
Magge, H. B.....	5 00	Mangrum & Otter.....	25 00
Magin, J. & Co.....	10 00	Man Hop.....	2 00
Magner Bros.....	5 00	Man Lee & Co.....	5 00

DONORS AND AMOUNTS DONATED.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
Man Fong Jan.....	5 00	McGowan Grocery Co.....	2 50
Mark Quong.....	5 00	McIntosh & Voipmann.....	2 50
Man Fong.....	3 00	McKay & Co.....	5 00
Man Yuen Chong.....	2 00	McKenna, J. F.	2 50
Man Yick & Co.....	10 00	McKelvey, Samuel.....	1 00
Man Folk.....	5 00	McLachlin, Thos. M.....	5 00
Mark Tang.....	3 00	McLaren, John M.....	20 00
McAfee Bros.....	5 00	McLaughlin, T. M.....	5 00
McAdam, Ed.....	1 00	McLeod, Daniel & Co.....	10 00
May Chong Wo & Co.....	10 00	McLeod & Hatje.....	5 00
McBrown & Co.....	2 50	McMenomy, John HN.....	10 00
McCann, Belcher & Allen.....	20 00	McNab & Smith.....	25 00
McCarthy Bros.....	2 50	McNamee & Dickens.....	10 00
McCarthy, John.....	5 00	McNeil, D. H.....	5 00
McCarthy, T. H.....	10 00	McNear, G. W.....	25 00
McCaul, Chas. A.....	5 00	McNicholl, A. J. & Co.....	10 00
McCullough, Jas. A.....	5 00	McNutt, Kahn & Co.....	10 00
McClure, John M.....	1 00	McPhee, D. M.....	5 00
McCollum, R. F.....	1 00	McPike, H. C.....	20 00
McCord, A.....	10	Moese & Gottfried.....	25 00
McConnel, F. M.....	1 00	Mein, C. M.....	20 00
McCoy, J.....	1 00	Melsel, H. C.....	1 00
McCready, D.....	1 00	Mendelson Bros.....	10 00
McCrum, Hugh.....	20 00	Mendocino Lumber Company...	5 00
McCreery, A. B.....		Menson, A.....	50
McDermott, James.....	5 00	Mensdorffer, C. A.....	5 00
McDougal Bros.....	5 00	Merchants Exchange Association	100 00
McDougall, M. P. & Co.....	1 00	Merchants Exchange Club.....	20 00
McDonough & Runyon.....	25 00	Merle, L. V.....	10 00
McElearney, Jas.....	5 00	Metson, W. H.....	50 00
McFarland, T. B.....	10 00	Metropolitan Tailoring Co.....	5 00
McGillivray, Jno. D.....	5 00	Metzger & Franklin.....	50 00
McGinn, Thos.....	5 00	Meyer, A.....	5 00

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DONORS AND AMOUNTS DONATED.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
Meyer, Daniel.....	50 00	Montealegre & Co.....	20 00
Meyer, Henry A.....	2 50	Moody, F. S.....	25 00
Meyers & Brownell.....	5 00	Moore, Hunt & Co.....	50 00
Meter & Eveston.....	5 00	Moore, Ferguson & Co.....	20 00
Meyer, Mish & Co.....	5 00	Moore, W. W.....	2 50
Meyer, Louis.....	1 00	Mooser & Son, Wm.....	5 00
Meyerfield, Mitchell & Co.....	10 00	Moraghan, M. B.....	10 00
Meyerstein & Co.....	50 00	Moran, D.....	10 00
Meyerstein & Co.'s Employees..	41 25	Morrisou & Cope.....	20 00
Michalitschke Bros. & Co.....	5 00	Morrison Lumber Co.....	5 00
Michaels & Wand.....	10 00	Morgan, Wm. P.....	25 00
Midway Plaisance.....	25 00	Morgan Bros.....	5 00
Miller, A.....	50	Morgan Oyster House.....	25 00
Miller, F. W.....	1 00	Morgenson, M. C.....	5 00
Miller & Lux.....	25 00	Morrow, Geo. & Co.....	10 00
Mills, Mrs. C. T.....	10 00	Morton, S. P.....	5 00
Miller & Son.....	1 00	Mosis, C. S.....	25 00
Miller, Sloss & Scott.....	100 00	Moss, Geo. A.....	25 00
Miller, W. A.....	10 00	Mount, S. R.....	5 00
Miner, C. D.....	1 00	Moynihan, T. J.....	1 00
Mitchell, Edw. H.....	5 00	Mel F'ong.....	2 00
Mitchell & Goodall.....	2 50	Mes Hop.....	1 00
Mitchell, Wm.....	2 50	Ming Tuk.....	3 00
Miller Bros.....	1 00	Mon Hing.....	3 00
Milwaukee Furniture Co.....	5 00	Mow Lee.....	6 00
Modern Laundry Co.....	1 00	Mon Tai.....	10 00
Moffett, J. M.....	2 00	Mong Sing.....	3 00
Molders' Dept., Union Iron W..	44 25	Mow Lung.....	1 00
Moler's Barber College.....	1 00	Mow Tung.....	1 00
Montague, W. W. & Co.....	50 00	Mon Chung & Co.....	10 00
Montgomery, John E.....	25	Moy Jim Mun.....	10 00
Montgomery St. Coffee House..	15 00	Mow Chung & Co.....	5 00
Monnier, G.....	1 00	Moy Flan.....	1 00

DONORS AND AMOUNTS DONATED.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
Muhl, W. J. G.....	2 50	New Western International.....	20 00
Muhs, A.....	5 00	New York Belting and P. Co.,	10 00
Mulholland, D.....	1 00	New Zealand Ins. Co.....	20 00
Mullaney.....	50	Nicholas, A. C. & Co.....	5 00
Muller, Henry.....	1 00	Nierman & Lefkortz.....	1 00
Muller, H. & Co.....	2 50	Nightingale, John.....	50 00
Mulligan, A. O.....	10 00	Nolan Bros.....	20 00
Manson, J. T.....	1 00	Nolan, E. C.....	2 50
Murray Bros.....	10 00	Nolan, J. C. & Co.....	5 00
Murch & Gray.....	10 00	Nolan, J. C.....	5 00
Murphy, Grant & Co.....	150 00	Nolt, H.....	50
Mutual Savings Bank.....	50 00	Nonatuck Silk Co.....	10 00
Myers, C. H. & Bros.....	10 00	Noonan, The J. Co.....	20 00
Mutual Ass'n Ben. Social.....	5 00	North British & Mer.....	10 00
Naber, Alfs & Brune.....	25 00	North China Ins. Co. & Imp. M.	10 00
Naphtaly, Friedenrich & A....	50 00	North German.....	25 00
Nason, R. N. & Co.....	10 00	Nordman Bros.....	10 00
National Ice Co.....	25 00	Norman, F. G. & Son.....	1 00
National and Springfield.....	25 00	North Pacific Coast R. R. Co..	100 00
Neary, N. E.....	5 00	Norton Tanning Co.....	25 00
Neubauer Bros.....	5 00	Nosshka, G.....	1 00
Neustadter Bros.....	50 00	Norton, Teller & Roden.....	10 00
Nevada National Bank.....	300 00	Nam Sang Lum & Co.....	5 00
Nevada Restaurant.....	10 00	Nam Sing & Co.....	5 00
Neville & Co.....	100 00	Nam Sang Chong & Co.....	2 00
Newbauer, J. H.....	10 00	Ning Yuen Ass'n.....	70 00
Newell & Bros.....	7 50	Nug Yee Gang.....	2 00
New England Home Bakery.....	1 00	Ng Chong.....	10 00
Newlands, James.....	10 00	Ng Yuen.....	50
Newman, Chas.....	10 00	Ngau Bun.....	50
Newman, S. & Co.....	10 00	Ng Woo Hen.....	5 00
Newman & Levison.....	50 00	Oakland Benefit Fund.....	100 00
Newson & Myer.....	5 00	O'Brien, J. J. & Co. (Inc.)....	50 00

DONORS AND AMOUNTS DONATED.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
O'Brien, W. J., Jr.....	2 00	Outser, H.....	5 00
O'Callaghan, Nelson & Co.....	10 00	Overland Tr. and Trans. Co....	5 00
Occidental Restaurant.....	5 00	Owl Drug Co.....	25 00
Occidental Hotel.....	25 00	Ow Tin Kee.....	20 00
O'Connor, Moffat & Co.....	100 00	Oy Wo Tong.....	15 00
Occidental Hotel.....	25 00	Pacific Carriage Company.....	5 00
O'Connor, J. J.....	1 00	Pacific Chair Company.....	10 00
O'Connor, M. M.....	1 00	Pacific Coast Jockey Club.....	50 00
O'Donnell, Dr. C. C.....	10 00	Pacific Coast Oil Company.....	25 00
O'Donnell, Bogie.....	5 00	Pacific Coast Co.....	2 50
Odea, Mrs. M.....	50	Pacific Folding Paper Box Co..	5 00
Oesterreicher.....	1 00	Pacific Fruit Packing Company	20 00
Ohlandt, H.....	5 00	Pacific Incandescent Lamp Co.	150 00
O'Keefe, Annie.....	25	Pacific Mail Steamship Co.....	500 00
Old Washington Hotel.....	1 00	Pacific Metal Works.....	10 00
Oppenheimer.....	5 00	Pacific Mutual Life Ins. Co.....	25 00
Ordenstain, Max.....	5 00	Pacific Oil and L. Works.....	25 00
Ortin & Gerhardt.....	5 00	Pacific Ref. and Roofing Co.....	5 00
Oriental Cigar Box Co.....	5 00	Pacific Stock Exchange.....	25 00
Oro Fino Wing Ling.....	10 00	Pacific Surety Company.....	10 00
One Sing.....	50	Pacific Syndicate.....	50 00
On Fat Chung.....	3 00	Pacific Tool and Supply Co.....	25 00
One Lung Hing.....	50	Palace and Grand Hotel.....	200 00
On Mock Yo.....	50	Palace Hardware Company.....	5 00
On Kee.....	5 00	Pallas, A.....	5 00
One Yun Lee.....	50	Paolinelli, R.....	50
Osborn, D. M., & Co.....	25 00	Paraffine Paint Company.....	20 00
Osmer & Co.....	10 00	Pardee, G. C.....	25 00
O'Sullivan, D.....	5 00	Pardy, Wm. and Geo.....	5 00
Oswald, Chas. E.....	1 00	Parke & Lacey Company.....	25 00
Otis, McAllister & Co.....	20 00	Parker & Tarbox.....	10 00
Otterson, H.....	5 00	Parrish, N. & Co.....	5 00
Ottinger, A.....	5 00	Partogos, A. & Co.....	2 00

DONORS AND AMOUNTS DONATED.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
Pascal, Dubedat & Co.....	10 00	Platshek, Julius.....	10 00
Pascoe, J. C.....	5 00	Plum, Chas. M. & Co.....	25 00
Pastene, A. & Son.....	5 00	Pohelm, Joe.....	5 00
Paterson, Van R.....	20 00	Poetsch & Peterson.....	5 00
Patrick, A. B. & Co.....	10 00	Pollard & Dodge.....	5 00
Paulson & Co.....	25 00	Poly, Hellbron & Co.....	20 00
Payne's Bolt Works.....	10 00	Poodle Dog.....	20 00
Payot, Upham & Co.....	50 00	Pond, E. B.....	25 00
Page, Falch & Co.....	20 00	Pope & Talbot.....	100 00
Pearl Oyster House.....	10 00	Port Costa Mills.....	50 00
Pein & Schoene.....	2 50	Porter Bros. & Co.....	25 00
Pelton, The Water Wheel Co..	5 00	Postal Tel. Cable Co.....	50 00
Pennington, George W.....	10 00	Powell, A. M.....	5 00
Pennsylvania Oil Works.....	5 00	Postoffice Employees.....	180 00
Percy & Hamilton.....	10 00	P. P. M. Co.....	10 00
Perkins, D. F. G.....	2 00	Pong Hing.....	2 00
Perley.....	1 00	Pow Sang Tong.....	8 00
Phelan, James D.....	600 00	Pow Yuen.....	1 00
Phelps & Adams.....	10 00	Poung Kee.....	1 00
Phillips, M. & Co.....	10 00	Presidio and Ferries R. R. Co..	50 00
Philpott & Armstrong.....	5 00	Pressley, E. C.....	1 00
Phoenix of Hartford.....	25 00	Prost, N.....	1 00
Pacific Asiatic Association.....	10 00	Providence, Washington.....	10 00
Pacific Friends Association.....	5 00	Public Schools (Supt.'s Office)..	158 50
Park Yuen.....	50	Quinn, Jno. E.....	2 50
Phee Chung & Co.....	1 00	Quan Fook.....	20 00
Pekin Mer. Club.....	5 00	Quong Wah Shing.....	1 00
Pierson, A. R.....	5 00	Quong Chong Art.....	2 00
Pike, B. D. & Co.....	10 00	Quong Wa On & Co.....	1 00
Pillsbury, E. S.....	100 00	Quong Hang Yick & Co.....	1 00
Pissis, Albert.....	10 00	Quong Lee Yuen & Co.....	3 00
Plagemann, H. & Co.....	10 00	Quong On Chong & Co.....	5 00
Plant, H. H.....	1 00	Quong Shing.....	1 00

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DONORS AND AMOUNTS DONATED.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
Quong Fong.....	1 00	Quon Lay.....	1 00
Quong Hing Tai.....	1 00	Quong On & Co.....	5 00
Quong Lee & Co.....	20 00	Quong Hing & Co.....	1 00
Quong Tuck & Co.....	20 00	Quong Tong Kee.....	2 00
Quan Yok.....	15 00	Quong Tai Hing.....	1 00
Quong Hing Jan.....	15 00	Quong Chong Sing & C.....	15 00
Quan Hin.....	15 00	Quong Hing Lung & Co.....	7 00
Quong Chun.....	10 00	Quong Wing Lee.....	3 00
Quon Wai.....	10 00	Quong Hon Yuen.....	7 00
Quong Yok Jan.....	10 00	Quong Wah Lee.....	3 00
Quan Kue.....	10 00	Quong Lee Yuen.....	2 00
Quan Chong.....	2 00	Quong Yuen.....	3 00
Quong Chong.....	1 00	Quong Quock Cheng.....	20 00
Quong Wah Ying & Co.....	40 00	Quon Kwok Yee.....	20 00
Quong Lee Ching & Co.....	10 00	Quong Shong Way.....	10 00
Quong Wo Lee & Co.....	10 00	Quong Hong Hai.....	5 00
Quong Sang Lung.....	5 00	Quong Chung Yuen.....	5 00
Quong Chung Yuen & Co.....	5 00	Quon Kwok Jee.....	2 00
Quong Opuen Hing & Co.....	5 00	Quon Wong Kwok.....	2 00
Quong Wo Hing & Co.....	5 00	Quon Thong Thack.....	2 00
Quen Lee & Co.....	5 00	Quon Kwok On.....	2 00
Quong Chong Wing & Co.....	5 00	Quong Ang. Juck.....	2 00
Quong Yick Lung & Co.....	5 00	Quon Foon Lim.....	2 00
Quan Shing Lung & Co.....	5 00	Quon Chuey Kwok.....	2 00
Quong Cheung & Co.....	5 00	Quong Sun Yuen.....	2 00
Quong Hop Shing.....	1 50	Quon Fun Shuck.....	1 00
Quong Shing.....	2 00	Quon Yip.....	1 00
Quong Wing Sing.....	2 00	Quiet Yan.....	20 00
Quong Ham Wo.....	10 00	Quong Mow Lung.....	5 00
Quong Hong Kwock.....	50	Quong Sam Hing.....	5 00
Quon Kwok Dong.....	1 00	Quong Wo.....	2 50
Quon Kwok Lai.....	1 00	Raderlovich, S. & Co.....	2 50
Quon Pack Tong.....	1 00	Radke, A. L.....	2 50

RECEPTION TO VOLUNTEERS.

DONORS AND AMOUNTS DONATED.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
Radovich Bros.....	5 00	Richards, Mrs. M.....	1 00
Rodovich Bros.....	1 00	Richardson, W. G.....	25 00
Ralston, W. C.....	25 00	Rinaldo Bros. & Co.....	25 00
Raggio Bros.....	1 00	Ring & Baker.....	2 50
Ralston, H.....	5 00	Riordan, Thos. D.....	100 00
Ramirez & Co.....	3 00	Rippe, J. H.....	2 50
Ramsey, W. A.....	1 00	Risdon Iron Works.....	50 00
Raphael (Inc.).....	100 00	River Ex. Co.....	2 50
Raphael, Nat.....	2 00	Robertson, A. M.....	5 00
Raphael Weill & Co.....	100 00	Robbins, F. A., Press Works...	25 00
Rattagen, D.....	50	Roberts, S. F. & Co.....	2 50
Ratto, L.....	50	Robinson & Towart.....	10 00
Ray, W. S., Mfg. Co.....	20 00	Rochat & Scheingman.....	20 00
Raynor, H. O.....	5 00	Roebbling, J. A. & Sons.....	100 00
Realty Syndicate.....	100 00	Rohde, P. F.....	1 00
Rebman, Chas.....	20 00	Romain, B.....	50
Recorder's Office.....	51 00	Roman, B.....	5 00
Red Front.....	25 00	Rood, H. R. & Co.....	10 00
Red House.....	2 50	Room 72, Chronicle Building...	2 00
Redington & Co.....	50 00	Room "27".....	2 00
Registrar's Office.....	50 00	Roos Bros.....	25 00
Rehfish, P.....	10 00	Rosenberg, Jacob.....	10 00
Reid Bros.....	10 00	Rosenberg, Jos.....	10 00
Reid, John.....	10 00	Rosenberg, Jos.....	5 00
Reineke, Theo.....	2 0	Rosenblatt & Co.....	1 00
Reinstein, J. B.....	25 00	Rosenblum, D.....	2 00
Reiss, B. & Son.....	10 00	Rosenburg Bros.....	10 00
Reiss Bros. & Co.....	10 00	Rosenfeld, Jno.....	100 00
Reliance Marine Ins. Co.....	20 00	Rosenheim, M. & Bro.....	10 00
Remillard Brick Co.....	5 00	Rosenthal (Inc.).....	10 00
Rich, A. J. & Co.....	20 00	Rosenthal, Maurice.....	10 00
Rice, John.....	5 00	Rosenheim, Samuel.....	20 00
Richardson & Gale.....	5 00	Rossi, The H. Co.....	5 00

RECEPTION TO VOLUNTEERS.

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DONORS AND AMOUNTS DONATED.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
Roth & Co.....	20 00	Sanborn, Vail & Co.....	50 00
Ross, T. P.....	5 00	Sanborn, Vail & Co. (molding)..	20 00
Rothkoff, A.....	2 00	Sanborn, Vail & Co. Employees	26 75
Rothchild, Jos.....	5 00	S. F. Diamond House.....	10 00
Rothchild & Ehrenpfort.....	10 00	S. F. Fire Department.....	500 00
Rothchild & Hadenfeldt.....	10 00	S. F. Laundry Association.....	25 00
Royal Eagle Dist.....	10 00	S. F. Lumber Co.....	5 00
Royal Exchange and Orient.....	25 00	S. F. News Co.....	25 00
Royal Furniture Co.....	10 00	S. F. National Bank.....	100 00
Royal Legion of California....	50 00	S. F. Police Department.....	2,000 00
Royal & Queen.....	25 00	S. F. Savings Union.....	100 00
Roynance, J., Brass Works....	5 00	S. F. Sawdust and Sand Co....	5 00
Ruediger & Laesch.....	10 00	S. F. Ship Calkers' Association	50 00
Rulffs, P. H.....	1 00	S. F. & San Mateo El. Ry. Co..	25 00
Ruef, A.....	10 00	S. F. Tent No. 18, Maccabees..	
Rusconi & Fisher.....	5 00	Sarah Beneficial Lodge.....	10 00
Russ House Employees.....	25 00	Saroni, Louis, & Co.....	10 00
Russ House Employees (Add'l).	10 00	Santana & Perry.....	5 00
Russell, J. M.....	1 00	Savage, M. J.....	5 00
Russian Hill.....	5 00	Savings and Loan Association..	50 00
Ryan, Jno. J.....	1 00	Saunders, Wm. G.....	2 50
Sachs Bros. & Co.....	100 00	Sanders & Co.....	2 50
Sact'o Gas and Elec. Ry. Co....	10 00	Sanders & Kraft.....	1 00
Sacramento Transportation Co.,	5 00	Sbarboro, A.....	10 00
Sachs, Martin & Co.....	20 00	Sang Wo Sang Co.....	2 00
Sadler & Co.....	20 00	Sam Wah & Co.....	2 50
Sailmakers' Union.....	16 00	Sam Wah & Co.....	2 00
Sain, J. H.....	50	San Chong Hing & Co.....	15 00
Sainsot, Mrs. H.....	5 00	San Lee Leong & Co.....	7 00
Salfeld & Kohlberg.....	5 00	Sang Wo & Co.....	4 00
Salfeld, Mrs. C. D.....	5 00	Sam Sing.....	3 00
Samuels, D.....	20 00	Sam Hop.....	5 00
Samuels, W. A.....	1 00	Sam Yup Society.....	50 00

RECEPTION TO VOLUNTEERS.

DONORS AND AMOUNTS DONATED.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
Sang Lung & Co.....	50 00	Schuessler Bros. Employees....	25 85
Sang Fong Wo.....	3 00	Schultz, Chas. A.....	1 00
Sang Lee.....	2 00	Schulze, Henry A.....	10 00
Scatena, L. & Co.....	10 00	Schussler Bros.....	20 00
Scatena, S.....	50	Schussler, H.....	100 00
Schafer, Geo.....	1 00	Schussler, M., & Co.....	25 00
Schaffer & Barnett.....	5 00	Schweitzer & Co.....	25 00
Schaefer, Aug.....	5 00	Schwarz & Beth.....	20 00
Schanz & Grundy.....	1 00	Schwerdt, Ph.....	5 00
Scharzlein & Burridge.....	2 50	Scott-Curtaz Piano Co.....	5 00
Scheyer & Bros.....	10 00	Scott & Gilbert.....	10 00
Schilling, Adam, & Son.....	5 00	Scott & Magner.....	20 00
Schilling & Co.....	100 00	Scott & Van Arsdale.....	10 00
Schilling, C., & Co.....	25 00	Schumacher & Co.....	5 00
Schindler, Henry B.....	5 00	Svea Ins. Co.....	20 00
Schlueter & Volberg.....	10 00	Sewell.....	5 00
Schmidt, F.....	1 00	Security Savings Bank.....	50 00
Schmler, Henry L.....	2 50	Selby Smelting & Lead Wks....	100 00
Schmulian, Adolph.....	2 50	Selig Sylvan & Bros.....	5 00
Schoenfeld, Adolph.....	2 50	Seller Bros. & Co.....	20 00
Schoenfeld, Louis.....	1 00	Seymoure, Dr.....	1 00
Schoenfeld & Co.....	10 00	See Tue Tong.....	20 00
Schoenholtz Bros. & Co.....	5 00	See Yip Society.....	20 00
Schoenholz Bros. & Co.....	2 00	Shainwald, Buckbee & Co.....	20 00
Schon, F.....	2 50	Shasta Water Company.....	100 00
Schrock, W. A.....	10 00	Shaw, Mr.....	5 00
Schroeder, C.....	1 00	Shea, Bocqueraz & Co.....	20 00
Schroeder, Chas. H.....	5 00	Shea & Shea.....	15 00
Schroeder, C.....	1 00	Sheedy, Wm. J.....	50
Schroeder, H.....	5 00	Sheldon, Mark.....	50 00
Schoetjen, J. W., & Co.....	2 50	Shemanski, H.....	5 00
Schroeder, H.....	1 00	Sheriff's Office.....	60 00
Schroeder, R. G.....	2 50	Sherman, Clay & Co.....	20 00

RECEPTION TO VOLUNTEERS.

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DONORS AND AMOUNTS DONATED.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
Sherwood & Sherwood.....	25 00	Sing Fat & Co.....	40 00
Sherman, Frank P.....	20 00	Sing Sing & Co.....	10 00
Shilling, Levi.....	5 00	Sing Kee & Co.....	50
Shirek, A., & Co.....	10 00	Sing Kee & Co.....	2 00
Shirpser, Max, Jewelry Co.....	5 00	See Park Sing.....	10 00
Shoobert, Beale & Co.....	10 00	Sing Tai.....	1 00
Shortridge, S. M.....	25 00	Sing Kee.....	1 00
Shanghai Mer. Club.....	5 00	Sing Fong.....	3 00
Shoo Hing Co.....	25 00	Sin Yee Kee.....	1 00
Shan Yuen Hing & Co.....	30 00	Sloane, W. J., & Co.....	50 00
Shing Shun & Co.....	20 00	Smart, Geo. G.....	2 00
Shun Fook.....	10 00	Smith, A. B., Furniture Co.....	5 00
Shun On & Co.....	10 00	Smith, Clarence M.....	10 00
Shew Huer.....	5 00	Smith, Ed.....	1 00
Shoy Fong Low.....	3 00	Smith, E. J.....	2 00
Shoy Sang.....	3 00	Smith, Fred A.....	50
Shock Loe.....	30 00	Smith, O. B., & Co.....	5 00
S. F. Chinese Mer. Association	5 00	Smith, P. A.....	1 50
Sideman, Lachman & Co.....	10 00	Smith, T. H.....	1 00
Sieb, Henry.....	2 00	Smith, W. M.....	10 00
Slebe Brothers & Plagemann..	50 00	Smith, W. T., & Son.....	10 00
Siebe Shoe Co.....	10 00	Smith, Mrs.....	5 00
Silver Dollar T. & R. Co.....	1 00	Snell, E. L.....	5 00
Silverman, L.....	1 00	Snow, Mrs. John F., & Co.....	20 00
Simas & Co., M. S.....	2 00	Solomon, H. J.....	5 00
Simon & Marrasse.....	10 00	Somers & Co.....	20 00
Simon Saw Co.....	25 00	Son Bros. & Co.....	15 00
Simpson Lumber Co.....	10 00	Sommer & Kaufman.....	10 00
Simrak, M.....	50	Son Bros. & Co.....	10 00
Singer Manufacturing Co.....	15 00	Sonburg, S. F.....	50
Sisson, J. H.....	5 00	Sorenson, J. A.....	2 50
Shea Ca Cheon Yee Hing (Inc.)	20 00	Soule, A. C.....	5 00
Shin Yuen.....	1 00	Southern Pacific R. R. Co.....	2,500 00

DONORS AND AMOUNTS DONATED.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
South S. F. Pkg. and P. Co....	10 00	Steiger Terra Cotta & P. Co....	5 00
Sen Lay.....	5 00	Steinberger & Kallsher.....	10 00
Son Hop Co.....	2 00	Stein, Simon & Co.....	50 00
Son Kee.....	2 00	Stewart Menzies & Co.....	10 00
Soo Kin.....	1 00	Stevens, G. S.....	1 00
Some Lin Yo.....	50	Still, Wm.....	1 00
Some Lin Do.....	1 00	Stock and Bond Exchange.....	250 00
Song Hop.....	50	Street, J.....	2 50
Soo Hoo Nug.....	1 00	Stockenzwald, Mr.....	2 50
Soo Hoo Mon Yuck.....	1 50	Stoddard, Mrs. J. E.....	50
Scy Wo.....	1 00	Stoll & Van Bergen.....	10 00
Song Jan.....	10 00	Stolz, G. M.....	2 50
Soon Tuck Tong.....	10 00	St. German Restaurant.....	10 00
Soy Hop.....	1 00	St. Paul Fire & Marine Ins. Co..	20 00
Spear, Louis E.....	20 00	Stockton Milling Co.....	50 00
Speck, A. M., & Co.....	5 00	Stokes, H.....	1 00
Sperry Flour Co.....	50 00	Stone, Geo.....	10 00
Splivalo, C. R.....	25 00	Stone, Louis S.....	1 00
Spreckels, A. B.....	50 00	Stow, Vanderlyn.....	5 00
Spreckels, Claus.....	150 00	Strauss, Levi, & Co.....	100 00
Spreckels, R.....	25 00	Strauss, S.....	1 00
Springer, H. H.....	1 00	Strauss, N., & Co.....	5 00
Spring Valley Water Works....	250 00	Strauss & Roux.....	5 00
Spruance, Stanley & Co.....	20 00	Stroufe, Jno., & Co.....	20 00
Sresovich, L. G., & Co.....	10 00	Struver & Birgle.....	5 00
Stafford, W., & Co.....	20 00	Strolzen, Jos.....	1 00
Standard Marine Inc. Co.....	20 00	Studebaker Manufacturing Co..	10 00
Standard Oil Company.....	25 00	Stuperich Manufacturing Co....	10 00
Standard Optical Company.....	10 00	Such & Nelson.....	2 50
Starkens & Hollings.....	2 50	Suhr, H. L., & Co.....	2 50
Steffins, D.....	2 50	Sullivan Bros.....	2 50
Steffens, D. S.....	1 00	Sullivan & Doyle.....	1 00
Steiger & Kerr.....	10 00	Sullivan, T. J.....	10 00

RECEPTION TO VOLUNTEERS.

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DONORS AND AMOUNTS DONATED.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
Sullivan, W. J.....	10 00	Taussig, Louis & Co.....	50 00
Sullivan, Frank.....	100 00	Taylor, Adams & P.....	20 00
Sullivan & Sullivan.....	25 00	Taylor.....	2 00
Sullivan, W. A.....	2 50	Taylor, John & Co.....	25 00
Summerfield & Roman.....	10 00	Taylor, Jas. I.....	1 00
Sumner, W. B., & Co.....	25 00	Taylor, C. G.....	2 00
Sumner, Chas. A.....	2 00	Taylor & Spottswood Co.....	5 00
Surveyor's Office.....	25 00	Tay, Geo. H. Co.....	50 00
Sussman, Wormser & Co.....	25 00	Tatum & Bowen.....	10 00
Swain, Edward R.....	10 00	Tax Collector's Office.....	45 00
Swain, F. A.....	10 00	Tai Hang.....	4 00
Swartz Bros.....	20 00	Tai Yick Sang.....	3 00
Sweeney, J. W., & Son.....	10 00	Tai Tong.....	1 50
Sweet, Loop & Davenport.....	5 00	Tam Ah Kam.....	1 00
Swiss-American Bank.....	25 00	Tai Sing.....	1 00
Syz & Co.....	20 00	Tai Hong.....	1 00
Sun Kam Wat & Co.....	30 00	Tai Chong.....	10 00
Sun Hing & Co.....	2 00	Tschum Shing & Co.....	2 00
Sun Lum Sang & Co.....	1 00	Techeu, R. J.....	20 00
Sue Sing Wo & Co.....	3 00	Tee Lun & Co.....	3 00
Suey Kee.....	2 00	Lee Foon.....	2 00
Sue Wo & Co.....	50 00	Thames & Mersey.....	20 00
Sun Chong.....	2 00	Thiele, Jansen.....	7 50
Sun Ring Kee & Co.....	2 00	Third, W.....	1 00
Sue Hop.....	2 00	Thomas & Carlson.....	5 00
Suey Chong.....	1 00	Thomas, E. M.....	2 00
Suen Hong Kop Hop Kee & Co.	5 00	Thomas, The T. D. & Co.....	10 00
Sue See Wo & Co.....	5 00	Thompson Bros.....	5 00
Sue Sing Leung & Co.....	3 00	Thompson, Capt. R. R.....	25 00
Sue Fat & Co.....	2 00	Thompson, Henry.....	1 00
Sue Lee & Co.....	2 00	Theatrical Managers Benefit.....	10,500 00
Taber, W. S.....	1 00	Thuringia.....	25 00
Taureck, Chas.....	1 00	Thung, Jan.....	1 00

RECEPTION TO VOLUNTEERS.

DONORS AND AMOUNTS DONATED.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
Tie Yow & Co.....	3 00	Tom Kin Chow.....	20 00
Tie Fung.....	2 00	Tom Ning.....	5 00
Tie Yow.....	4 00	Tong Yan Hong.....	5 00
Tin Yoen.....	5 00	Tong Wa Tune.....	5 00
Tie Yick & Co.....	5 00	Tong Chong.....	5 00
Tie Sing Art & Co.....	3 00	Tong Tuck.....	50
Tiun Yee Kong Saw Assn.....	20 00	Tong Heing.....	1 00
Ti Hung Lung & Co.....	30 00	Tong Yip Tong.....	60 50
Tie Sang.....	5 00	Tong Sang.....	10 00
Ting Yow Fung.....	3 00	Tom Han.....	10 00
Tin Wo.....	1 00	Tong Yow.....	1 00
Tie Sang Tong.....	1 00	Tom Ab Sing.....	5 00
Tie Wo & Co.....	15 00	Toy Lum Yick.....	10 00
Tie Wo Hong, Chang Long Gow	10 00	Tom Leung Cho.....	5 00
Tie Wah & Co.....	5 00	Trappy, G. M. & Co.....	1 00
Ti Lun & Co.....	5 00	Trewella, Wm.....	1 00
Tie Fung & Co.....	3 00	Treasurer's Office, City Hall...	20 00
Tivoli Opera Co.....	25 00	Treybury, C. M.....	1 00
Tietgen, H.....	2 50	Triest & Co.....	25 00
Tilden, H. L. & Co.....	10 00	Troutt, Jas. M.....	10 00
Tillmann & Bendel.....	50 00	Tsin, F. L. & Co.....	2 50
Tilton, Jas.....	2 50	Tsue Chong Wing Co.....	20 00
Tobin, J. R.....	5 00	Tsue Chong Wo & Co.....	5 00
Toplitz & Co.....	10 00	Tubbs Cordage Co.....	100 00
Tormey, E. W.....	1 00	Turpin, F. L.....	5 00
Torney & Michovich.....	10 00	Twomey, M. M.....	1 00
Townseud, Mrs. A. S.....	2,500 00	Tyler, J.....	1 00
Townsend, W. S.....	5 00	Tyron, E. H.....	10 00
Tong Wo & Co.....	40 00	Tune Lee.....	3 00
Tong Hop Lung.....	3 00	Tuck Wo & Co.....	20 00
Tong Mow Lung.....	1 00	Tuck Hing.....	1 00
Too Hoo Gun Hin.....	1 00	Tin Lung & Co.....	5 00
Tom Pack.....	40 00	Umbsen, G. H. & Co.....	20 00

RECEPTION TO VOLUNTEERS.

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DONORS AND AMOUNTS DONATED.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
Union Gas Engine Co.....	10 00	Vernon, Howard.....	2 50
Union Ice Company.....	10 00	Vickery, W. K.....	5 00
Union Iron Works.....	100 00	Vina, Desty.....	25 00
Union Iron Works Employees..	106 00	Volkman, C. M. & Co.....	5 00
Union Iron Works Employees..	5 00	Vonder, Nelberg W. S.....	5 00
Union & Law, Union & Crown.	25 00	Von Husen Bros.....	50
Union Lumber Company.....	5 00	Von Issendorff, H.....	50
Union Marine Ins. Co.....	20 00	Von Ronn, Hencke & L.....	5 00
Union Machine Co.....	5 00	Voss, Conrad & Co.....	20 00
Union Pulp & Paper Co.....	25 00	Vouge, F.....	1 00
Union Sugar Company.....	25 00	Vrachliatti, G.....	50
Union Square Shoe House.....	1 50	Vucolleovich, Spiro.....	50 00
Union Trust Company.....	150 00	Vulcan Iron Works.....	25 00
Unity Lodge No. 273, I.O.B.B....	20 00	Wagner, Jos. Mfg. Co.....	5 00
U. S. Courts & Marshall's Office	46 00	Wagner Leather Company.....	10 00
United States Lloyds.....	20 00	Wagoner, E. L.....	1 00
United States Laundry.....	25 00	Walkington, T. G.....	5 00
United States Mint Employees	118 25	Walsli, Thos. J. & Co.....	5 00
Unna, H. Co.....	5 00	Walterstein, F.....	5 35
Union Iron Works.....	42 25	Walters, D. M. & D. E. & Co...	50 00
University Club Employees.....	10 30	Wangenheim, Sternheim & Co..	5 00
Un Son.....	50	Wangenheim, S. & Co.....	10 00
Van Bergen, N. & Co.....	50 00	Washington Life Ins. Co.....	5 00
Vanderslice, W. H. & Co.....	10 00	Washington Mfg. Co.....	50 00
Vauryke, Sidney M. J.....	2 50	Waterhouse & Lester.....	10 00
Van Vliet, Julius.....	5 00	Watson & Marx.....	10 00
Van Vliet, L.....	2 50	Wan Yuen Chong.....	3 00
Vaswales, M. D.....	2 50	War Hing Lung.....	10 00
Verein Eintracht (Becker).....	20 00	Wat Chin & Co.....	1 00
Vermell, J. L. & Co.....	5 00	Wah & Co.....	2 00
Veronica Mineral Water Co....	5 00	Wah Kee.....	4 00
Vernon, Frank.....	5 00	Wai On & Co.....	3 00

RECEPTION TO VOLUNTEERS.

DONORS AND AMOUNTS DONATED.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
Wai Sun.....	5 00	Wicker & Hermansen.....	20 00
Wah Lee.....	1 00	Wichman & Lutjen.....	25 00
Wah Hing & Co.....	1 00	Wiesmann & Smith.....	2 50
Wah Ying & Co.....	1 00	Wigmore, John.....	10 00
Wah Ying Lung & Co.....	1 00	Wilberforce, A. B.....	2 50
Weaver.....	1 00	Wilkens, Geo. & Co.....	2 50
Weber, C. F. & Co.....	10 00	Wilkie, Andrew.....	5 00
Weichhart, J.....	5 00	Wilkins, J. M.....	5 00
Weinberg, J. W.....	5 00	Willard Bros.....	10 00
Weil Bros.....	5 00	Willard, N.....	1 00
Weinstock, Lubin & Co.....	25 00	Will & Fink.....	25 00
Weister & Co.....	10 00	Williamette Paper & Pulp Co..	50 00
Wells, Fargo & Co.....	250 00	Williams, Diamond & Co.....	50 00
Wellman, Peck & Co.....	25 00	Williams, Marvin Co.....	5 00
Welsh, T. J.....	5 00	Williams & Ortion.....	2 50
Weinscheck, Pauline.....	5 00	Williams, H. R.....	5 00
Welding, E. L.....	5 00	Williams, T. E.....	5 00
Wertheimer Co., The.....	10 00	Williams, W. Reid.....	1 00
Western Foundry.....	10 00	Wilson Eros & Co.....	5 00
Western Fuse & Explosive Co.	25 00	Wilson & Bros.....	50 00
Western Iron Works.....	5 00	Wilson, J. C. & Co.....	100 00
Western Sugar Ref. Co.....	250 00	Wilson, J. W.....	1 00
Western Turf Association.....	50 00	Wilmarding, Loewe & Co.....	50 00
Westphal & Sons.....	10 00	Wilmot, G. C.....	5 00
Wetmore Bros.....	10 00	Wiltsee, A. E.....	50 00
Wheaton, Breon & Co.....	25 00	Winchester Hotel.....	10 00
White Bros.....	10 00	Windt, Morris.....	10 00
White, Al.....	5 00	Wirtner, Jno. J.....	5 00
White House Employees.....	85 00	Witham, W. S.....	5 00
Whitney, J. D.....	5 00	Wilson, J. A.....	5 00
Whitney, C. E. & Co.....	25 00	Wittenberg & Boesch.....	1 00
Whitelaw Wrecking Company..	5 00	Wee Yuen Lung Kee & Co.....	10 00
Wichman, Geo.....	1 00	Who, W. F. & Co.....	2 00

RECEPTION TO VOLUNTEERS.

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DONORS AND AMOUNTS DONATED.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
Wing, Chong Wo & Co.....	50 00	Wolf & Son.....	50 00
Wing Fat & Co.....	20 00	Wolf & Frank.....	2 50
Wing Lung & Co.....	10 00	Wolff, W. M. & Co.....	25 00
Wing Hop & Co.....	2 00	Wolf, Wm.....	1 00
Wing Hing.....	2 00	Wollner, J.....	5 00
Wing Hong Sing & Co.....	7 50	Wolf, H. & Bros.....	5 00
Wing Lung.....	2 00	Wood, S. N. & Co.....	25 00
Wing Tai Lung.....	5 00	Woodin & Little.....	20 00
Wing Tong Tai.....	2 00	Woods, Munn & Fichter.....	10 00
Wing Lun Jan.....	1 00	Woods, J.....	1 00
Wing Luck & Co.....	30 00	Wonder Millinery.....	10 00
Wing Chong & Co.....	5 00	Worden, Clinton E. & Co.....	50 00
Wing Yuen.....	3 00	Wouken, M.....	15
Wing Hop.....	3 00	Woey Wo Lung.....	5 00
Wing Chung.....	1 00	Wong Hong Let.....	1 00
Wing Lung.....	1 00	Wo Sing.....	3 00
Wing Chong.....	1 00	Wo On Lung.....	1 00
Wing On.....	1 00	Wo Kee & Co.....	40 00
Wing Tai Lung & Co.....	20 00	Wong Him Dr.....	10 00
Wing Sing Lung & Co.....	10 00	Wo Hing & Co.....	1 00
Wing Fung & Co.....	10 00	Wo Hop & Co.....	3 00
Wing Fat Cheong & Co.....	5 00	Wo, L. G. & Co.....	1 00
Wing Sing Lung & Co.....	5 00	Wo Sing.....	1 50
Wing Wo Tai & Co.....	2 00	Wo Jan & Co.....	1 00
Wing Chin & Co.....	1 50	Wo On & Co.....	2 00
Wing Tay Loy.....	5 00	Wong Wai.....	5 00
Wing Sang & Co.....	2 00	Woo Wai.....	5 00
Wing Hing & Co.....	2 00	Wo Chong Lung & Co.....	3 00
Wing Fong Chong & Co.....	2 00	Wong Gat Nai.....	2 00
Wobber, F. W.....	1 00	Wong Ben Lam.....	1 00
Woerner, David Co.....	25 00	Wong She Get.....	1 00
Wolff, A.....	20 00	Wong Shee Chong.....	1 00
Wolf, E.....	5 00	Wong Don.....	1 00

DONORS AND AMOUNTS DONATED.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
Wong Chong.....	2 00	Yokohama Specie Bank.....	100 00
Woo Gay Wing.....	1 00	Young, H. H.....	20 00
Woey Hong Qume.....	1 00	Young, Joe.....	1 00
Woo Quon Art.....	1 00	Young, Geo. H.....	1 00
Woo Shen Tsieng.....	1 00	Yan How.....	5 00
Wong Jan.....	2 00	Yan Chue.....	15 00
Wong Sin Low & Co.....	10 00	Yan Wo Assn.....	20 00
Wo On Hai Chin Mon Un...	10 00	Yan Hing.....	10 00
Wong Yick Tai.....	3 00	Yee Hop.....	2 00
Wong Chung.....	1 00	Yee Wah Co.....	10 00
Woo Shee.....	1 00	Yen Hoy Assn.....	50 00
Wong Cheong.....	1 00	Yet On.....	10 00
Wong Chee Cheun.....	50	Yee Lee Co.....	5 00
Wong Hon.....	50	Yee Me Chong.....	2 00
Wong Yuen.....	1 00	Yee Chong & Co.....	2 00
Wong Cheong.....	50	Yee Yip Wo.....	2 00
Wong Tim.....	50	Young Kee.....	2 00
Wong Yuck Wa.....	50	Yock Kee & Co.....	1 00
Wong Choy.....	50	Yon Leong & Co.....	2 00
Wong Kong.....	10 00	Yoeng Wo Assn.....	50 00
Wong Gun Gow.....	10 00	Young Win You.....	50
Wo Hop.....	5 00	Yuen Fat.....	2 00
Woey Loy Koey.....	3 00	Yuen Hai Art.....	3 00
Wong Fook.....	2 00	Yick Fong.....	5 00
Wong Yow.....	100 00	Yuen Fong.....	3 00
Wong Woo, Dr.....	30 00	Ying Kee.....	2 00
Wo Lung & Co.....	15 00	Yet Hong Long.....	2 00
Wriden, Kablen & Co.....	10 00	Young Bow.....	2 00
Wright, J. W.....	5 00	Young Show.....	1 00
Wucherer, W.....	50	Young Sam.....	50
Wulzen, D. H., Jr.....	2 00	You Chun Show.....	50
Wyatt, W. A.....	50	Yow Yuen.....	20 00
Yates & Co.....	25 00	Yow Chu.....	10 00

RECEPTION TO VOLUNTEERS.

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DONORS AND AMOUNTS DONATED.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
Yunn Kow.....	\$1 00	Yep Chung.....	\$5 00
Yup Ning.....	50	Ying Chong & Co.....	5 00
Yuen Fong.....	20 00	Yick Luch Her Social Club....	10 00
Yuen Chue & Co.....	10 00	Zan Bros.....	20 00
Yow Lung.....	2 00	Zeller, Jos.....	5 00
Yuen Yick.....	1 00	Zelinsky, Henry.....	50
Yow Hop.....	1 00	Zenovich & Vacovich.....	5 00
Yuen Sang Co.....	3 00	Zinig & Essmann.....	2 00
Yuen Wah Assn.....	10 00	Zinkand, Chas.....	20 00
Yow Hoy Co.....	2 00	Zelle, F. W.....	50 00
*Yee Hing Chong Kee & Co.....	10 00		
Yee Chong Lung & Co.....	5 00		\$63,617 12

STATEMENT OF EXPENDITURES.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
Executive Committee.....	\$1,049 15	Advertising.....	\$1,012 30
Transportation furnished soldiers	904 10	Native Sons (allowed for night	
Banquet and entertainment to		parade).....	2,770 00
Volunteers.....	1,774 00	Union Square tent.....	1,487 65
Stands erected, route of parade	841 35	Decorations, day and night	
Executive Council.....	594 58	parade.....	9,744 50
Day parade, arrival California		Theatre entertainment for Vol-	
First Regiment.....	314 50	unteer Soldiers.....	1,561 75
Fireworks.....	7,101 88	Employment Committee.....	1,186 75
Music—Bands on parade and at		Permanent purpose (deposited in	
Plaza.....	1,722 20	savings banks).....	25,000 00
Committee, steamers in naval		Red Cross transportation.....	5,576 52
parade, printing, tent supplies,			
drayage, committee badges...	974 90		\$63,617 12

RECEPTION TO VOLUNTEERS.

STATEMENT OF CONDITION OF FUNDS SINCE DEPOSIT IN SAVINGS BANK OF SUM OF \$25,000 00 IN NAME OF JAMES D. PHELAN, TRUSTEE, NOVEMBER 26, 1899.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
November 26, 1899.....	\$25,000 00	Red Cross Society, aid to.....	\$390 00
April 11, 1901—interest.....	678 19	Stenographer and clerk prepar-	
December 5, 1901—interest.....	350 41	ing and arranging list of con-	
Expenses in transportation of		tributions to fund.....	50 00
models and Custom House		Gen. James F. Smith, reception	200 00
charges.....	57 80	Aid to John J. Otis, Co. E,	
Aid to Oscar Heinroth, Co. H		First California Volunteers...	25 00
First California Volunteers...	200 00	Balance cash on hand.....	25,153 68
Care and repairing models for			
monument at Hopkins Insti-			
tute of Art.....	27 12		
Allowance by Electric Company			
on unused wire.....	75 00		
	<hr/>		
	\$26,103 60		<hr/>
			\$26,108 60

GALVESTON RELIEF FUND.

The terrible affliction which befell the people of Galveston, Texas, on the 8th day of September, 1900, when their fair city was devastated by a tidal wave which caused the death of thousands and rendered many others homeless, appealed in common to the people of San Francisco and the State of California, as it did to the remainder of the people of the United States.

In response to the appeal of Governor Sayers of Texas for the relief of the sufferers from the flood, His Honor Mayor James D. Phelan issued a call for subscriptions for this purpose, and met with ready and generous response.

The following amounts were paid into Mayor Phelan's office, and remitted by him to Governor Sayers of Texas.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
M. H. Hecht.....	\$50 00	F. T. Musso, Bowman, Cal....	5 00
Buckingham & Hecht.....	50 00	Lloyd Osborne.....	5 00
Edward R. Taylor.....	10 00	Union Can Co.....	25 00
W. H. Martin.....	20 00	William Keith.....	10 00
J. D. Phelan.....	100 00	Patrick Noble.....	10 00
Mrs. Eleanor Martin.....	100 00	Pope & Talbot.....	50 00
Roos Bros.....	100 00	G. W. Schwarting.....	25 00
The Emporium.....	50 00	Sonoma Township, through F.	
Stockton Milling Co.....	50 00	T. Duhring (\$130.55) \$66.85 of	
Edward B. Pond.....	50 00	this amount was paid to Cal.	
Mrs. S. W. Heller.....	25 00	Red Cross Society as per re-	
J. Richard Freud.....	10 00	quest of donors, leaving a	
A. D. Miesgaes.....	10 00	balance of (for Galveston	
Chas. F. Healy.....	5 00	Fund).....	63 70
F. Nagel.....	5 00	Norddeutscher Frauen Verein..	25 00
Merchants Exchange.....	100 00	Miss Knorp.....	5 00
J. M. Rothchild.....	25 00	M. Friedman & Co.....	25 00
Daniel Meyer.....	100 00	Raphael Clothing Co.....	50 00
Henry Glass, U. S. A.....	15 00	William Lyons.....	10 00
Gladding McBean & Co.....	25 00	F. A. Hihn.....	100 00..
Hale Bros.....	25 00	Thos. Dengan & Son Co.....	50 00
Edward Davis.....	11 00	Wm. Ehrenpfort.....	10 00
Judge John Hunt.....	5 00	T. L. Randolph, Oakland.....	1 00
W. H. Breeding.....	10 00	John A. Bunting, Bakersfield..	25 00
Geo. T. Marye, Jr.....	50 00	Freda O. Bunting, Bakersfield..	5 00
S. F. Produce Exchange.....	650 00	A. M. Skelly.....	25 00
M. A. Gunst & Co.....	50 00	G. W. Prescott.....	50 00
Henry Laas.....	5 00	Christian Froelich, Jr.....	50 00

DONORS AND AMOUNTS DONATED.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
Kohlberg, Strauss & Frohman..	10 00	Teachers' and Pupil's French	
Brewers Protective Assn.....	500 00	School Sevigne.....	8 15
J. B. Schwabacher.....	10 00	Employees Lowenberg & Co....	28 75
Mary & Willie Hutchinson,		Kingman Lodge No. 456, B. P	
Lindsay, Cal.....	3 73	O. E., Kingman, Arizona.....	60 00
H. T. Power, Mich. Bluff, Cal....	20 00	Hamilton Grammar School.....	27 50
A. W. Bell, St. Helena.....	15 00	Mrs. S. Van Bergen.....	10 00
C. F. Foster, Corning, Cal.....	10 00	Hearst School.....	16 29
Mr. L. D.....	5 00	Broadway School.....	85 00
Richard Bayne.....	25 00	Cleveland School.....	6 00
1st Cong. Church, Glen Ellen..	5 00	Dudley Stone School.....	30 00
Cash.....	1 00	Cooper School.....	35 00
Empl'ees U. S. Mint (additional)	4 00	Haight School.....	23 75
Hornlein & Krumb.....	25 00	Everett School.....	9 00
Liberty Lodge No. 3486, K. of H.	10 00	Crocker School.....	72 90
H. Brinkmeyer, Oceanside, Cal.	5 00	Longfellow School.....	39 05
Annette T. Hittinger, Oakland	5 00	Douglass School.....	24 20
Deaf Members of Literary So-		Hamilton School (additional)..	57 55
cietv of Deaf & Blind Insti-		Mt. Rose Rebekah Lodge, I. O	
tute, Berkeley.....	6 45	O. F., Rough & Ready, Cal..	2 50
Mrs. J. Christiansen, E. Oakland	5 00	Jefferson Primary School.....	11 10
Dr. Harry M. Sherman.....	25 00	Pacific Heights School.....	10 30
A. C. Lowell, Fort Bidwell.....	20 00	Franklin Grammar School.....	40 36
La Estrella Parlor, N. D. G. W	10 00	Misses Sherwood and Nalleen..	9 00
James Stanton.....	20 00	West End School.....	7 50
Storek'p'rs Dept. U. S. N., S. F.	148 75	Starr King School.....	23 75
Bullock & Jones.....	25 00	Harrison School.....	11 15
G. S. Redstreak, Johnsville....	5 00	Paradise Temple, Angels, Cal..	20 00
German Ladies' Verein.....	10 00	John Swett School.....	47 05
Wilson & Bro.....	25 00	Marshall School.....	7 93
Residents of Yosemite Valley..	31 00	Agassiz School.....	21 50
High School, St. Helena.....	6 00	John Swett School (additional).	35 85

DONORS AND AMOUNTS DONATED.

DONOR.	AMOUNT.	DONOR.	AMOUNT.
Peabody School.....	6 90	Fremont School.....	15 20
Whittier School.....	17 25	Edison School.....	13 85
Pacific Heights School.....	63 95	Sunnyside School.....	8 25
Spring Valley Grammar School.	70 00	Adams School.....	60 10
John Swett School (additional)	8 00		
Jackson Primary School.....	5 80		\$4,372 17

This amount was remitted by Mayor James D. Phelan to Governor George D. Sayers, of Texas, as follows:

September 19, 1900—To draft sent Governor George D. Sayers for.....\$3,000 00
 October 17, 1900—To draft sent Governor George D. Sayers for..... 1,260 88
 November 15, 1900—To draft sent Governor George D. Sayers for..... 111 29

Total amount collected and remitted \$4,372 17

PUBLIC CONTRACTS.

Pursuant to the provisions of Chapter III of Article II of the Charter, whereby the Board of Supervisors is required to determine annually the supplies needed by certain departments of the City and County, proposals to furnish said supplies for the fiscal year commencing June 1, 1901, and ending June 30, 1902, for the City and County Hospital, the City and County Almshouse, the Emergency Hospital and the Department of Public Health, the Twenty-sixth street Hospital, the Department of Electricity, County Jails Nos. 1, 2 and 3, the City Prison and the Police Departments were called for in the manner specified in said Chapter and the contracts to furnish said supplies were awarded to the lowest responsible bidder offering adequate security.

The Charter authorizes the Fire Department, the Park Commissioners, the Election Commissioners and the Public Library to invite proposals and to contract for supplies required for the maintenance of their respective departments, and the Board of Public Works is also allowed to contract independently when authorized to do so by Ordinance of the Board of Supervisors.

Accordingly, these departments invited competitive bids and awarded and entered into their own contracts for the fiscal year 1901.

It has been customary in former years to enter the detail of contracts awarded by the Board of Supervisors in the Appendix to the Municipal Reports, but owing to the publication of reports made on various public utilities by the City Engineer it was found necessary to omit the contracts for 1901, with the exception of books, stationery and printed blanks, from this year's Appendix.

Reference may be always had, however, by any interested person to the original proposals and contracts on file in the Clerk's Office of the Board of Supervisors.

As required by Section 3, Chapter III, Article II of the Charter, proposals were advertised for by the Clerk, under direction of the Supervisors, for supplying the various departments, officers and offices of the City and County with stationery, blank books and printed forms for the fiscal year ending June 30, 1902. The Printing and Salaries Committee to which was referred all the proposals received, recommended the awarding of all contracts to the lowest responsible bidder offering adequate security, provided the awardee was entitled to use the union label.

The Board sustained the Committee in its recommendations that all goods furnished should bear the impress of the union label, adhering to the policy instituted in 1900, and invariably rejected the bids of non-union shops.

The Stanley-Taylor Co., a firm not entitled to use the label of the Allied Printing Trades Council of the City and County of San Francisco, and whose bid to furnish certain printed blanks and forms was rejected in June, 1900, by the Board of Supervisors, notwithstanding said firm was the lowest bidder, brought suit at that time to restrain the Board from awarding the contracts upon the articles on which they had made the lowest bid to any person or firm but themselves.

The action of the Board was sustained, however, by the Superior Court and judgment affirmed on appeal to the Supreme Court, the decision rendered being that the Supervisors had jurisdiction to decide the matter of awarding contracts, and having such jurisdiction its judgment cannot be controlled by the Courts. (Supreme Court Decisions, February 14, 1902.)

The following table contains the awards of contracts made by the Board of Supervisors for furnishing blank books, stationery and printed forms for the various departments, officers and offices for the fiscal year 1901:

BLANKBOOKS, STATIONERY AND PRINTED FORMS FOR THE
VARIOUS DEPARTMENTS, OFFICERS AND OFFICES.

PRINTING.

ARTICLE.	PRICE.	CONTRACTOR.
ASSESSOR'S OFFICE—		
Envelopes—F 1.....	3 60 per 1000.....	Hayden Printing Co.
Envelopes—F 2.....	1 45 per 1000.....	E. C. Hughes.
Letterheads, ruled—F 3.....	2 60 per 1000.....	E. C. Hughes.
Noteheads, ruled—F 4.....	1 82 per 1000.....	Valleau & Peterson.
Memo. Heads—F 5.....	1 50 per 1000.....	E. C. Hughes.
Letterheads—F 6.....	1 95 per 1000.....	E. C. Hughes.
Time Checks—F 7.....	49 per 1000.....	Commercial Pub. Co.
Report to Auditor of Poll Tax Collected—F 8..	2 75 per 100.....	Hayden Printing Co.
Report to Auditor of Personal Property Taxes Collected—F 9.....	2 50 per 100.....	Hayden Printing Co.
Deputy's Statistical Reports—F 10.....	70 per 1000.....	E. C. Hughes.
Revenue Laws—F 11.....	82 per 1000.....	E. C. Hughes.
Poll Tax Instructions to Deputies—F 12.....	1 90 per 500.....	Phillips, Smyth & V. O.
Notice, "Poll Tax to be Collected"—F 13.....	1 45 per 1000.....	Frank Eastman & Co.
Garnishment—F 14.....	1 88 per 1000.....	E. C. Hughes.
P. P. Deposit Tags by Deputy—F 15.....	90 per 1000.....	Phillips, Smyth & V. O.
Warehouse Statement—F 16.....	6 75 per 1000.....	James H. Barry.
Notice to Owners of Goods—F 17.....	2 50 per 1000.....	E. C. Hughes.
Notice to Deputy to Get Statement (Ware- house)—F 18.....	73 per 1000.....	E. C. Hughes.
Notice to Owners of Shipping—F 19.....	2 05 per 1000.....	E. C. Hughes.
Statement—F 20.....	7 40 per 1000.....	James H. Barry.
Statement, Unsecured—F 21.....	1 90 per 1000.....	Hayden Printing Co.

PRINTING—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Same as above—F 21.....	2 00 per 1000.....	E. C. Hughes.
Statements Secured—F 22.....	1 85 per 1000.....	E. C. Hughes.
Same as above—F 22.....	1 85 per 1000.....	E. C. Hughes.
Statement, Arbitrary—F 23.....	1 85 per 1000.....	E. C. Hughes.
First Notice A. A. Assessment, 6 days—F 24..	90 per 1000.....	E. C. Hughes.
Second Notice A. A. Assessment Made—F 25 .	70 per 1000.....	E. C. Hughes.
Probate Notice—F 26.....	63 per 1000.....	E. C. Hughes.
Franchise Notice—F 27.....	58 per 1000.....	E. C. Hughes.
First Notice to Pay P. P. Tax, 5 days—F 28..	65 per 1000.....	E. C. Hughes.
Computation Sheets—F 30.....	7 50 per 200.....	James H. Barry.
Notice to Mortgagees—F 31.....	84 per 1000.....	E. C. Hughes.
Notice to Mortgagors—F 32.....	84 per 1000.....	E. C. Hughes.
Appointment and Oath of Office—F 34.....	2 97½ per 500...	James H. Barry.
Demand, Extra Clerk—F 35.....	3 40 per 1000.....	Hayden Printing Co.
Demand, Clerk—F 36.....	2 50 per 500.....	James H. Barry.
Demand, Assistant Deputy—F 44.....	1 60 per 100.....	Hayden Printing Co.
Demand, Assessor—F 37.....	1 62 per 100.....	Hayden Printing Co.
Examination Sheet—F 33.....	1 85 per 1000.....	Commercial Pub. Co.
Examination Sheet—F 39.....	2 20 per 1000.....	Commercial Pub. Co.
Memo. of Releases—F 40.....	2 50 per 500.....	Hayden Printing Co.
Calculation Sheet—F 41.....	4 40 per 1000.....	Commercial Pub. Co.
Releases and Assignments—F 42.....	4 85 per 1000.....	Commercial Pub. Co.
Deputy's Collection Memorandum—F 43.....	1 08 per 1000.....	E. C. Hughes.
Notice of Del. Poll Tax—F 45.....	85 per 1000.....	E. C. Hughes.
Demands Poll Tax—F 46.....	1 06 per 1000.....	E. C. Hughes.
Shipping Col. Bill—F 47.....	1 40 per 1000.....	E. C. Hughes.
Record of Property Mortgaged—F 48.....	9 00 per 500.....	Commercial Pub. Co.

PRINTING—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Notice of Statement Raised—F 49.....	1 1 ⁰ per 1000.....	Commercial Pub. Co.
Notice of Poll Tax—F 50.....	1 30 per 1000.....	E. C. Hughes.
Instructions to Deputies—F 51.....	1 75 per 500.....	Phillips, Smyth & V. O.
Deputies P. T. Deposit Tag—F 52.....	54½ per 1000...	Frank Eastman & Co.
Pamphlets of Merchants' Assessments—F 53....	1 90 per page....	James H. Barry.
City Maps, not mounted—F 54.....	235 00 per 1000.....	Commercial Pub. Co.
City Maps, mounted—F 55.....	152 50 per 500.....	Commercial Pub. Co.
City Maps, mounted—F 56.....	148 50 per 100.....	Commercial Pub. Co.
Notice of Description of Real Estate—F 57....	2 50 per 1000.....	Hayden Printing Co.
ALMSHOUSE—		
Death Notice—F 1.....	1 38 per 1000.....	Phillips, Smyth & V. O.
Order Blanks—F 2.....	1 00 per 1000.....	Valleau & Peterson.
Power of Attorney—F 3.....	2 60 per 500.....	Hayden Printing Co.
Bed Cards—F 4.....	1 30 per 1000.....	E. C. Hughes.
Letterheads—F 5.....	2 30 per 1000.....	E. C. Hughes.
Envelopes—F 7.....	2 75 per 1000.....	Hayden Printing Co.
Envelopes—F 8.....	1 75 per 1000.....	E. C. Hughes.
Salary Demands—F 9.....	1 90 per 250.....	James H. Barry.
Monthly Financial Statement—F 11.....	3 25 per 250.....	Hayden Printing Co.
Daily Inmates Reports—F 12.....	1 80 per 1000.....	Hayden Printing Co.
Monthly Inmate Reports—F 13.....	1 80 per 1000.....	Hayden Printing Co.
AUDITOR'S OFFICE—		
Redemption Certificates—F 1.....	4 00 per 1000.....	E. C. Hughes.
Envelopes, Controller's Address—F 2.....	3 00 per 1000.....	Commercial Pub. Co.
Addresses Redemptioners—F 3.....	1 60 per 1000.....	James H. Barry.
Envelopes—F 4.....	2 75 per 1000.....	Hayden Printing Co.
Demands, Salary Auditor—F 5.....	1 50 per 100.....	Hayden Printing Co.

PRINTING—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Demands, Salary Assistants—F 6.....	1 30 per 200.....	Hayden Printing Co.
Demands, Extra Clerks—F 7.....	2 50 per 500.....	James H. Barry.
Demands, Witness' Expenses—F 8.....	2 50 per 500.....	James H. Barry.
Computation Charts—F 9.....	6 90 per 100.....	James H. Barry.
Computation Charts—F 10.....	6 90 per 100.....	James H. Barry.
Inventory Municipal Licenses—F 11.....	6 00 per 100.....	Commercial Pub. Co.
Notice to Departments for Estimates—F 12.....	2 50 per 1000.....	Hayden Printing Co.
Certificate for Sale of Real Estate—F 13.....	3 80 per 1000.....	Commercial Pub. Co.
Envelopes—F 14.....	1 98 per 500.....	E. C. Hughes.
Envelopes, Linen—F 15.....	2 50 per 1000.....	F. N. Stewart.
Letterheads, lithographed—F 16.....	6 25 per 1000.....	Commercial Pub. Co.
Noteheads, lithographed—F 17.....	4 95 per 1000.....	Commercial Pub. Co.
Power of Attorney—F 18.....	1 90 per 1000.....	Hayden Printing Co.
Postal Cards, printed—F 19.....	11 11 per 1000.....	Phillips, Smyth & V. O.
BOARD OF PUBLIC WORKS—		
Affidavit Posting Notice of Street Work—F 1..	3 40 per 500.....	E. C. Hughes.
Material and Labor Bond—F 2.....	4 30 per 1000.....	Commercial Pub. Co.
Agreement Street Contracts—F 3.....	6 65 per 1000.....	James H. Barry.
Application for Miscellaneous Permits—F 4....	2 90 per 1000.....	Hayden Printing Co.
Assessment Blank—F 6.....	4 25 per 1000.....	James H. Barry.
Bond Street Contractor—F 7.....	4 45 per 1000.....	Phillips, Smyth & V. O.
Bond Property Owners' Contract—F 8.....	2 80 per 100.....	Hayden Printing Co.
Covers for Assessment Blank—F 9.....	4 95 per 1000.....	Phillips, Smyth & V. O.
Covers for Private Contract—F 10.....	2 70 per 400.....	Hayden Printing Co.
Diagram Blank—F 11.....	2 77 per 1000.....	E. C. Hughes.
Notice of Street Work—F 12.....	19 50 per 1000.....	James H. Barry.
Notice of Complaints—F 13.....	2 89 per 1000.....	E. C. Hughes.

PRINTING—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Postal Cards, printed—F 14.....	11 25 per 1000.....	Commercial Pub. Co.
Postal Cards, printed—F 15.....	11 10 per 1000.....	Phillips, Smyth & V. O.
Application to Cancel Street Assessment—F 16	2 20 per 250.....	Commercial Pub. Co.
Application for House Number, pads of 100—F 17	3 00 per 1000.....	Hayden Printing Co.
Warrant and Affidavit of Demand—F 18.....	4 30 per 1000.....	Hayden Printing Co.
Extension of Time on Contract—F 19.....	1 10 per 500.....	Hayden Printing Co.
Application for Street Work—F 20.....	2 51 per 500.....	E. C. Hughes.
Demands, Repair Public Buildings—F 25.....	3 45 per 1000.....	James H. Barry.
Notification of Commencement of Work by Contractor—F 26.....	1 80 per 1000.....	Hayden Printing Co.
Demands, Salaries—F 27.....	3 00 per 1000.....	James H. Barry.
Demands, Bureau of Streets Wages—F 28.....	3 00 per 1000.....	Hayden Printing Co.
Contractor's Orders for Inspectors—F 29.....	1 99 per 1000.....	Phillips, Smyth & V. O.
Demands, Wages—F 30.....	3 00 per 1000.....	James H. Barry.
Daily Report Sheets, ruled—F 31.....	1 60 per 1000.....	Commercial Pub. Co.
Demands, General—F 32.....	3 45 per 1000.....	James H. Barry.
Memo. Heads, 4 departments—Fs 33 to 36.....	1 47 per 1000.....	Valleau & Peterson.
Letterheads, 2500 each, 4 departments—Fs 37 to 40.....	2 32 per 1000.....	Valleau & Peterson.
Envelopes, 1000 each, 4 departments—Fs 41 to 44	2 75 per 1000.....	Hayden Printing Co.
Envelopes, 2500 each, 4 departments—Fs 45 to 48	1 75 per 1000.....	E. C. Hughes.
Petition Blanks, to Remove Building—F 49....	3 10 per 500.....	James H. Barry.
Daily Time Reports—F 50.....	6 70 per 1000.....	E. C. Hughes.
Petition Blanks, General—F 51.....	2 50 per 500.....	Hayden Printing Co.

PRINTING—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Notice of Protest—F 52.....	4 00 per 1000.....	James H. Barry.
Resolution of Expediency—F 53.....	3 50 per 1000.....	Commercial Pub. Co.
Resolution, Private Contract—F 54.....	3 50 per 1000....	Commercial Pub. Co.
Resolution, Award of Contract—F 55.....	3 25 per 1000.....	Hayden Printing Co.
Resolution, Recommendation for District—F 56	5 95 per 1000.....	Valleau & Peterson.
Resolution, Recommendation—F 57.....	3 55 per 1000.....	E. C. Hughes.
Forms for Proposals, Specifications, Contracts and similar blanks—F 70.....		
50 copies of one form.....	1 90 per page....	James H. Barry.
100 copies of one form.....	2 24 per page....	James H. Barry.
250 copies of one form.....	2 56½ per page..	James H. Barry.
500 copies of one form.....	2 49 per page....	Valleau & Peterson.
Affidavit, Correct Signatures—F 58.....	3 00 per 1000.....	Hayden Printing Co.
Affidavit of Contractor—F 59.....	2 50 per 500.....	Hayden Printing Co.
Sewer Examination, Computation and Re- ports—F 60.....	3 50 per 100.....	Commercial Pub. Co.
Application—F 61.....	1 20 per 1000.....	James H. Barry.
Notice to Commence Work—F 62.....	1 99 per 1000.....	Phillips, Smyth & V. O.
Petition for Moving Building—F 63.....	6 49 per 1000.....	Valleau & Peterson.
Foundation Permits—F 64.....	3 85 per 1000.....	Hayden Printing Co.
Specifications, Alterations to Buildings—F 65..	13 95 per 1000.....	Phillips, Smyth & V. O.
Specifications, Erection of Frame Buildings— F 66.....	9 00 per 1000.....	James H. Barry.
Application for Erection of Brick Buildings— F 67.....	13 95 per 1000.....	Phillips, Smyth & V. O.
Report of Inspector of Construction—F 68.....	2 25 per 500.....	Hayden Printing Co.
Report of Assistant Engineer on Construction— F 69.....	2 25 per 500.....	Hayden Printing Co.

PRINTING—CONTINUED.

ARTICLE	PRICE	CONTRACTOR.
Examination Sheet, Street Improvement—F 71 CLERK'S OFFICE, BOARD OF SUPERVISORS—	5 75 per 500.....	Hayden Printing Co.
Applications, Improvements on R. E.—F 1....	3 40 per 500.....	Phillips, Smyth & V. O.
Applications, Real Estate—F 2.....	3 40 per 500.....	Phillips, Smyth & V. O.
Applications, Mortgage—F 3.....	3 40 per 500.....	Phillips, Smyth & V. O.
Applications, Personal Property—F 4.....	2 53 per 500.....	E. C. Hughes.
Applications, Shipping—F 5.....	2 53 per 500.....	E. C. Hughes.
Demands—25 or more forms, to be printed with reference to appropriations—Fs 6 to 26	3 75 per 1000.....	Hayden Printing Co.
Demands, Clerk's Office—F 27.....	2 45 per 500.....	James H. Barry.
Demands, Supervisors—F 28.....	2 45 per 500.....	James H. Barry.
Demands, Salaries, General—F 29.....	3 25 per 1000.....	Hayden Printing Co.
Bond to Explode Blast—F 30.....	2 75 per 100.....	James H. Barry.
Petition, Refund on Erroneous Assessment— F 31.....	2 50 per 500.....	Hayden Printing Co.
Petition, Engine and Boiler—F 32.....	2 25 per 500.....	Hayden Printing Co.
Petition, General—F 33.....	3 70 per 1000.....	Hayden Printing Co.
Petition, Cancellation Dup. Taxes—F 34.....	2 50 per 500.....	Hayden Printing Co.
Petition, Refund Dup. Taxes—F 35.....	2 50 per 500.....	Hayden Printing Co.
Petition, Outside Lands—F 36.....	3 40 per 500.....	Phillips, Smyth & V. O.
Petition, Van Ness Ordinance—F 37.....	3 40 per 500.....	Phillips, Smyth & V. O.
Deposition, Outside Lands—F 38.....	4 75 per 500.....	Hayden Printing Co.
Report Com. on Outside Lands—F 39.....	3 15 per 500.....	Commercial Pub. Co.
Ordinance Awarding Land Grant—F 40.....	4 15 per 500.....	James H. Barry.
Ordinance of Grant—F 41.....	4 85 per 500.....	Frank Eastman & Co.
Application, Free License—F 42.....	3 35 per 1000.....	James H. Barry.

PRINTING—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Schedules of Supplies for different departments, 250 copies of each—Fs 43 to 50, inclusive	2 98 per page....	James H. Barry.
Petition, Crude Petroleum—F 51.....	4 50 per 1000....	Hayden Printing Co.
Water Statement, Amount Collected—F 52.....	2 95 per 250.....	Phillips, Smyth & V. O.
Proposals, Miscellaneous—F 53.....	3 40 per 500.....	Phillips, Smyth & V. O.
Contract and Bond, Personal—F 54.....	13 50 per 500.....	James H. Barry.
Contract and Bond, same as foregoing, Corporation—F 55.....	9 50 per 250.....	James H. Barry.
Oath of Office—F 56.....	2 00 per 500.....	Hayden Printing Co.
Requisitions—F 57.....	2 70 per 1000.....	Hayden Printing Co.
Protest, Van Ness Ordinance—F 58.....	1 60 per 100.....	Hayden Printing Co.
Resolution, Authorization—F 59.....	2 10 per 500.....	Hayden Printing Co.
Protest, Outside Lands—F 60.....	2 36 per 100.....	E. C. Hughes.
Resolution, Engines and Boilers—F 61.....	2 00 per 250.....	Hayden Printing Co.
Resolution, Permit to Blast—F 62.....	1 70 per 250.....	Phillips, Smyth & V. O.
Resolution, Passed for Printing—F 63.....	2 70 per 1000.....	Phillips, Smyth & V. O.
Resolution, Adopted—F 64.....	2 70 per 1000.....	Hayden Printing Co.
Resolution, Award of Contract—F 65.....	2 50 per 500.....	Hayden Printing Co.
Ordinance, Ordering Street Work—F 66.....	2 50 per 500.....	Hayden Printing Co.
Clerk's Certificate, O. L.—F 68.....	1 00 per 100.....	Hayden Printing Co.
Resolution, Full Acceptance—F 69.....	1 60 per 100.....	Frank Eastman & Co.
Resolution, Conditional Acceptance—F 70.....	1 60 per 100.....	Frank Eastman & Co.
Bill and Ordinance, Passed for Printing—F 71.....	2 90 per 1000.....	Hayden Printing Co.
Bill and Ordinance, Finally Passed—F 72.....	2 65 per 1000.....	Commercial Pub. Co.
Letter Heads, ruled, lithographed—F 73.....	5 00 per 1000.....	Commercial Pub. Co.
Packet Heads, lithographed—F 90.....	5 00 per 1000.....	Commercial Pub. Co.
Letter Heads, unruled, lithographed—F 74.....	5 00 per 1000.....	Commercial Pub. Co.

PRINTING—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Letter Heads, to departments—F 75.....	2 48 per 1000.....	E. C. Hughes.
Notice of Committee Meetings—F 76.....	1 70 per 1000.....	Valleau & Peterson.
List of Members and Committees—F 77.....	1 85 per 1000.....	James H. Barry.
Subpoena—F 78.....	1 75 per 250.....	Frank Eastman & Co.
Envelopes—F 79.....	1 90 per 1000.....	Hayden Printing Co.
Envelopes—F 80.....	2 78 per 1000.....	E. C. Hughes.
Envelopes, "Proposals"—F 81.....	2 80 per 1000.....	Hayden Printing Co.
Envelopes, "Proposals"—F 82.....	3 75 per 500.....	Hayden Printing Co.
Tags, Assessment Roll—F 83.....	1 75 per 1000.....	Hayden Printing Co.
List of Committees and Rules—F 84.....	7 40 per 100.....	James H. Barry.
Water Statement—F 85.....	2 17 per 250.....	E. C. Hughes.
Water Statement, recapitulation—F 86.....	1 75 per 50.....	Frank Eastman & Co.
Sheets Printed for Labels—F 87.....	3 00 per 500.....	Commercial Pub. Co.
Resolution, Extension of Time—F 88.....	1 42 per 250.....	E. C. Hughes.
Covers for Contracts—F 89.....	5 80 per 1000.....	Hayden Printing Co.
Burial Cert. ex-Union Soldiers—F 91.....	2 90 per 500.....	Frank Eastman & Co.
Official Bonds, Deputies, Clerks, etc.—F 92.....	6 89 per 500.....	E. C. Hughes.
Pamphlets and Reports.....	70 per page....	James H. Barry.
CITY AND COUNTY HOSPITAL—		
Gate Checks—F 1.....	1 30 per 1000.....	Hayden Printing Co.
Dining Room Passes—F 2.....	1 75 per 1000.....	Hayden Printing Co.
Special Order for Liquor—F 3.....	40 per 1000.....	Valleau & Peterson.
Employee's Passes—F 4.....	1 15 per 1000.....	Commercial Pub. Co.
Patient's Passes—F 5.....	95 per 1000.....	Hayden Printing Co.
Intern's Daily Report—F 6.....	96 per 1000.....	E. C. Hughes.
Patient's Admission Cards—F 7.....	1 24 per 1000.....	Phillips, Smyth & V. O.
Autopsy Blanks—F 8.....	1 70 per 1000.....	Commercial Pub. Co.
Daily Newspaper Reports—F 9.....	1 85 per 1000.....	Valleau & Peterson.

PRINTING—CONTINUED.

ARTICLE	PRICE	CONTRACTOR
Ward General Requisition Blanks—F 41.....	87 per 1000.....	E. C. Hughes.
Daily Diet Requisition Blanks—F 11.....	1 57 per 1000.....	E. C. Hughes.
Clinical Reports—F 12.....	2 74 per 1000.....	Commercial Pub. Co.
Temperature Charts—F 13.....	5 20 per 1000.....	Commercial Pub. Co.
Daily Record Blanks—F 14.....	3 29 per 1000.....	E. C. Hughes.
Discharge Cards—F 15.....	1 15 per 1000.....	Commercial Pub. Co.
Record of Operations—F 16.....	5 19 per 1000.....	Phillips, Smyth & V. O.
Medicine Lists—F 17.....	9 45 per 1000.....	Phillips, Smyth & V. O.
Clinical History—F 19.....	3 87 per 1000.....	E. C. Hughes.
Quarterly Inventory Blanks—F 20.....	3 15 per 500.....	Phillips, Smyth & V. O.
Daily Order Blanks—F 21.....	4 20 per 500.....	Phillips, Smyth & V. O.
Envelopes—F 22.....	3 00 per 1000.....	Hayden Printing Co.
Envelopes—F 23.....	1 82 per 1000.....	E. C. Hughes.
Letter Heads—F 24.....	2 45 per 1000.....	E. C. Hughes.
Letter Heads—F 18.....	2 15 per 1000.....	Commercial Pub. Co.
Memo. Heads—F 25.....	1 35 per 1000.....	E. C. Hughes.
Visitor's Passes—F 26.....	90 per 1000.....	Commercial Pub. Co.
Nurse's Passes—F 27.....	1 20 per 1000.....	Frank Eastman & Co.
Labels, gummed—F 32.....	90 per 1000.....	E. C. Hughes.
Envelopes—F 33.....	1 55 per 1000.....	Hayden Printing Co.
Labels, "Poison," gummed—F 34.....	1 04 per 1000.....	E. C. Hughes.
Labels, "Shake Well," gummed—F 35.....	75 per 1000.....	Valleau & Peterson.
Letter Heads, "Training School,"—F 36.....	2 40 per 1000.....	Hayden Printing Co.
Envelopes, "Training School"—F 37.....	2 10 per 1000.....	Hayden Printing Co.
Envelopes, "Training School"—F 38.....	2 20 per 1000.....	Hayden Printing Co.
Applications, Training School—F 39.....	3 10 per 1000.....	James H. Barry.
Letters to Applicants, Training School—F 40..	2 87 per 1000.....	E. C. Hughes.
Statement of Expenses—F 42.....	3 69 per 250.....	Phillips, Smyth & V. O.

PRINTING—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Coal Tags—F 43.....	95 per 1000.....	Valleau & Peterson.
House Diet—F 44.....	5 90 per 500.....	Phillips, Smyth & V. O.
CITY ATTORNEY—		
Document Covers, "Copy"—F 1.....	2 00 per 250.....	Hayden Printing Co.
Document Covers, "Original"—F 6.....	2 00 per 250.....	James H. Barry.
Envelopes—F 2.....	2 25 per 1000.....	E. C. Hughes.
Envelopes, Linen—F 3.....	2 45 per 1000.....	Hayden Printing Co.
Stipulation Extending Time to Plead—F 4....	3 45 per 1000.....	James H. Barry.
Envelopes, Reversible—F 5.....	6 00 per 100.....	Commercial Pub. Co.
Time Stipulation—F 7.....	3 45 per 1000....	James H. Barry.
Official Opinions and Communications.....	87½ per page..	James H. Barry.
CIVIL SERVICE COMMISSIONERS—		
Application, Laborer—F 1.....	3 25 per 1000.....	James H. Barry.
Application, Classified Service—F 2.....	4 50 per 1000.....	Hayden Printing Co.
Application, Policeman—F 3.....	4 90 per 1000.....	James H. Barry.
Request for Cert. of Laborer—F 4.....	1 89 per 1000.....	E. C. Hughes.
Certification of Laborers—F 5.....	2 69 per 1000.....	Phillips, Smyth & V. O.
Laborer's Notice of Employment—F 6.....	2 45 per 1000.....	E. C. Hughes.
Report of Employment of Laborers—F 7.....	3 69 per 1000.....	E. C. Hughes.
Report of Discharge of Laborers—F 8.....	3 69 per 1000.....	E. C. Hughes.
Notification, Competitive Examination—F 9....	3 49 per 1000.....	E. C. Hughes.
Notice of Eligibility—F 10.....	2 57 per 1000.....	E. C. Hughes.
Notice of Ineligibility—F 11.....	2 57 per 1000.....	E. C. Hughes.
Request for Certification—F 12.....	2 57 per 1000.....	E. C. Hughes.
Certification—F 13.....	2 69 per 1000.....	Phillips, Smyth & V. O.
Notice of Certification—F 14.....	2 57 per 1000.....	E. C. Hughes.
Report of Appointment—F 15.....	3 76 per 1000.....	E. C. Hughes.

PRINTING—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Application for Examination for Promotion,		
Police Department—F 16.....	4 45 per 1000.....	James H. Barry.
Proof of Knowledge of Trade—F 17.....	4 45 per 1000.....	James H. Barry.
Proof of Knowledge of Occupation—F 18.....	4 45 per 1000.....	James H. Barry.
Physical Examination, Police Force—F 19.....	5 74 per 1000.....	Phillips, Smyth & V. O.
Sets of Identification—F 20.....	8 95 per 1000.....	Frank Eastman & Co.
Marking Blanks—F 21.....	3 25 per 1000.....	Valleau & Peterson.
Temporary Appointment—F 22.....	1 75 per 1000.....	Hayden Printing Co.
Letter Heads—F 23.....	2 25 per 1000.....	Commercial Pub. Co.
Envelopes—F 24.....	1 82 per 1000.....	E. C. Hughes.
Envelopes—F 25.....	2 75 per 1000.....	Hayden Printing Co.
CORONER'S OFFICE—		
Report of Deaths—F 1.....	2 18 per 1000.....	E. C. Hughes.
Report of Missing—F 2.....	2 18 per 1000.....	E. C. Hughes.
Subpoena for Juror—F 3.....	1 65 per 1000.....	Valleau & Peterson.
Subpoena for Witness—F 4.....	1 98 per 1000.....	E. C. Hughes.
Certificate of Death—F 5.....	2 81 per 1000.....	E. C. Hughes.
Inquisition Blanks—F 6.....	3 29 per 1000.....	E. C. Hughes.
Letter Heads—F 8.....	2 60 per 1000.....	Hayden Printing Co.
Note Heads—F 9.....	1 70 per 1000.....	Valleau & Peterson.
Envelopes—F 10.....	2 75 per 1000.....	Hayden Printing Co.
Envelopes—F 11.....	1 90 per 1000.....	Commercial Pub. Co.
Covers, Transcript of Testimony—F 12.....	5 45 per 1000.....	Frank Eastman & Co.
Autopsy Certificates—F 13.....	1 67½ per 1000.....	James H. Barry.
Personal Description, Unknown Dead—F 14.....	3 57 per 1000.....	E. C. Hughes.
Salary Demands—F 15.....	2 00 per 500.....	Hayden Printing Co.
Postals, printed—F 16.....	5 99 per 500.....	Phillips, Smyth & V. O.
Inquest Waived—F 17.....	1 72 per 1000.....	E. C. Hughes.

PRINTING—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Warnings, Dennison's No. 1—F 18.....	1 70 per 1000.....	Frank Eastman & Co.
COUNTY CLERK'S OFFICE—		
Envelopes, Linen—F 1.....	2 10 per 1000.....	E. C. Hughes.
In Open Court—F 2.....	2 70 per 1000.....	Commercial Pub. Co.
Judgment on Verdict—F 3.....	3 13 per 1000.....	E. C. Hughes.
Judgment on Verdict, Appeal from Justice Court—F 4.....	2 18 per 500.....	E. C. Hughes.
Judgment on Finding—F 5.....	3 05 per 1000.....	E. C. Hughes.
Judgment on Finding, Appeal from Justice Court—F 6.....	3 05 per 1000.....	E. C. Hughes.
Default Judgment—F 7.....	3 00 per 1000.....	E. C. Hughes.
Judgment Unlawful Detainer—F 8.....	3 00 per 1000.....	E. C. Hughes.
Judgment on Offer and Acceptance—F 9.....	2 18 per 500.....	E. C. Hughes.
Execution—F 10.....	3 45 per 1000.....	James H. Barry.
Writ of Possession—F 11.....	6 50 per 1000.....	Frank Eastman & Co.
Writ of Assistance After a Sheriff Deed Given—F 12.....	4 50 per 500.....	Frank Eastman & Co.
Declaration of Intention—F 13.....	3 95 per 1000.....	F. N. Stewart.
Order of Sale and Decree—F 14.....	3 60 per 1000.....	F. N. Stewart.
Certificate of Certification—F 15.....	95 per 1000.....	E. C. Hughes.
Certificate of Certification—F 16.....	1 07 per 1000.....	Phillips, Smyth & V. O.
Certificate of Clerk on Plaintiff's Complaint (default)—F 17.....	95 per 1000.....	E. C. Hughes.
Default Judgment on Demurrer—F 18.....	3 29 per 1000.....	E. C. Hughes.
Exemplification of Record—F 19.....	2 90 per 500.....	F. N. Stewart.
Memo. Costs and Disbursements—F 20.....	3 55 per 1000.....	E. C. Hughes.
Trial Jurors Discharge—F 21.....	1 65 per 1000.....	Commercial Pub. Co.
Clerk's Certificate on Appeal—F 22.....	5 05 per 1000.....	Frank Eastman & Co.

PRINTING—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Certificate of Order Made and Entered—F 23..	2 63 per 1000.....	E. C. Hughes.
Judgment Roll—F 24.....	6 70 per 1000.....	Frank Eastman & Co.
Transcript of Judgment Docket—F 25.....	4 67 per 1000.....	E. C. Hughes.
Envelopes—F 26.....	2 75 per 1000.....	Hayden Printing Co.
Commission to Take Testimony—F 27.....	3 90 per 1000.....	F. N. Stewart.
Order Reference—F 28.....	2 40 per 500.....	E. C. Hughes.
Judgment of Dismissal—F 29.....	2 90 per 1000.....	E. C. Hughes.
Submitted—F 30.....	90 per 1000.....	Commercial Pub. Co.
Certificate of Transcript—F 31.....	1 05 per 1000.....	James H. Barry.
Judgment Blanks—F 32.....	3 35 per 1000.....	Hayden Printing Co.
Foreign Subpoena, General—F 33.....	3 35 per 1000.....	James H. Barry.
Subpoena, Criminal—F 34.....	3 35 per 1000.....	James H. Barry.
Certified Copy of Act of Naturalization, Alien— F 35.....	3 35 per 1000.....	James H. Barry.
Certified Copy of Act of Naturalization, Minor—F 36.....	3 35 per 1000.....	James H. Barry.
Certified Copy of Act of Naturalization, Soldier—F 37.....	2 85 per 500.....	James H. Barry.
Writ of Habeas Corpus—F 38.....	2 85 per 500.....	James H. Barry.
Recognizance, Information—F 39.....	3 20 per 1000.....	Frank Eastman & Co.
Recognizance, Indictment—F 40.....	2 85 per 500.....	James H. Barry.
Certificate of Bail—F 41.....	3 70 per 1000.....	Phillips, Smyth & V. O.
Commitment—F 42.....	3 40 per 1000.....	Frank Eastman & Co.
Judgment—F 43.....	3 40 per 1000.....	Frank Eastman & Co.
Commitment to County Jail—F 44.....	3 40 per 1000.....	Frank Eastman & Co.
Judgment Sentence County Jail—F 45.....	3 40 per 1000.....	Frank Eastman & Co.
Commitment to Whittier—F 46.....	3 25 per 100.....	F. N. Stewart.
Letter Heads, lithographed—F 47.....	5 75 per 1000.....	Commercial Pub. Co.

PRINTING—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Note Heads, lithographed, Imperial Parchment—F 158.....	3 90 per 1000....	Commercial Pub. Co.
Affidavit of Witness for Expenses—F 48.....	3 45 per 1000....	Frank Eastman & Co.
Order to Pay Witness—F 49.....	3 45 per 1000....	Frank Eastman & Co.
Order Transferring Cause, Further Hearing—F 50.....	3 45 per 1000....	Frank Eastman & Co.
Order Assigning Cause, Information—F 51.....	3 20 per 1000....	Frank Eastman & Co.
Order Assigning Cause, Indictment—F 52.....	3 20 per 1000....	Frank Eastman & Co.
Order Assigning Cause, Appeal from Police Court—F 53.....	2 45 per 500.....	Frank Eastman & Co.
Bench Warrant—F 54.....	2 85 per 500.....	James H. Barry.
Remittitur—F 55.....	2 85 per 500.....	James H. Barry.
Information—F 56.....	5 95 per 1000....	Frank Eastman & Co.
Indictment—F 57.....	5 95 per 1000....	Frank Eastman & Co.
Order to Show Cause for Defaulting—F 58.....	1 75 per 500.....	Hayden Printing Co.
Certificate Demurrer to Plaintiff's Complaint—F 60.....	1 50 per 1000....	Frank Eastman & Co.
Warrant of Attachment for Defaulting—F 61..	1 75 per 1000....	E. C. Hughes.
Order of Discharge—F 62.....	1 80 per 1000....	E. C. Hughes.
Order of Discharge, Fine Paid—F 63.....	1 85 per 500.....	James H. Barry.
Order of Discharge, Cash Bail—F 64.....	1 85 per 500.....	James H. Barry.
Order for Drawing Trial Jurors—F 65.....	3 60 per 1000....	F. N. Stewart.
Special Venire for Additional Jurors—F 66.....	3 60 per 1000....	F. N. Stewart.
Acknowledgment Certificates—F 67.....	1 80 per 1000....	E. C. Hughes.
Marriage License and Certificate, lithographed—F 68.....	24 75 per 1000....	Valleau & Peterson.
Order Assigning Cause, Deceased—F 69.....	2 05 per 1000....	E. C. Hughes.
Order Assigning Cause, Minor—F 70.....	2 19 per 1000....	Phillips, Smyth & V. O.

PRINTING—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Notice of Publication Time Appointed Probate of Will—F 71.....	2 19 per 1000.....	Phillips, Smyth & V. O.
Order Appointing Appraisers—F 72.....	2 10 per 1000.....	Hayden Printing Co.
Order of Publication Notice to Creditors—F 73	2 10 per 1000.....	Frank Eastman & Co.
Notice to Creditors—F 74.....	1 95 per 1000. . .	E. C. Hughes.
Exemplified Copy of Record, Probate—F 75....	3 50 per 500.....	F. N. Stewart.
Will Proof and Certificate—F 76.....	2 37 per 500.....	E. C. Hughes.
Letters of Administration—F 77.....	2 97 per 1000.....	E. C. Hughes.
Letters of Administration with Will Annexed— F 78.....	3 45 per 1000.....	Frank Eastman & Co.
Special Letters of Administration—F 79.....	3 45 per 1000.....	Frank Eastman & Co.
Order for Special Letters of Administration— F 80.....	3 60 per 1000.....	F. N. Stewart.
Order Appointing Administrator—F 81.....	3 60 per 1000.....	F. N. Stewart.
Bond Given on Qualifying—F 82.....	3 82 per 1000.....	E. C. Hughes.
Order Admitting Will to Probate—F 83.....	3 60 per 1000.....	F. N. Stewart.
Testimony Subscribing Witness on Probate of Will—F 84.....	3 35 per 1000.....	James H. Barry.
Testimony of Applicant on Probate of Will— F 85.....	3 60 per 1000....	F. N. Stewart.
Certificate of Proof of Will—F 86.....	3 60 per 1000.....	F. N. Stewart.
Order Settling Account—F 87.....	3 45 per 1000.....	Frank Eastman & Co.
Decree of Final Discharge—F 88.....	3 40 per 1000.....	Hayden Printing Co.
Order Appointing Guardian—F 89.....	3 60 per 1000.....	F. N. Stewart.
Order Appointing Day for Hearing Petition—F 90	3 45 per 1000.....	Frank Eastman & Co.
Order Publication to Show Cause, Est.—F 91..	3 60 per 1000.....	F. N. Stewart.

PRINTING—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Order Publication to Show Cause, Guardianship—F 92.....*	3 60 per 1000.....	F. N. Stewart.
Subpoena, Probate—F 93.....	3 35 per 1000.....	James H. Barry.
Citation Estate and Guardianship—F 94.....	3 35 per 1000.....	James H. Barry.
Decree Establishing Notice to Creditors—F 95..	1 99 per 1000.....	Phillips, Smyth & V. O.
Certified Copy Letters Testamentary—F 96.....	3 05 per 1000.....	E. C. Hughes.
Certified Copy Letters of Administration—F 97	3 30 per 1000.....	E. C. Hughes.
Citation Estate—F 98.....	3 35 per 1000.....	James H. Barry.
Day of Hearing Fixed by the Clerk, 2 Forms— 99—99A	3 35 per 1000.....	James H. Barry.
Proof of Posting, etc., Settlement and Distribution—F 100.....	3 40 per 1000.....	E. C. Hughes.
Notice of Posting—Settlement of Account—F 101	1 70 per 1000.....	Commercial Pub. Co.
Notice of Posting—Distribution—F 102.....	1 70 per 1000.....	Commercial Pub. Co.
Proof of Posting on the Settlement of Account —F 103.....	3 60 per 1000.....	F. N. Stewart.
Notice of Posting—Letters of Administration— F 104.....	1 72 per 1000.....	E. C. Hughes.
Proof of Posting Application for Letters of Administration—F 105.....	3 60 per 1000.....	F. N. Stewart.
Notice of Posting on Application for Distribu- tion—F 106.....	1 79 per 1000.....	Phillips, Smyth & V. O.
Proof of Posting on Application for Distribu- tion—F 107.....	3 60 per 1000.....	F. N. Stewart.
Affidavit of Posting, etc.—F 108.....	3 60 per 1000.....	F. N. Stewart.
Notice by the Clerk of Time and Place, etc.— F 109.....	2 45 per 1000.....	Frank Eastman & Co.

PRINTING—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Letters of Guardianship—F 110.....	3 60 per 1000.....	F. N. Stewart.
Proof of Posting on Application—F 111.....	3 60 per 1000.....	* F. N. Stewart.
Covers, Papers in Cause, Dept. 1—F 112.....	5 80 per 1000.....	Hayden Printing Co.
Covers, Papers in Cause, Dept. 2—F 113.....	5 80 per 1000.....	Hayden Printing Co.
Covers, Papers in Cause, Dept. 3—F 114.....	5 80 per 1000.....	Hayden Printing Co.
Covers, Papers in Cause, Dept. 4—F 115.....	5 80 per 1000.....	Hayden Printing Co.
Covers, Papers in Cause, Dept. 5—F 116.....	5 80 per 1000.....	Hayden Printing Co.
Covers, Papers in Cause, Dept. 6—F 117.....	5 80 per 1000.....	Hayden Printing Co.
Covers, Papers in Cause, Dept. 7—F 118.....	5 80 per 1000.....	Hayden Printing Co.
Covers, Papers in Cause, Dept. 8—F 119.....	5 80 per 1000.....	Hayden Printing Co.
Covers, Papers in Cause, Dept. 10—F 121.....	5 80 per 1000.....	Hayden Printing Co.
Covers, Papers in Cause, Dept. 11—F 122.....	5 80 per 1000.....	Hayden Printing Co.
Covers, Papers in Cause, Dept. 12—F 123.....	5 80 per 1000.....	Hayden Printing Co.
Covers, in Matter of Estate, etc., Dept. 9—F 120	8 24 per 1000.....	Phillips, Smyth & V. O.
Covers, Appeal from Justice's Court—F 124 ...	6 85 per 1000.....	Phillips, Smyth & V. O.
Blank Cards, White Bristol—F 125.....	1 35 per 1000.....	Commercial Pub. Co.
Subpoena, Civil—F 126.....	3 15 per 1000.....	F. N. Stewart.
Certification Blanks, Estate—F 127.....	1 10 per 1000.....	E. C. Hughes.
Writ of Attachment—F 128.....	3 60 per 1000.....	F. N. Stewart.
Summons, General—F 129.....	3 00 per 1000.....	Hayden Printing Co.
Summons in Divorce—F 130.....	3 30 per 1000.....	E. C. Hughes.
Summons, Unlawful Detainer—F 131.....	3 35 per 1000.....	Commercial Pub. Co.
Execution—F 132.....	3 10 per 1000.....	E. C. Hughes.
Acknowledgment—F 159.....	1 50 per 500.....	Hayden Printing Co.
Affidavit of Attachment—F 133.....	3 59 per 1000.....	E. C. Hughes.
Undertaking on Attachment—F 134.....	3 67 per 1000.....	E. C. Hughes.
Order of Court for Payment Money—F 135.....	3 55 per 1000.....	E. C. Hughes.

PRINTING—CONTINUED.

ARTICLE	PRICE	CONTRACTOR
Certificate, Clerk Justice Court—F 136.....	1 23 per 1000.....	Phillips, Smyth & V. O.
Certificate, City Official—F 137.....	1 20 per 500.....	E. C. Hughes.
Certificate, Notary Public—F 138.....	1 10 per 1000.....	E. C. Hughes.
Certificate, Notary Public—F 139.....	1 10 per 1000.....	E. C. Hughes.
Sheets Paper for Jury Lists—F 140.....	2 60 per 500.....	Frank Eastman & Co.
Order of Discharge, Bail Given—F 142.....	1 99 per 1000.....	Phillips, Smyth & V. O.
Subpoena, Police Court—F 143.....	1 82 per 1000.....	E. C. Hughes.
Commitment to County Jail, Police Court—F 144	3 59 per 1000.....	E. C. Hughes.
Commitment to County Jail, Police Court—F 145	3 84 per 1000.....	E. C. Hughes.
Notice of Appeal—F 146.....	3 59 per 1000.....	E. C. Hughes.
Appeal Bond—F 147.....	3 30 per 500.....	Phillips, Smyth & V. O.
Letter Heads, Police Court, Dept. 1—F 148.....	2 65 per 1000.....	Valleau & Peterson.
Letter Heads, Police Court, Dept. 2—F 149.....	2 65 per 1000.....	Valleau & Peterson.
Letter Heads, Police Court, Dept. 3—F 150.....	2 65 per 1000.....	Valleau & Peterson.
Letter Heads, Police Court, Dept. 4—F 151.....	2 65 per 1000.....	Valleau & Peterson.
Covers, Certificate of Incorporation—F 152.....	6 00 per 1000.....	Hayden Printing Co.
Postal Cards, Printed—F 153.....	11 11 per 1000.....	Phillips, Smyth & V. O.
Envelopes, Police Court, 1,000 each Department —Fs 154 to 157.....	2 45 per 1000.....	Hayden Printing Co.
Envelopes, Police Court, 500 each Dept.—Fs 160 to 163.....	1 75 per 500.....	Hayden Printing Co.
Certificates, Police Judges—F 164.....	1 75 per 1000.....	Hayden Printing Co.
Recognizance of Witness—F 165.....	3 40 per 1000.....	Phillips, Smyth & V. O.
Minute Dockets—F 166.....	2 95 per 1000.....	Commercial Pub. Co.
Police Court Venire—F 167.....	6 50 per 1000.....	F. N. Stewart.
Daily Report, Police Courts—F 168.....	2 52 per 1000.....	E. C. Hughes.

PRINTING—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Demands, County Clerk—F 169.....	1 70 per 100.....	Commercial Pub. Co.
Demands, Assistants—F 170.....	2 59 per 500.....	Hayden Printing Co.
Justification on Undertaking—F 171.....	4 45 per 1000.....	Frank Eastman & Co.
Manila Envelopes—F 172.....	2 10 per 500.....	Hayden Printing Co.
Blanks, No. 25—F 173.....	4 50 per 500.....	Commercial Pub. Co.
Subpoena, Insane—F 174.....	2 87 per 1000.....	E. C. Hughes.
Warrants, Insane—F 175.....	2 60 per 1000.....	E. C. Hughes.
Order of Commitment—F 176.....	14 63 per 1000.....	E. C. Hughes.
DEPARTMENT OF ELECTRICITY.		
Demands, Salaries—F 1.....	2 80 per 1000.....	Hayden Printing Co.
Demands, General—F 2.....	3 10 per 1000.....	Commercial Pub. Co.
Letter Heads, Mercantile Bond—F 3.....	3 00 per 1000.....	Hayden Printing Co.
Letter Heads, Mercantile Bond—F 4.....	2 60 per 1000.....	Frank Eastman & Co.
Memo Heads, Mercantile Bond—F 5.....	1 90 per 1000.....	Frank Eastman & Co.
Envelopes, 2c., stamped—F 6.....	11 50 per 500.....	Hayden Printing Co.
Envelopes, No. 11—F 7.....	2 45 per 1000.....	Phillips, Smyth & V. O.
Envelopes, No. 6½—F 8.....	2 09 per 1000.....	Phillips, Smyth & V. O.
Postal Cards, Notification—F 9.....	11 25 per 1000.....	Hayden Printing Co.
Sheets Box Alarms—F 10.....	2 40 per 1000.....	Hayden Printing Co.
Sheets Still Alarms—F 11.....	1 75 per 1000.....	Hayden Printing Co.
Sheets Testing for Trouble—F 12.....	2 35 per 1000.....	Hayden Printing Co.
Sheets Turning Boxes—F 13.....	2 25 per 1000.....	Hayden Printing Co.
Sheets Inspection Reports—F 14.....	2 32 per 1000.....	E. C. Hughes.
Sheets Work Report—F 15.....	2 27 per 1000.....	E. C. Hughes.
Sheets Clock Test Record—F 16.....	1 25 per 500.....	Hayden Printing Co.
Fire Alarm Cards—F 17.....	23 50 per 100.....	Valleau & Peterson.
DEPARTMENT OF PUBLIC HEALTH		
Applications to Almshouse—F 1.....	2 45 per 1000.....	Commercial Pub. Co.

PRINTING—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Permits to Almshouse—F 2.....	1 85 per 1000.....	E. C. Hughes.
Meeting Notices—F 3.....	1 89 per 1000.....	E. C. Hughes.
Daily Report, City Physician—F 4.....	1 85 per 1000.....	E. C. Hughes.
Monthly Report, City Physician—F 5.....	2 38 per 1000.....	E. C. Hughes.
Chemist's Milk Analysis—F 6.....	2 60 per 1000.....	Hayden Printing Co.
Chemist's General Analysis—F 7.....	2 60 per 1000.....	Hayden Printing Co.
Notices on heavy muslin—F 8.....	11 50 per 1000.....	Frank Eastman & Co.
Bath and Laundry Notices—F 9.....	2 89 per 1000.....	E. C. Hughes.
Bath and Laundry Notices—F 10.....	2 90 per 1000.....	Valleau & Peterson.
Sanitary Inspector Notices—F 11.....	2 05 per 1000.....	E. C. Hughes.
Sanitary Inspector Last Notices—F 12.....	2 45 per 1000.....	Frank Eastman & Co.
Plumbing Inspector Notices—F 13.....	1 82 per 1000.....	E. C. Hughes.
Plumbing Inspector Notices—F 14.....	1 60 per 1000.....	Frank Eastman & Co.
Certificate of Death—F 15.....	3 42 per 1000.....	E. C. Hughes.
Removal Permits—F 16.....	2 45 per 1000.....	Frank Eastman & Co.
Removal Permits, in duplicate—F 17.....	2 05 per 1000.....	Frank Eastman & Co.
Removal Permits—F 18.....	1 45 per 1000.....	Frank Eastman & Co.
Permit to Inter—F 19.....	2 25 per 1000.....	Hayden Printing Co.
Certificate of Error—F 20.....	2 95 per 1000.....	Frank Eastman & Co.
Report to Registrar of Voters—F 21.....	5 75 per 1000.....	Hayden Printing Co.
Plumber's Plans—F 22.....	5 50 per 1000.....	F. N. Stewart.
Master Plumber's Bond—F 24.....	2 78 per 500.....	E. C. Hughes.
Specification Blanks—F 25.....	5 38 per 1000.....	E. C. Hughes.
Salary Demands—F 26.....	2 40 per 1000.....	E. C. Hughes.
Application and Receipt for Anti-Toxin—F 27.....	2 08 per 1000.....	E. C. Hughes.
Notification to Schools—F 28.....	1 75 per 1000.....	Frank Eastman & Co.
Copies of Section 3028, Political Code—F 30.....	1 75 per 1000.....	Frank Eastman & Co.
Applications Plumbing Permit—F 31.....	2 97½ per 1000.....	James H. Barry.

PRINTING—CONTINUED.

ARTICLE	PRICE	CONTRACTOR
Condemnation Notices—F 32.....	3 40 per 1000.....	Phillips, Smyth & V. O.
Pasters, "Samples of Milk"—F 33.....	95 per 1000.....	E. C. Hughes.
Pasters, "Samples of Food"—F 34.....	98 per 1000.....	E. C. Hughes.
Quarantine Notices, "Scarlet Fever"—F 35....	3 00 per 1000.....	Hayden Printing Co.
Quarantine Notices, "Diphtheria"—F 36.....	3 00 per 1000.....	Hayden Printing Co.
Complaint of Nuisance—F 38.....	1 45 per 1000.....	James H. Barry.
Reference Slips—F 39.....	1 45 per 1000.....	Commercial Pub. Co.
Certificate of Birth—F 40.....	1 20 per 1000.....	Valleau & Peterson.
Notices from M. D., postal card—41.....	11 10 per 1000.....	Phillips, Smyth & V. O.
Attention Notices—F 42.....	2 20 per 1000.....	James H. Barry.
Notice to Parents—F 43.....	1 85 per 1000.....	Frank Eastman & Co.
Plumber's Certificate—F 44.....	1 90 per 1000.....	E. C. Hughes.
Sanitary Inspector's Daily Report—F 45.....	2 85 per 1000.....	E. C. Hughes.
Food Inspector's Daily Report—F 46.....	4 52 per 1000.....	E. C. Hughes.
Dairy Inspector's Daily Report—F 47.....	5 45 per 1000.....	Commercial Pub. Co.
Daily Reports, Contagious Diseases—F 48.....	3 80 per 1000.....	Frank Eastman & Co.
Monthly Reports Sanitary Inspector—F 52.....	2 10 per 500.....	E. C. Hughes.
Quarantine Reports—F 54.....	1 35 per 1000.....	Commercial Pub. Co.
Expense Demands—F 55.....	3 95 per 1000.....	James H. Barry.
Market Inspectors Daily Report—F 56.....	3 90 per 1000.....	E. C. Hughes.
Interment Reports—F 57.....	4 72 per 1000.....	E. C. Hughes.
Chemist's Laboratory Reports—F 58.....	2 87 per 1000.....	E. C. Hughes.
Plumbing Inspector's Daily Reports—F 59.....	2 99 per 1000.....	E. C. Hughes.
Market Inspector's Monthly Report—F 60.....	3 45 per 1000.....	Phillips, Smyth & V. O.
Food Inspector's Monthly Report—F 62.....	5 99 per 1000.....	Phillips, Smyth & V. O.
Bath and Laundry Inspector's Daily Report— F 61	3 90 per 1000....	James H. Barry.
Envelopes—F 63.....	1 72 per 1000.....	E. C. Hughes.

PRINTING—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Envelopes—F 64.....	2 75 per 1000.....	Hayden Printing Co.
Letter Heads—F 65.....	2 48 per 1000.....	E. C. Hughes.
Letter Heads—F 66.....	3 00 per 1000.....	E. C. Hughes.
Pasters, Quarantine—F 67.....	2 45 per 1000.....	Frank Eastman & Co.
Pasters, Condemned—F 68.....	2 45 per 1000.....	Frank Eastman & Co.
Plumbing and Drainage Rules—F 69.....	24 00 per 1000.....	Frank Eastman & Co.
Pasters, Chemical Laboratory—F 70.....	1 45 per 1000.....	Frank Eastman & Co.
Pasters, Chemical Laboratory—F 71.....	1 25 per 1000....	Hayden Printing Co.
BUREAU OF STATISTICS—		
Monthly Report of Deaths Registered by Age, Sex, etc.—F 1.....	6 55 per 50.....	E. C. Hughes.
Monthly Report of Deaths Registered—F 2....	6 55 per 50.....	E. C. Hughes.
Monthly Report of Deaths Registered by Lo- calities—F 3.....	6 95 per 50.....	Frank Eastman & Co.
Monthly Report of Deaths Registered—F 4....	6 24 per 50.....	E. C. Hughes.
Maps, 28x38, lithographed—F 5.....	29 60 per 1000.....	Valleau & Peterson.
Monthly Bulletin—F 6.....	104 50 per 1000.....	Commercial Pub. Co.
Maps for inserting in Monthly Bulletin—F 7..	9 94 per 1000.....	Valleau & Peterson.
Statistic Charts No. 7—F 8.....	140 00 per 1000.....	Commercial Pub. Co.
Statistic Charts No. 1—F 9.....	65 00 per 1000.....	Commercial Pub. Co.
Statistic Charts, No. 2—F 10.....	65 00 per 1000.....	Commercial Pub. Co.
Statistic Charts, No. 3—F 11.....	65 00 per 1000.....	Commercial Pub. Co.
Statistic Charts, No. 4—F 12.....	65 00 per 1000.....	Commercial Pub. Co.
Statistic Charts, No. 5—F 13.....	65 00 per 1000.....	Commercial Pub. Co.
Statistic Charts, No. 6—F 14.....	65 00 per 1000.....	Commercial Pub. Co.
Summary Sheets—F 15.....	6 00 per 1000.....	Valleau & Peterson.

PRINTING—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
DISTRICT ATTORNEY'S OFFICE—		
Subpoena, Superior Court—F 1.....	2 20 per 1000.....	James H. Barry.
Subpoena, Superior Court—F 2.....	1 20 per 1000.....	James H. Barry.
Subpoena, Grand Jury—F 3.....	2 32 per 1000.....	Phillips, Smyth & V. O.
Subpoena, Grand Jury—F 4.....	1 75 per 1000.....	Commercial Pub. Co.
Information—F 5.....	6 47 per 1000.....	E. C. Hughes.
Indictment—F 6.....	3 52 per 250.....	E. C. Hughes.
Order Assigning Cause—F 7.....	2 52 per 500.....	E. C. Hughes.
Order Assigning Cause, Appeal Cases—F 8....	2 52 per 500.....	E. C. Hughes.
Order Transferring Cause—F 9.....	2 52 per 500.....	E. C. Hughes.
Complaint, Battery—F 10.....	1 98 per 1000.....	E. C. Hughes.
Complaint, Concealed Weapon—F 11.....	2 08 per 300.....	E. C. Hughes.
Complaint, Exhibiting Deadly Weapon—F 12..	2 60 per 1000.....	Frank Eastman & Co.
Complaint, Immoderate Driving—F 13.....	3 00 per 500.....	E. C. Hughes.
Complaint, Fast Driving, G. G. Park—F 14....	1 98 per 300.....	E. C. Hughes.
Complaint, Fast Driving, Street Crossing—F 15.	3 00 per 500.....	E. C. Hughes.
Complaint, Cruelty to Minors—F 16.....	2 60 per 1000.....	Frank Eastman & Co.
Complaint, Visiting Lottery Place—F 17.....	2 98 per 1000.....	E. C. Hughes.
Complaint, Threats Against Life—F 18.....	2 80 per 500.....	James H. Barry.
Complaint, Robbery—F 19.....	2 73 per 500.....	E. C. Hughes.
Complaint, Burglary—F 20.....	2 80 per 500.....	James H. Barry.
Complaint, Statutory Form—F 21.....	3 95 per 1000.....	Frank Eastman & Co.
Complaint, Receiving Stolen Property—F 22....	2 30 per 200.....	James H. Barry.
Complaint, Attempt to Commit Burglary—F 23.	2 60 per 300.....	James H. Barry.
Complaint, Offensive Premises—F 24.....	2 30 per 200.....	James H. Barry.
Complaint, Dumping Garbage—F 25.....	2 85 per 1000.....	James H. Barry.
Complaint, Begging—F 26.....	3 35 per 1000.....	James H. Barry.
Complaint, Game Out of Season—F 27.....	2 30 per 200.....	James H. Barry.

PRINTING—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Complaint, Violation License Order—F 28.....	2 30 per 200.....	James H. Barry.
Complaint, Aiding and Abetting Lottery—F 29.	3 25 per 1000.....	E. C. Hughes.
Complaint, Keeping Lottery Place—F 30.....	3 85 per 1000.....	James H. Barry.
Complaint, Malicious Mischief—F 31.....	3 85 per 1000.....	James H. Barry.
Complaint, Disturbing the Peace—F 32.....	3 65 per 1000.....	James H. Barry.
Complaint, Petty Larceny—F 33.....	3 65 per 1000.....	James H. Barry.
Complaint, Grand Larceny—F 34.....	2 90 per 500.....	James H. Barry.
Complaint, Soliciting Prostitution—F 35.....	3 65 per 1000.....	James H. Barry.
Complaint, Street Obstruction—F 36.....	2 90 per 500.....	James H. Barry.
Complaint, Cruelty to Animals—F 37.....	2 25 per 500.....	Frank Eastman & Co.
Complaint, Refusing to Disperse—F 38.....	2 45 per 200.....	James H. Barry.
Complaint, Keeping House of Ill-Fame—F 39..	1 90 per 200.....	Phillips, Smyth & V. O.
Complaint, Discharging Firearms—F 40.....	2 70 per 300.....	James H. Barry.
Complaint, Assault—F 41.....	1 90 per 200.....	Frank Eastman & Co.
Search Warrant Stolen Goods—F 42.....	2 85 per 500.....	James H. Barry.
Application for Search Warrant, Stolen Goods		
—F 43.....	2 85 per 500.....	James H. Barry.
Search Warrant, Lottery Tickets—F 44.....	3 85 per 1000....	James H. Barry.
Application for Search Warrant, Lottery		
Tickets—F 45.....	3 85 per 1000.....	James H. Barry.
Search Warrant, Gambling Instruments—F 46..	3 85 per 1000....	James H. Barry.
Application for Search Warrant, Gambling		
Instruments—F 47.....	2 85 per 1000.....	James H. Barry.
Order of Discharge, Bail Given—F 48.....	1 62 per 1000.....	E. C. Hughes.
Warrant, Felony—F 49.....	2 60 per 1000.....	Frank Eastman & Co.
Warrant, Misdemeanor—F 50.....	1 98 per 1000.....	E. C. Hughes.
Warrant, Threat Against Life—F 51.....	2 35 per 500.....	Phillips, Smyth & V. O.
Ball Bonds—F 52.....	5 90 per 1000.....	Frank Eastman & Co.

PRINTING—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Complaints, Vagrancy—F 53.....	3 29 per 1000.....	E. C. Hughes.
Printed Letters—F 54.....	2 55 per 1000.....	Frank Eastman & Co.
Complaints, Common Drunkard—F 55.....	3 85 per 1000.....	James H. Barry.
Complaints, Lottery Tickets in Possession— F 56.....	3 35 per 1000.....	James H. Barry.
Complaint, Cruelty to a Minor Child—F 57.....	2 60 per 1000.....	James H. Barry.
Prior Conviction Blanks—F 59.....	2 10 per 1000.....	James H. Barry.
Superior Court Calendars—F 60.....	12 47 per 1000.....	E. C. Hughes.
Letter Heads—F 61.....	4 20 per 1000.....	Commercial Pub. Co.
Bail Money Deposited—F 62.....	5 04 per 1000.....	E. C. Hughes.
Envelopes—F 63.....	2 75 per 1000.....	Hayden Printing Co.
Envelopes, linen—F 64.....	2 70 per 1000.....	Hayden Printing Co.
Deposit Tags—F 65.....	1 90 per 1000.....	E. C. Hughes.
EMERGENCY HOSPITAL—		
Register Blanks—F 2.....	90 per 1000.....	F. N. Stewart.
Envelopes—F 3.....	2 75 per 1000.....	Hayden Printing Co.
Envelopes—F 4.....	1 65 per 1000.....	E. C. Hughes.
Note Heads—F 5.....	1 60 per 1000.....	E. C. Hughes.
Letter Heads—F 6.....	2 14 per 1000.....	E. C. Hughes.
Transfer Blanks—F 7.....	1 00 per 1000.....	F. N. Stewart.
Labels—F 8.....	1 25 per 1000.....	Hayden Printing Co.
Labels—F 9.....	1 25 per 1000.....	Hayden Printing Co.
Labels—F 10.....	1 25 per 1000.....	Hayden Printing Co.
Clinical Reports—F 11.....	2 37 per 1000.....	E. C. Hughes.
FIRE DEPARTMENT—		
Demands, Engine Companies—F 1.....	3 95 per 600.....	E. C. Hughes.
Demands, Truck Companies—F 2.....	2 00 per 200.....	Hayden Printing Co.
Demands, Chemical Companies—F 3.....	2 00 per 200.....	Hayden Printing Co.

PRINTING—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Demands, Water Tower Companies—F 4.....	2 00 per 100.....	Hayden Printing Co.
Demands, General Office—F 5.....	2 55 per 600.....	James H. Barry.
Permits for Burning Off Paint—F 6.....	1 62 per 1000.....	E. C. Hughes.
Demands, Substitute—F 7.....	2 55 per 600.....	James H. Barry.
Demands, Claims, etc.—F 8.....	3 60 per 1000.....	James H. Barry.
Demands, Labor, Corporation Yard, etc—F 9....	2 75 per 1000.....	Hayden Printing Co.
Charges Against Members—F 10.....	4 95 per 500.....	Frank Eastman & Co.
Meeting Notice—F 11.....	1 25 per 500.....	Commercial Pub. Co.
Appointment Notice—F 12.....	1 25 per 500.....	Commercial Pub. Co.
Transfer Notice—F 13.....	1 25 per 500.....	Commercial Pub. Co.
Subpoenas—F 14.....	2 35 per 1000.....	James H. Barry.
Company Reports to Battalion Chief—F 15.....	3 25 per 1000.....	Hayden Printing Co.
Report of Battalion Chief—F 16.....	2 28 per 1000.....	E. C. Hughes.
Letter Heads, Battalion Chief—F 17.....	2 38 per 1000.....	E. C. Hughes.
Envelopes—F 18.....	1 70 per 1000.....	E. C. Hughes.
Envelopes—F 19.....	3 35 per 1000.....	Phillips, Smyth & V. O.
Letter Heads—F 20.....	8 00 per 1000.....	Frank Eastman & Co.
Letter Heads—F 21.....	8 00 per 1000.....	Phillips, Smyth & V. O.
Requisitions Monthly Supplies—F 22.....	3 90 per 1000.....	James H. Barry.
Time Cards—F 23.....	94 per 1000.....	Valleau & Peterson.
Bill Heads—F 24.....	2 90 per 1000.....	E. C. Hughes.
Report of Clerk, Corporation Yard—F 25.....	2 55 per 500.....	Commercial Pub. Co.
Report of Deliveries, Corporation Yard—F 26.	2 95 per 500.....	E. C. Hughes.
Contract and Bond—F 27.....	19 50 per 1000.....	Commercial Pub. Co.
Envelopes for Proposals—F 28.....	4 00 per 1000.....	Hayden Printing Co.
Letter Heads, Corporation Yard—F 29.....	2 65 per 1000.....	Commercial Pub. Co.
Receipts for Horse Shoeing—F 30.....	1 28 per 1000.....	E. C. Hughes.
Substitute, Put to Work—F 31.....	1 28 per 1000.....	E. C. Hughes.

PRINTING—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Bill Heads—F 32.....	2 25 per 1000.....	Commercial Pub. Co.
Report of Leave of Absence Without Pay— F 33.....	3 75 per 1000.....	Commercial Pub. Co.
Register Blanks—F 34.....	2 88 per 1000.....	E. C. Hughes.
Cost Sheets—F 35.....	2 98 per 1000.....	E. C. Hughes.
JUSTICES' COURTS—		
Abstract of Judgment—F 1.....	3 85 per 1000.....	James H. Barry.
Writ of Attachment—F 2.....	3 00 per 1000.....	Valleau & Peterson.
Affidavit for Order of Examination of Debtor— F 3.....	3 35 per 1000.....	James H. Barry.
Order of Examination—F 52.....	3 35 per 1000.....	Hayden Printing Co.
Affidavit and Order of Examination, 3d Party F 4.....	3 85 per 1000.....	James H. Barry.
Affidavit for Order of Arrest—F 5.....	2 74 per 500.....	E. C. Hughes.
Undertaking on Order of Arrest—F 6.....	2 74 per 500.....	E. C. Hughes.
Affidavit on Claim of Delivery—F 7.....	2 74 per 500.....	E. C. Hughes.
Undertaking on Claim and Delivery—F 8.....	2 85 per 500.....	James H. Barry.
Affidavit and Undertaking for Attachment—F 9.	2 00 per 1000.....	Hayden Printing Co.
Clerk's Certificate—F 10.....	2 05 per 1000.....	E. C. Hughes.
Default Judgment—F 11.....	3 00 per 1000.....	Valleau & Peterson.
Trial Judgment—F 12.....	3 20 per 1000.....	Commercial Pub. Co.
Default, Unlawful Detainer—F 13.....	3 18 per 1000.....	E. C. Hughes.
Trial, Unlawful Detainer—F 14.....	3 18 per 1000.....	E. C. Hughes.
Default Replevin Judgment—F 15.....	3 18 per 1000.....	E. C. Hughes.
Trial Judgment Replevin—F 16.....	1 97 per 500.....	E. C. Hughes.
Writ of Execution—F 17.....	2 25 per 1000.....	F. N. Stewart.
Order for Execution—F 18.....	1 60 per 1000.....	Valleau & Peterson.
Cost Bill—F 19.....	3 18 per 1000.....	E. C. Hughes.

PRINTING—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Notice of Appeal—F 20.....	3 18 per 1000.....	E. C. Hughes.
Undertaking on Appeal, Money—F 2.....	3 18 per 1000.....	E. C. Hughes.
Undertaking on Appeal, Real Property—F 22.....	2 85 per 500.....	E. C. Hughes.
Order of Examination, Debtor—F 23.....	2 75 per 1000.....	F. N. Stewart.
Order Setting Cause for Trial—F 25.....	1 37 per 1000.....	E. C. Hughes.
Order for Summons to Issue—F 26.....	1 18 per 1000.....	E. C. Hughes.
Order for Attachment to Issue—F 27.....	1 07 per 1000.....	E. C. Hughes.
Memo. of Oral Answer—F 28.....	1 98 per 1000.....	E. C. Hughes.
Replevin Execution—F 29.....	3 48 per 1000.....	E. C. Hughes.
Writ of Possession—F 30.....	3 23 per 1000.....	E. C. Hughes.
Order Reassigning Cause—F 31.....	1 78 per 1000.....	E. C. Hughes.
Subpoena—F 32.....	3 20 per 1000.....	Hayden Printing Co.
Summons, General—F 33.....	2 85 per 1000.....	E. C. Hughes.
Summons, Unlawful Detainer—F 34.....	3 25 per 1000.....	Hayden Printing Co.
Transcript of Docket—F 35.....	3 22 per 1000.....	E. C. Hughes.
Venire of Jury—F 36.....	1 90 per 250.....	Hayden Printing Co.
Entry of continuance—F 37.....	1 42 per 1000.....	E. C. Hughes.
Salary Demands, Justices'—F 39.....	1 70 per 100.....	Commercial Pub. Co.
Salary Demands, Clerks'—F 40.....	1 70 per 100.....	Commercial Pub. Co.
Order of Sale and Decree—F 42.....	2 08 per 250.....	E. C. Hughes.
Order Overruling Demurrer—F 43.....	3 75 per 1000.....	Hayden Printing Co.
Clerk's Affidavit Monthly Report—F 44.....	1 18 per 75.....	E. C. Hughes.
Letter Heads, Justices'—F 45.....	2 60 per 1000.....	Commercial Pub. Co.
Envelopes, Justices'—F 46.....	2 45 per 1000.....	Hayden Printing Co.
Letter Heads, Clerk's Office—F 47.....	2 28 per 1000.....	E. C. Hughes.
Envelopes, Clerk's Office—F 48.....	1 90 per 1000.....	Commercial Pub. Co.
Envelopes' Clerk's Office—F 49.....	1 50 per 500.....	Hayden Printing Co.
Backings for Papers—F 51.....	6 10 per 1000.....	Hayden Printing Co.

PRINTING—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Postal Cards for Justices—F 43.....	11 10 per 1000.....	Phillips, Smyth & V. O.
LAW LIBRARY—		
Envelopes—F 1.....	1 90 per 1000.....	Hayden Printing Co.
Envelopes—F 2.....	2 75 per 1000.....	Hayden Printing Co.
Receipts for Books—F 3.....	1 18 per 1000.....	E. C. Hughes.
Letter Heads—F 4.....	2 90 per 1000.....	Frank Eastman & Co.
Postal Cards—F 5.....	11 10 per 1000.....	Phillips, Smyth & V. O.
Legal Backs—F 6.....	5 80 per 1000.....	Hayden Printing Co.
Notice to Return Books—F 7.....	1 50 per 1000.....	E. C. Hughes.
Demands, Salaries—F 8.....	1 70 per 100.....	Commercial Pub. Co.
POLICE DEPARTMENT—		
Sergeant's Report, Park Police—F 1.....	2 75 per 250.....	Commercial Pub. Co.
Sergeant's Report, Harbor—F 2.....	2 70 per 250.....	Commercial Pub. Co.
Letter Heads, Chief of Police—F 4.....	2 00 per 1000.....	Commercial Pub. Co.
Memo., Chief of Police—F 5.....	1 27 per 1000.....	E. C. Hughes.
Certificates, Identification—F 6.....	79 per 1000.....	Valleau & Peterson.
Police Court Orders, Delivery of Property—		
F 7.....	3 00 per 1000.....	E. C. Hughes.
Superior Court Orders, Delivery of Property—		
F 8.....	3 00 per 1000.....	E. C. Hughes.
Letter Heads, Chief of Police—F 9.....	2 33 per 1000.....	E. C. Hughes.
Memo. Heads, Chief of Police—F 10.....	1 69 per 1000.....	Phillips, Smyth & V. O.
Record of Arrest—F 11.....	5 75 per 1000.....	F. N. Stewart.
Reports from Patrol Boxes—F 12.....	5 75 per 1000.....	F. N. Stewart.
Reports, Patrol Wagon Service—F 13.....	3 95 per 100.....	E. C. Hughes.
Demands, Pension Fund—F 14.....	1 27 per 50.....	E. C. Hughes.
Demands, Fines on Officers—F 15.....	1 27 per 50.....	E. C. Hughes.

PRINTING—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Demands, Police Commissioners—F 16.....	1 42 per 200.....	E. C. Hughes.
Demands, Secretary Police Commissioners—		
F 17.....	1 27 per 50.....	E. C. Hughes.
Demands, Chief of Police—F 18.....	1 27 per 50.....	E. C. Hughes.
Demands, Captain of Detectives—F 19.....	1 27 per 50.....	E. C. Hughes.
Demands, Captain of Police—F 20.....	1 34 per 100.....	E. C. Hughes.
Demands, Clerk, Chief of Police—F 21.....	1 27 per 50.....	E. C. Hughes.
Demands, Property Clerk—F 22.....	1 27 per 50.....	E. C. Hughes.
Demands, Lieutenant of Police—F 23.....	1 42 per 200.....	E. C. Hughes.
Demands, Detective Sergeant—F 24.....	1 63 per 400.....	E. C. Hughes.
Demands, Sergeant of Police—F 25.....	2 28 per 800.....	E. C. Hughes.
Demands, Police Surgeon—F 26.....	1 27 per 50.....	E. C. Hughes.
Demands, Corporal of Police—F 27.....	1 42 per 200.....	E. C. Hughes.
Demands, Police Officer—F 28.....	2 05 per 1000.....	E. C. Hughes.
Report, Detective Sergeant—F 29.....	1 22 per 1000.....	E. C. Hughes.
Report, City Prison, Daily—F 30.....	4 17 per 1000.....	E. C. Hughes.
Permit to Visit City Prison—F 31.....	1 22 per 1000.....	E. C. Hughes.
Receipt for Prisoners (en route)—F 32.....	1 60 per 500.....	E. C. Hughes.
Discharge Blanks—F 33.....	1 45 per 1000.....	E. C. Hughes.
Delivering to Custody—F 34.....	1 13 per 500.....	E. C. Hughes.
Application Permit, Liquor—F 35.....	1 24 per 1000.....	E. C. Hughes.
Application Permit, Peddler, etc—F 36.....	1 27 per 1000.....	E. C. Hughes.
Report on Saloon—F 37.....	1 49 per 1000.....	Valleau & Peterson.
List of Permits—F 38.....	2 28 per 250.....	E. C. Hughes.
Postal Cards, Grant Consent for Liquor Li-		
cense—F 39.....	11 10 per 1000.....	Phillips, Smyth & V. O.
Postal Cards, Refuse Consent for Liquor Li-		
cense—F 40.....	5 99 per 500.....	Phillips, Smyth & V. O.

PRINTING—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Permit to Carry Concealed Weapon—F 41.....	2 15 per 1000.....	Frank Eastman & Co.
Application to Carry Concealed Weapon—F 42.	1 58 per 1000.....	E. C. Hughes.
Application, Appointment as Special Officer—		
F 43.....	2 50 per 500.....	Hayden Printing Co.
Appointment as Special Officer—F 44.....	2 30 per 500.....	E. C. Hughes.
Notice of Meeting of Commissioners—F 45 ...	1 15 per 300.....	Hayden Printing Co.
Charge Against officer—F 46.....	3 70 per 500.....	James H. Barry.
Subpoena—F 47.....	2 30 per 1000.....	E. C. Hughes.
Letter Heads, Board of Police Commissioners—		
F 48.....	2 64 per 1000.....	E. C. Hughes.
Report of Chief of Police—F 49.....	1 50 per 1000.....	Hayden Printing Co.
Captain's Watch Report—F 50.....	6 95 per 100.....	Frank Eastman & Co.
Sergeant's Report—F 51.....	2 50 per 250.....	James H. Barry.
Police Rolls, Numerical—F 52.....	18 20 per 50.....	Frank Eastman & Co.
Police Rolls, Alphabetical—F 53.....	7 75 per 50.....	F. N. Stewart.
Detinue Reports—F 54.....	5 82 per 1000.....	E. C. Hughes.
Prison Keeper's Report—F 55.....	2 75 per 1000.....	F. N. Stewart.
Application Retail Liquor Dealer, etc—F 56....	1 63 per 1000.....	E. C. Hughes.
Affidavit Blanks—F 57.....	4 10 per 500.....	Hayden Printing Co.
Report on Peddler, Junk Dealer, etc—F 58.....	1 60 per 1000.....	Valleau & Peterson.
Report on Gambling—F 59.....	2 00 per 1000.....	Hayden Printing Co.
½ lb. Paper Bags—F 60.....	3 10 per 1000.....	Hayden Printing Co.
1 lb. Paper Bags—F 61.....	3 55 per 1000.....	Hayden Printing Co.
2 lb. Paper Bags—F 62.....	3 75 per 1000.....	Hayden Printing Co.
Application to Receive Reward—F 63.....	2 28 per 500.....	E. C. Hughes.
Daily Report, Detinue Book—F 64.....	2 92 per 1000.....	Valleau & Peterson.
Postals, printed, Applications to Carry Concealed Weapon—F 65.....	5 99 per 500.....	Phillips, Smyth & V. O.

PRINTING—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Subpoenas—F 66.....	97 per 1000.....	E. C. Hughes.
Photograph Blanks—F 67.....	2 14 per 1000.....	E. C. Hughes.
Shipping Tags—F 68.....	6 00 per 1000.....	Hayden Printing Co.
Reports on Restaurant Retail Liquor Dealers— F 69.....	3 90 per 1000.....	Commercial Pub. Co.
Calendar Meeting, Board Police Commission— F 70.....	2 78 per 500.....	E. C. Hughes.
Postals, Letters Received—F 71.....	11 00 per 1000.....	Hayden Printing Co.
Reports, Sick or Disabled Horses—F 72.....	3 48 per 500.....	E. C. Hughes.
Envelopes—F 73.....	1 80 per 1000.....	E. C. Hughes.
Envelopes—F 74.....	2 75 per 1000.....	Hayden Printing Co.
Memo. Heads, Police Commission—F 75.....	1 75 per 1000.....	Valleau & Peterson.
RECORDER'S OFFICE—		
Memo. Heads—F 1.....	4 85 per 1000.....	Commercial Pub. Co.
Letter Heads—F 2.....	5 95 per 1000.....	Commercial Pub. Co.
Copyist's Reports—F 3.....	1 44 per 1000.....	Valleau & Peterson.
Envelopes—F 4.....	1 82 per 1000.....	E. C. Hughes.
Envelopes—F 5.....	2 75 per 1000.....	Hayden Printing Co.
Certificate of Birth—F 6.....	31 00 per 1000.....	Commercial Pub. Co.
Certificate of Death—F 7.....	31 00 per 1000.....	Commercial Pub. Co.
Certificate Covers—F 8.....	3 55 per 500.....	Hayden Printing Co.
Reports of Instruments Filed—F 9.....	3 92 per 500.....	E. C. Hughes.
Certificates—F 10.....	1 22 per 500.....	E. C. Hughes.
SHERIFF'S OFFICE—		
Return on Attachment, Pers. Prop—F 1.....	3 05 per 1000.....	E. C. Hughes.
Return on Attachment, Single Garnishment— F 2.....	3 48 per 1000.....	Phillips, Smyth & V. O.

PRINTING—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Return on Attachment, Double Garnishment— F 3.....	3 60 per 1000.....	Hayden Printing Co.
Return on Attachment, R. E. Posted—F 4.....	1 52 per 250.....	E. C. Hughes.
Return on Attachment, R. E. Third Person— F 5.....	1 52 per 250.....	E. C. Hughes.
Return on Attachment, R. E. Left with Occu- pant—F 6.....	1 52 per 250.....	E. C. Hughes.
Return on Attachment, Unable to Find Person —F 7.....	72 per 100.....	E. C. Hughes.
Return on Attachment, Stock, Double—F 8....	3 62 per 1000.....	E. C. Hughes.
Return on Attachment, Unable to Find Prop- erty—F 9.....	1 30 per 500.....	Phillips, Smyth & V. O.
Return on Execution, Pers. Prop—F 10.....	3 15 per 1000.....	E. C. Hughes.
Return on Execution, R. E. Posted—F 13.....	1 30 per 250.....	E. C. Hughes.
Return on Execution R. E., Third Party—F 14	1 30 per 250.....	E. C. Hughes.
Return on Execution, R. E. Left with Occu- pant—F 15.....	1 30 per 250.....	E. C. Hughes.
Return on Execution, R. E. Sold—F 16.....	1 20 per 250.....	E. C. Hughes.
Return on Execution, Pers. Prop. Sold—F 17....	3 27 per 1000.....	E. C. Hughes.
Return on Writ of Possession—F 21.....	1 28 per 500.....	E. C. Hughes.
Return on Writ of Possession, Unexecuted— F 22.....	1 35 per 250.....	E. C. Hughes.
Return of Writ of Possession, Time Having Expired—F 23.....	82 per 100.....	E. C. Hughes.
Return on Summons, Single—F 24.....	1 62 per 1000.....	E. C. Hughes.
Return on Summons, Unable—F 26.....	1 62 per 1000.....	E. C. Hughes.
Return on Subpoena, Unable—F 27.....	1 62 per 1000.....	E. C. Hughes.
Return on Subpoena, Served—F 28.....	1 62 per 1000.....	E. C. Hughes.

PRINTING—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Return on Order Served—F 29.....	1 62 per 1000.....	E. C. Hughes.
Return on Orders, Unable—F 30.....	1 62 per 1000.....	E. C. Hughes.
Return on Habeas Corpus, Sheriff—F 31.....	1 52 per 500.....	E. C. Hughes.
Return on Habeas Corpus, Third Party—F 32.	1 47 per 500.....	E. C. Hughes.
Return on Claim and Delivery, Property Found —F 33.....	1 62 per 500.....	E. C. Hughes.
Return on Claim and Delivery, Unable to Find Property—F 34.....	1 30 per 500.....	E. C. Hughes.
Notices, Real Estate, ruled—F 37.....	2 65 per 1000.....	E. C. Hughes.
Instructions, Real Estate—F 38.....	3 10 per 1000.....	E. C. Hughes.
Release, R. E. by Sheriff—F 39.....	2 42 per 500.....	E. C. Hughes.
Release, Garnishment by Sheriff—F 40.....	1 52 per 1000.....	E. C. Hughes.
Release, Pers. Prop. by Sheriff—F 41.....	1 52 per 1000.....	E. C. Hughes.
Instructions by Attorney to Release Pers. Prop—F 42.....	1 59 per 1000.....	E. C. Hughes.
Return on Order of Arrest, Served—F 44.....	1 99 per 1000.....	Phillips, Smyth & V. O.
Notice of Claim, Third Person—F 45.....	2 10 per 1000.....	E. C. Hughes.
Instruction to Garnishee—F 46.....	3 00 per 1000.....	E. C. Hughes.
Instruction to Attach Pers. Prop—F 47.....	3 00 per 1000.....	E. C. Hughes.
Notice of Garnishment, S. P. Co—F 48.....	1 90 per 1000.....	E. C. Hughes.
Notice of Sale, Pers. Prop., Superior Court— F 49.....	2 00 per 1000.....	E. C. Hughes.
Notice of Sale, Pers. Prop., Justice Court— F 50.....	2 75 per 1000.....	E. C. Hughes.
Notice of Sale, Pers. Prop., Order of Sale—F 51.	1 52 per 500.....	E. C. Hughes.
Notice of Postponement of Sale, Superior Court—F 52.....	1 19 per 1000.....	Phillips, Smyth & V. O.
Notice of Postponement of Sale, Justice Court— F 53.....	1 19 per 1000.....	Phillips, Smyth & V. O.

BLANKBOOKS, STATIONERY AND PRINTED FORMS.

PRINTING—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Order to Return Writ Unexecuted—F 54.....	1 10 per 500.....	E. C. Hughes.
Assistance Blanks, Insane—F 55.....	1 82 per 1000.....	E. C. Hughes.
Assistance Blanks, Prisoners—F 56.....	1 99 per 1000.....	Phillips, Smyth & V. O.
Indemnity Bond, Claim and Delivery—F 59.	3 82 per 250.....	E. C. Hughes.
Indemnity Bond, on Attachment—F 60.....	7 00 per 1000.....	E. C. Hughes.
Indemnity Bond, on Execution—F 61.....	7 10 per 1000.....	E. C. Hughes.
Bond on Release Attachment—F 62.....	3 85 per 1000.....	James H. Barry.
Notice of Attachment, Stock, Single—F 64.	1 62 per 1000.....	E. C. Hughes.
Affidavit, Surety Qualification, ruled—F 65.....	2 05 per 500.....	E. C. Hughes.
Notice to Surety of Suit—F 66.....	1 79 per 500.....	E. C. Hughes.
Return on Subpoenas to Jurors, Served, ruled— F 67.....	3 20 per 1000.....	Valleau & Peterson.
Return on Subpoenas to Jurors, Left at Ad- dress—F 68.....	3 20 per 1000.....	Valleau & Peterson.
Return on Subpoenas to Jurors, Unable to Find—F 69.....	3 20 per 1000.....	Valleau & Peterson.
Deputy's Return on Jurors,—F 70.....	3 52 per 1000.....	E. C. Hughes.
Envelopes—F 71.....	1 72 per 1000.....	E. C. Hughes.
Envelopes—F 72.....	2 75 per 1000.....	Hayden Printing Co
Bill Heads—F 73.....	2 20 per 500.....	Valleau & Peterson.
Postal Cards, printed—F 74.....	5 99 per 500.....	Phillips, Smyth & V. O.
Postal Cards, Notice to Defaulting Juror— F 75.....	11 10 per 1000.....	Phillips, Smyth & V. O.
Postal Cards, Notice to Report for Duty—F 76.	11 10 per 1000.....	Phillips, Smyth & V. O.
Order on Bookkeeper, Transp. of Insane—F 77.	1 18 per 1000.....	E. C. Hughes.
Order to Visit Jail—F 78.....	1 22 per 1000.....	E. C. Hughes.
Order on Bookkeeper, Transp. of Prisoners— F 79.....	1 22 per 1000.....	E. C. Hughes.

PRINTING—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Receipt for Assistance Rendered—F 80.....	1 08 per 1000.....	E. C. Hughes.
Letter Heads—F 81.....	5 45 per 1000.....	Commercial Pub. Co.
Memo. Heads—F 82.....	4 05 per 1000.....	Commercial Pub. Co.
Certificate Sale R. E., Superior Court—F 83.	2 78 per 250.....	E. C. Hughes.
Certificate Sale Pers. Prop., Superior Court— F 84.....	1 60 per 250.....	E. C. Hughes.
Certificate Sale Pers. Prop., Justices' Court— F 85.....	1 60 per 250.....	E. C. Hughes.
Certificate Sale R. E., Justices' Court—F 86	1 87 per 250.....	E. C. Hughes.
Certificate Sale on Foreclosure—F 87.....	2 80 per 250.....	E. C. Hughes.
Return on Execution, Unexecuted—F 91.....	1 35 per 1000.....	Phillips, Smyth & V. O.
Return on Attachment, Unexecuted—F 92.....	1 15 per 500.....	Phillips, Smyth & V. O.
Return on Execution, Paid by Third Party— F 93.....	2 59 per 1000.....	E. C. Hughes.
Notice, Attachment, Stock—F 94.....	1 99 per 1000.....	Phillips, Smyth & V. O.
Notice, Writ of Possession to Occupant—F 95.	2 38 per 1000.....	E. C. Hughes.
Order to Discharge from Custody—F 100.....	1 18 per 250.....	E. C. Hughes.
Notice to Serve as Juror—F 101.....	2 10 per 1000.....	E. C. Hughes.
Monthly Reports—F 102.....	3 15 per 250.....	E. C. Hughes.
Jail Statistics—F 103.....	3 95 per 250.....	E. C. Hughes
Jail Statistics—F 104.....	1 80 per 100.....	E. C. Hughes.
Order to Release Property—105.....	2 30 per 1000.....	Phillips, Smyth & V. O.
Return on Garnishment, S. P. Co—107.....	1 99 per 1000.....	Phillips, Smyth & V. O.
Statement of Mileage—F 109.....	3 48 per 250.....	E. C. Hughes.
Statement of Persons Employed—F 110.....	7 10 per 1000.....	E. C. Hughes.
Statement to Auditor—F 111.....	6 72 per 1000.....	E. C. Hughes.
Statement to Treasurer—F 112.....	2 00 per 500.....	E. C. Hughes.
Salary Demands, Deputy—F 114.....	3 00 per 1000.....	James H. Barry.

PRINTING—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Salary Demands, Keeper—115.....	3 20 per 1000.....	James H. Barry.
TAX COLLECTOR'S OFFICE—		
Real Estate Bills—F 18.....	3 67 per 1000.....	E. C. Hughes.
P. P. and R. E. Bills—F 19.....	3 67 per 1000.....	E. C. Hughes.
Mortgage Bills—F 20.....	3 67 per 1000.....	E. C. Hughes.
Pers. Prop. Bills—F 21.....	2 50 per 1000.....	E. C. Hughes.
Settlement Sheets—F 22.....	3 00 per 1000.....	E. C. Hughes.
Military Roll—F 23.....	9 85 per 1000.....	E. C. Hughes.
Delinquent Sheets—F 24.....	7 32 per 1000.....	E. C. Hughes.
Delinquent Sheets, Real Estate, for Auditor— F 25.....	12 55 per 1000.....	Phillips, Smyth & V. O.
Delinquent Sheets, Pers. Prop., for Auditor— F 26.....	11 65 per 1000.....	Frank Eastman & Co.
License Notice—F 27.....	1 05 per 1000.....	E. C. Hughes.
Wagon Notice—F 28.....	1 60 per 1000.....	Valleau & Peterson.
Peremptory License Notice—F 29.....	2 62 per 1000.....	E. C. Hughes.
Reports to Police Commissioners—F 30.....	3 80 per 500.....	Frank Eastman & Co.
Letterheads—F 31.....	2 70 per 500.....	Commercial Pub. Co.
Envelopes for Bills—F 32.....	11 50 per 1000.....	Hayden Printing Co.
Trial Balance Sheets—F 33.....	19 95 per 500.....	Commercial Pub. Co.
Envelopes—F 34.....	3 50 per 1000.....	Hayden Printing Co.
Envelopes—F 35.....	2 00 per 1000.....	Hayden Printing Co.
Note Heads—F 36.....	1 90 per 1000.....	Frank Eastman & Co.
Demands, Salary—F 37.....	3 35 per 1000.....	Phillips, Smyth & V. O.
Note Heads, F 38.....	1 48 per 1000.....	E. C. Hughes.
Note Heads—F 39.....	1 48 per 1000.....	E. C. Hughes.
2d Installment R. E. Bills—F 40.....	3 80 per 1000.....	E. C. Hughes.
Card Indexes to Volumes—F 41.....	2 60 per 25.....	E. C. Hughes.

PRINTING—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Card Indexes to Homesteads, etc.—F 42.....	4 90 per 25.....	Phillips, Smyth & V. O.
Certificates—F 43.....	1 30 per 500.....	Hayden Printing Co.
2d Installment Mortgage Bills—F 44.....	3 80 per 1000.....	E. C. Hughes.
Tag Assorters' Report—F 45.....	9 00 per 1000.....	Phillips, Smyth & V. O.
Tax Bill Lists—F 46.....	2 45 per 500.....	Commercial Pub. Co.
Sheets for above—F 47.....	3 20 per 1000.....	E. C. Hughes.
DELINQUENT TAX COLLECTOR—		
Tax Complaint—F 1.....	2 27 per 1000.....	E. C. Hughes.
Copy Summons and Complaint—F 2.....	4 82 per 1000.....	E. C. Hughes.
Original Summons—F 3.....	2 29 per 1000.....	E. C. Hughes.
Affidavit of Examination—F 4.....	3 99 per 1000.....	James H. Barry.
Judgment—F 14.....	3 00 per 1000.....	E. C. Hughes.
Execution—F 5.....	2 77 per 500.....	E. C. Hughes.
Copy Summons and Complaint—F 6.....	8 59 per 500.....	E. C. Hughes.
Envelopes—F 17.....	1 77 per 1000.....	E. C. Hughes.
Original Complaint, Poll Tax—F 7.....	3 20 per 1000.....	E. C. Hughes.
Original Summons Poll Tax—F 8.....	3 20 per 1000.....	E. C. Hughes.
Copy Summons and Complaint, Poll Tax—F 9.	3 35 per 1000.....	James H. Barry.
Return of Summons, Poll Tax—F 10.....	3 75 per 1000.....	F. N. Stewart.
Last Notice Before Judgment and Execution—		
F 11.....	1 95 per 1000.....	E. C. Hughes.
Statement P. P. Taxes—F 12.....	2 25 per 500.....	Hayden Printing Co.
Special Blanks—F 13.....	3 00 per 100.....	E. C. Hughes.
Monthly Reports—F 15.....	4 80 per 500.....	Phillips, Smyth & V. O.
Letter Heads—F 16.....	2 50 per 1000.....	Hayden Printing Co.
TREASURER'S OFFICE—		
Statement Regular Funds—F 1.....	2 45 per 1000.....	Phillips, Smyth & V. O.
Statement Special Funds—F 2.....	2 45 per 1000.....	Phillips, Smyth & V. O.

PRINTING--CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Notice Collateral Inheritance Tax—F 3.....	1 92 per 1000.....	E. C. Hughes.
Deposit Tags—F 4.....	1 39 per 1000.....	E. C. Hughes.
Tags for Deposits—F 5.....	4 50 per 1000..	Hayden Printing Co.
Receiving Tellers' Tags—F 6.....	2 27 per 1000.....	E. C. Hughes.
Cash Statements—F 7.....	2 27 per 1000.....	E. C. Hughes.
Blanks for Warrants Received—F 16.....	3 85 per 1000.....	Commercial Pub. Co.
Envelopes, Linen—F 8.....	2 75 per 1000.....	Hayden Printing Co.
Envelopes—F 9.....	3 00 per 1000.....	Hayden Printing Co.
Envelopes—F 10.....	1 00 per 250.....	Hayden Printing Co.
Letter Heads, lithographed—F 11.....	7 10 per 1000.....	Commercial Pub. Co.
Packet Heads, lithographed—F 12.....	5 75 per 1000.....	Commercial Pub. Co.
Blanks Receiving Teller, Daily Receipts—F 13.	5 70 per 500.....	James H. Barry.
Salary Demands, Treasurer—F 14.....	1 70 per 100.....	Commercial Pub. Co.
Salary Demands, Deputy—F 15.....	2 20 per 250.....	James H. Barry.
SUPERIOR COURTS—		
Letterheads, Noteheads and Envelopes for Departments of Superior Court.		
Envelopes, lithographed, Depts. 1 and 10—F 1.	3 85 per 500.....	Commercial Pub. Co.
Envelopes, printed, various Depts. changes in name and Dept—F 2.....	1 90 per 500.....	Hayden Printing Co.
Envelopes, Dept. 12—F 3.....	1 90 per 1000.....	Hayden Printing Co.
Envelopes, printed, various Depts., changes in name and Dept—F 4.....	1 65 per 500.....	E. C. Hughes.
Letter Heads, lithographed, 4 Depts., changes in name of Judges and Depts—F 5.....	6 15 per 1000.....	Commercial Pub. Co.
Letter Heads, lithographed, 4 Depts., changes in name of Judges and Depts., pads of 100—F 6.....	6 15 per 1000.....	Commercial Pub. Co.

PRINTING—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Letter Heads, printed, 4 Depts—F 7.....	2 95 per 1000.....	Valleau & Peterson.
Note Heads—F 8.....	1 82 per 1000.....	Valleau & Peterson.
Note Heads—F 9.....	1 82 per 1000.....	Valleau & Peterson.
Note Heads—F 10.....	1 82 per 1000.....	Valleau & Peterson.
Letter Heads, Secretary Superior Court—F 11.	2 95 per 1000.....	Valleau & Peterson.
Postal Cards, printed, Dept. 2—F 12.....	5 75 per 500.....	Hayden Printing Co.
Postal Cards, printed, Dept. 6—F 13.....	11 25 per 1000.....	Hayden Printing Co.
Postal Cards, printed, Dept. 11—F 14.....	11 25 per 1000.....	Hayden Printing Co.
Postal Cards, Printed, Dept. 12—F 15.....	11 25 per 1000.....	E. C. Hughes.
Summons, Jury Dept. 11—F 16.....	1 99 per 1000.....	Phillips, Smyth & V. O.
Envelopes, 2c. Stamped, Dept. 9—F 17.....	11 50 per 500.....	Hayden Printing Co.
Envelopes, printed, Dept. 9—F 18.....	2 75 per 100.....	Hayden Printing Co.
Addressed 2c. Stamped Envelopes, Dept. 9— F 19.....	2 75 per 100.....	Hayden Printing Co.
Court Calendars, Dept. 9—F 20.....	8 75 per 1000.....	Hayden Printing Co.
Minute Book Orders—F 21.....	3 10 per 1000.....	James H. Barry.
Minute Book Orders, Depts. 9 and 10—F 22.	4 25 per 1000.....	Frank Eastman & Co.
Minute Book Orders, Depts. 9 and 10—F 23.	3 25 per 1000.....	Frank Eastman & Co.
GRAND JURY—		
Letter Heads—F 1.....	3 10 per 1000.....	E. C. Hughes.
Envelopes—F 2.....	2 00 per 500.....	E. C. Hughes.
Postal Cards—F 3.....	5 99 per 500.....	Phillips, Smyth & V. O.
FIRE MARSHAL—		
Envelopes—F 1.....	1 90 per 1000.....	Commercial Pub. Co.
Envelopes—F 2.....	2 00 per 1000.....	Hayden Printing Co.

STATIONERY—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
PAPER.		
Legal Cap, 16 lbs. to ream.....	\$2 64 per ream....	Cunningham, C. & W.
Legal Cap, 16 lbs. to ream, numbered lines....	2 99 per ream....	Payot, Upham & Co.
Foolscap, 16 lbs. to ream.....	2 64 per ream....	Cunningham, C. & W.
Journal Cap, 18 lbs. to ream.....	3 06 per ream....	Cunningham, C. & W.
Ledger Cap, 18 lbs. to ream.....	3 06 per ream....	Cunningham, C. & W.
Trial Balance Cap, 18 lbs. to ream.....	3 06 per ream....	Cunningham, C. & W.
Note, Linen Marcus Ward No. 210 Commercial or equal.....	3 75 per ream....	H. S. Crocker Co.
Note, 6 lbs. to ream.....	96 per ream....	Payot, Upham & Co.
Legal Ruled, full cap size, 18 lbs. to ream, special ruling, County Clerk's Office.....	3 75 per ream....	Cunningham, C. & W.
Legal Ruled, full cap size, whole or half sheets, 18 lbs. to ream, Pure Linen Stock or equal in quality.....	3 68 per ream....	Cunningham, C. & W.
Legal Ruled, full cap size, half sheets, 14 lbs. to ream, No. 1 Chemical Manila, ruled on one side, 1000 sheets to ream.....	1 27 per ream....	Payot, Upham & Co.
Plain Linen Paper, 8½x11, Pure Linen Stock or equal.....	24 per lb.....	H. S. Crocker Co.
Ruled Linen Paper, 8½x11, Pure Linen Stock or equal.....	24 per lb.....	H. S. Crocker Co.
Plain Linen Paper, 5½x8½, Pure Linen Stock or equal.....	24 per lb.....	H. S. Crocker Co.
Ruled Linen Paper, 5½x8½, Pure Linen Stock or equal.....	24 per lb.....	H. S. Crocker Co.
Wrapping, assorted sizes and weights, No. 1 Manila, Sterling or equal in quality.....	04½ per lb.....	Union Pulp & P. Co.

STATIONERY—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Wrapping, assorted sizes and weights, No. 1 Manila, Sterling or equal in quality.....	04½ per lb.....	Union Pulp & P. Co.
Blotting, 19x24, 140 lbs. to ream, Parker's Commercial or equal in quality.....	14 00 per ream....	H. S. Crocker Co.
Blotting, No. 1 enamelled, 120 lbs. to ream....	18 00 per ream....	H. S. Crocker Co.
Blotting, 19x24, 140 lbs. to ream, Parker's Treasury	18 50 per ream....	Payot, Upham & Co.
Paper Bags, 1 lb., No. 1 Manila.....	75 per M.....	Union Pulp & P. Co.
Carbon, 8x13, Hale's.....	2 25 per 100.....	Cunningham, C. & W.
Carbon, 8x13, Eureka.....	3 75 per 100.....	Cunningham, C. & W.
Carbon, 8x13, Regent.....	4 50 per 100.....	Payot, Upham & Co.
Carbon, 8x13, Silk Spun.....	4 50 per 100.....	Cunningham, C. & W.
Carbon, 8x13, Royal No. 1.....	3 50 per 100.....	H. S. Crocker Co.
Carbon, 8x13, Hano.....	2 25 per 100.....	Le Count Bros.
Carbon, 8x13, Royal Japanese.....	4 00 per 100.....	H. S. Crocker Co.
Carbon, 8x13, Invincible.....	2 50 per 100.....	United T. & S. Co.
Carbon, 8x13, Little's Satin Finish.....	3 25 per 100.....	United T. & S. Co.
Carbon, 8x13, Little's Cobweb.....	3 75 per 100.....	United T. & S. Co.
Carbon, 8x13, Clark's.....	3 40 per 100.....	Payot, Upham & Co.
Carbon, 8x13, Featherweight.....	3 40 per 100.....	Payot, Upham & Co.
Royal Blue Print Paper, 30 inch.....	1 12 per roll.....	Cunningham, C. & W.
Whatman's Double Elephant Drawing, hot or cold pressed, best selected sheets.....	19 96 per 100.....	Payot, Upham & Co.
Drawing, 31x42 inches, mounted, equal in quality to Whatman's Antiquarian, best selected sheets.....	140 00 per 100.....	H. S. Crocker Co.
Crane's Bond Paper, 14x20, No. 21, glazed or unglazed	3 50 per 100.....	Payot, Upham & Co.

STATIONERY—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Mounted Paragon Drawing or equal, 58 inch, heavy, 10 yards each.....	12 00 per roll.....	H. S. Crocker Co.
Mounted Paragon Drawing or equal, thin rough, 58 inch, 10 yards each.....	12 00 per roll.....	H. S. Crocker Co.
Continuous Standard Cross Section, 20 inches wide, 50 yards each.....	15 00 per roll.....	H. S. Crocker Co.
Continuous Standard Profile, plate B, green, 20 inches wide, 50 yards each.....	15 00 per roll.....	H. S. Crocker Co.
Detail Drawing, 42 inch, equal to 24x36-75, extra Manila, rough or smooth surface....	12 per lb.....	H. S. Crocker Co.
Alba Tracing or equal, 54 inch, 44 yards to roll	3 00 per roll.....	H. S. Crocker Co.
Royal Tracing or equal, 54 inches, 44 yards to roll	3 00 per roll.....	H. S. Crocker Co.
Anvil Drawing or equal, 62 inch, No. 60, 10 yards each.....	2 50 per roll.....	H. S. Crocker Co.
Detail Drawing, De Lux heavy, 42 inch, 100 yards to roll.....	15 00 per roll.....	H. S. Crocker Co.
Detail Drawing, Duplex heavy, 42 inch, 100 yards to roll.....	16 50 per roll.....	H. S. Crocker Co.
Tracing Cloth, 38 inches wide, dull back, Standard, 24 yards each.....	8 65 per roll.....	Payot, Upham & Co.
Parchment Drawing Paper, 37 inches wide, 20 yards each.....	3 75 per roll.....	H. S. Crocker Co.
Tracing Cloth, 42 inches wide, dull back, Standard, 24 yards each.....	10 35 per roll.....	Le Count Bros.
Tracing Cloth, 42 inches wide, dull back, Koh I Noor or equal, 24 yards each.....	10 50 per roll.....	H. S. Crocker Co.

STATIONERY—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
TYPEWRITER		
(Laid or Wove, as ordered)—		
Letter Size, Light, Pure Linen Stock, 4 or 104, or equal in quality.....	70 per ream....	United T. & S. Co.
Letter Size, Thin, Pure Linen Stock, 5 or 105, or equal in quality.....	75 per ream....	Payot, Upham & Co.
Letter Size, Medium, Pure Linen Stock, 7 or 107, or equal in quality.....	70 per ream....	United T. & S. Co.
Letter Size, Heavy, Pure Linen Stock, 9 or 109, or equal in quality.....	94 per ream....	Payot, Upham & Co.
Letter Size, Ex. Heavy, Pure Linen Stock, 11 or 111, or equal in quality.....	1 04 per ream....	Payot, Upham & Co.
Legal, Plain, Light, Pure Linen Stock, 5½ or 105½, or equal in quality.....	84 per ream....	United T. & S. Co.
Legal, Plain, Thin, Pure Linen Stock, 6 or 106, or equal in quality.....	89 per ream....	United T. & S. Co.
Legal, Plain, Medium, Pure Linen Stock, 8 or 108, or equal in quality.....	79 per ream....	United T. & S. Co.
Legal, Plain, Heavy, Pure Linen Stock, 11½ or 111½, or equal in quality.....	90 per ream....	Payot, Upham & Co.
Legal, Plain, Ex. Heavy, Pure Linen Stock, 14 or 114, or equal in quality.....	97 per ream....	Payot, Upham & Co.
Legal, Marginal Ruled, Light, Pure Linen Stock, 5½ or 105½, or equal in quality.....	89 per ream....	United T. & S. Co.
Legal, Marginal Ruled, Thin, Pure Linen Stock, 6 or 106, or equal in quality.....	93 per ream....	Payot, Upham & Co.
Legal, Marginal Ruled, Medium, Pure Linen Stock, 8 or 108, or equal in quality.....	84 per ream....	United T. & S. Co.

STATIONERY—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Legal, Marginal Ruled, Heavy, Pure Linen Stock, 11½ or 111½, or equal in quality....	1 13 per ream...	Payot, Upham & Co.
Legal, Marginal Ruled, Ex. Heavy, Pure Linen Stock, 14 or 114, or equal in quality.....	1 40 per ream...	Payot, Upham & Co.
Legal, Marginal Numbered, Light, Pure Linen Stock, 5½ or 105½, or equal in quality.....	1 07 per ream....	Cunningham, C. & W.
Legal, Marginal Numbered, Thin, Pure Linen Stock, 6 or 106, or equal in quality.....	1 14 per ream....	Cunningham, C. & W.
Legal, Marginal Numbered, Medium, Pure Linen Stock, 8 or 108, or equal in quality..	1 26 per ream....	Cunningham, C. & W.
Legal, Marginal Numbered, Heavy, Pure Linen Stock, 11½ or 111½, or equal in quality....	1 65 per ream....	Payot, Upham & Co.
Legal, Marginal Numbered, Ex. Heavy, Pure Linen Stock, 14 or 114, or equal in quality..	1 75 per ream....	Payot, Upham & Co.
Legal, Cobweb, Extra Thin.....	75 per ream....	Cunningham, C. & W.
Manuscript Covers, 8½x15, Assorted Colors, equal to 20x25, 65 Unique Cover.....	35 per 100.....	United T. & S. Co.
WRITING PADS—		
Legal Ruled, No. 1 Chemical Manila, 12-lb. Cap, 80 sheets to pad.....	70 per doz.....	Cunningham, C. & W.
Letter Ruled, No. 1 Chemical Manila, 18-lb. Folio, 80 sheets to pad.....	90 per doz.....	Cunningham, C. & W.
Packet, ruled or plain, No. 1 Chemical Manila, equal to 18-lb. Folio, 80 sheets to pad.....	48 per doz.....	Payot, Upham & Co.
Note, ruled or plain, No. 1 Chemical Manila, 18-lb. Folio, 80 sheets to pad.....	36 per doz.....	Le Count Bros.
Legal Ruling, one or two sides, from 14-lb. No. 1 Chemical Manila Cap, heavy pulp board back, 80 sheets.....	90 per doz.....	Cunningham, C. & W.

STATIONERY—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Scratch Pads, 5x8, 80 leaves, perforated at top. White Newspaper, "Universal" or equal....	25 per doz.....	Le Count Bros.
Scratch Pads, 6x9, 80 leaves, perforated at top. White Newspaper, "Universal" or equal....	30 per doz.....	Payot, Upham & Co.
Scratch Pads, 5x8, 80 leaves, perforated at top. Calendered Book paper, suitable for pen, Empire or equal.....	36 per doz.....	Le Count Bros.
Scratch Pads, 6x9, 80 leaves, perforated at top. Calendered Book paper, suitable for pen, Empire or equal.....	45 per doz.....	Le Count Bros.
Packet Size, ruled or plain, 80 leaves, fine writing paper, equal to 24-lb. Folio, "U. S. Treasury Seal" or equal in quality.....	96 per doz.....	Payot, Upham & Co.
Letter Size, ruled or plain, 80 leaves, fine writing paper, equal to 24-lb. Folio, "U. S. Treasury Seal" or equal in quality.....	1 70 per doz.....	Payot, Upham & Co.
ENVELOPES—		
No. 6, 50 lb. No. 1 Rag, white or colored.....	1 40 per M.....	Le Count Bros.
No. 6½, 50 lb. No. 1 Rag, white or colored....	1 60 per M.....	Cunningham, C. & W.
No. 10, 60 lb. No. 1 Rag, white or colored.....	3 00 per M.....	Cunningham, C. & W.
No. 12, 60 lb. No. 1 Rag, white or colored.....	4 10 per M.....	Payot, Upham & Co.
No. 5, Baronial, No. 1 Linen 24 lb. Folio, Pure Linen Stock or equal.....	3 20 per M.....	Brown & Power.
No. 6, No. 1 Linen, 24 lb. Folio, Pure Linen Stock or equal.....	3 20 per M.....	Brown & Power.
No. 6, 50 lb. No. 1 Manila.....	75 per M.....	H. S. Crocker Co.
No. 10, 50 lb. No. 1 Manila.....	1 75 per M.....	H. S. Crocker Co.
No. 6, 50 lb. Opaque.....	1 45 per M.....	Cunningham, C. & W.

STATIONERY—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
No. 6, cloth lined.....	9 50 per M.....	Brown & Power.
No. 12, cloth lined.....	25 50 per M.....	Le Count Bros.
No. 14, cloth lined.....	23 50 per M.....	Payot, Upham & Co.
Coin, assorted sizes, 50 lb., No. 1 Manilla.....	82 per M.....	Le Count Bros.
Columbian Merchandise Envelopes, No. 45....	6 60 per M.....	Payot, Upham & Co.
Columbian Merchandise Envelopes, No. 65....	9 00 per M.....	Cunningham, C. & W.
Columbian Merchandise Envelopes, No. 70....	9 15 per M.....	Payot, Upham & Co.
Congress Tie, 11x1, Globe.....	03 each.....	Payot, Upham & Co.
Reversible Envelopes, No. 11, Globe.....	4 00 per 100.....	Le Count Bros.
Slide Document Boxes for Pigeon Holes, 12x 5x4—Assessor's Office—heavy stencil board, edges reinforced with tin, ring in front....	30 each.....	Cunningham, C. & W.
Filing Boxes, 10x4x4, with brass knob— Diemer's patent or similar.....	30 each.....	Cunningham, C. & W.
Expansive Envelopes, 5x11, with tape.....	08 per 100.....	Cunningham, C. & W.
Boxes for Original Papers—Board of Sup.—9x 9x4½, heavy stencil board.....	3 50 per doz.....	Cunningham, C. & W.
Document Boxes, 9x5½x4, turned-in end, 24x 40—350 lb. box board.....	30 each.....	Cunningham, C. & W.
Manila Newspaper Wrappers, heavy.....	1 00 per M.....	Brown & Power.
BLANK BOOKS—		
MEMORANDUM BOOKS—		
Cap, 8vo., 48 leaves, sheep bound.....	88 per doz.....	Cunningham, C. & W.
Crown, 8vo., 48 leaves, sheep bound.....	1 03 per doz.....	Payot, Upham & Co.
Crown, 8vo., 96 leaves, sheep bound.....	1 60 per doz.....	Cunningham, C. & W.
Crown, 8vo., 48 leaves, sheep bound, indexed through	1 35 per doz.....	Le Count Bros.

STATIONERY—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Crown, Svo., 96 leaves, sheep bound, indexed through	1 80 per doz.....	Le Count Bros.
Demy, Svo., 48 leaves, sheep bound.....	1 54 per doz.....	Le Count Bros.
Demy, Svo., 96 leaves, sheep bound.....	1 98 per doz.....	Cunningham, C. & W.
Demy, Svo., 48 leaves, sheep bound, indexed through	1 69 per doz.....	Le Count Bros.
Demy, Svo., 96 leaves, sheep bound, indexed through	2 37 per doz.....	Le Count Bros.
Medium, Svo., 48 leaves, sheep bound.....	2 38 per doz.....	Payot, Upham & Co.
Medium, Svo., 96 leaves, sheep bound.....	3 13 per doz.....	Cunningham, C. & W.
Medium, Svo., 48 leaves, sheep bound, indexed through	2 27 per doz.....	Payot, Upham & Co.
Medium, Svo., 96 leaves, sheep bound, indexed through	3 45 per doz.....	Payot, Upham & Co.
Miniature Blanks, demy, Svo., 180 pages, full leather, flexible, No. 258½ or similar.....	35 each.....	Cunningham, C. & W.
Miniature Blanks, medium, Svo., 180 pages, full leather, flexible, No. 258¾ or similar..	53 each.....	Payot, Upham & Co.
SCRAP BOOKS—		
10x12, 96 leaves, Manila Paper, half bound, paper sides.....	70 each.....	Payot, Upham & Co.
10x14, 96 leaves, Manila paper, half bound, paper sides.....	77 each.....	Payot, Upham & Co.
10x12, 96 leaves, Manila paper, half bound, paper sides, paged, indexed in front.....	1 13 each.....	Payot, Upham & Co.
Canvas bound, flat back, 10x16, 200 pages.....	1 13 each.....	Payot, Upham & Co.
Canvas bound, flat back, 10x12, 72 leaves.....	51 each.....	Payot, Upham & Co.

STATIONERY—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Supreme Court Decisions, 7½x10¼, 250 pages, indexed in front, sheep back and corners..	1 05 each.....	Le Count Bros.
Canvas bound, flat back, 12½x18, 350 pages...	2 07 each.....	Payot, Upham & Co.
Mark Twain's, No. 33,128.....	1 75 each.....	Le Count Bros.
Tengwald's Binders. Bidders will state discount from retail list.....	Dis. 10 p. c. Disc't.	Cunningham, C. & W.
Invoice Books, full canvas binding, 11x16, 240 pages, indexed in front, Koch's No. 428 or equal	1 49 each.....	Payot, Upham & Co.
Invoice Books, full canvas binding, 11x06, 350 pages, indexed in front, Koch's No. 426 or equal.....	1 95 each.....	Payot, Upham & Co.
Invoice Books, 13x18, 240 pages, Koch's No. 429½ or equal.....	1 95 each.....	Payot, Upham & Co.
Invoice Book, 13½x18, 800 pages, Koch's No. 431 or equal.....	4 05 each.....	Payot, Upham & Co.
Adhesive Files, 10x12, 250 stubs, No. 15.....	75 each.....	Payot, Upham & Co.
Adhesive Files, 9x13, 250 stubs, No. 17.....	77 each.....	Payot, Upham & Co.
Adhesive Files, 9x15, 250 stubs, No. 19.....	84 each.....	Payot, Upham & Co.
Adhesive Files, 11x15, 250 stubs, No. 21.....	87 each.....	Payot, Upham & Co.
COPYING BOOKS—		
10x12, 500 pages, paged and indexed.....	87 each.....	Le Count Bros.
10x12, 900 pages, paged and indexed.....	1 49 each.....	Payot, Upham & Co.
10x14, 500 pages, paged and indexed.....	97½ each.....	Le Count Bros.
10x14, 700 pages, paged and indexed.....	1 17 each.....	Le Count Bros.
10x12, 500 pages, paged and indexed.....	89 each.....	Payot, Upham & Co.
10x12, 900 pages, paged and indexed.....	1 40 each.....	Payot, Upham & Co.

STATIONERY-- CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
16x12, 500 pages, Japanese fiber copying paper, half bound, cloth sides, paged and indexed.	1 38 each.....	United T. & S. Co.
10x12, 500 pages, Mann's parchment paper, half bound.....	75 each.....	Payot, Upham & Co.
10x14, 500 pages, Mann's parchmeht paper, half bound.....	90 each.....	Payot, Upham & Co.
STENOGRAPHER'S NOTE BOOKS--		
4½x9, 400 pages, paged, stiff cover, heavy white reporter's paper.....	1 76 per doz.....	United T. & S. Co.
6x11½, 400 pages, paged, stiff cover, heavy white reporter's paper.....	2 88 per doz.....	Cunningham, C. & W.
4½x9, 400 pages, paged, stiff cover, paper suitable for pen and ink.....	2 16 per doz.....	Cunningham, C. & W.
Indexes, Cap, 1 letter to leaf, quarter bound flexible	80 per doz.....	Payot, Upham & Co.
Indexes, Cap, 1 letter to leaf, sheep bound, plain or voweled.....	8 80 per doz.....	Payot, Upham & Co.
Indexes, Demy, 1 letter to leaf, sheep bound, plain or voweled.....	11 95 per doz.....	Payot, Upham & Co.
Indexes, Grave's patent, assorted. Bidders will state discount from retail list prices.....	Dis. 12 p. c. disc't..	Payot, Upham & Co.
Money Receipt Books, 2¾x8, 100 leaves with stub	1 10 per doz.....	Cunningham, C. & W.
Time Books, Weekly, Crown, 8vo., 24 leaves, flexible sheep, including Sunday.....	1 13 per doz.....	Payot, Upham & Co.
Time Books, Demy, 8vo., 50 leaves, sheep bound, stiff.....	1 95 per doz.....	Payot, Upham & Co.
Daily Journals, Cap, 4to., 3 days to page.....	42 each.....	Le Count Bros.

STATIONERY—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Daily Journals, 2-3 Cap, 2 days to page.....	57 each.....	Le Count Bros.
Daily Journals, Demy, 4to., 1 day to page.....	1 08 each.....	Le Count Bros.
Daily Journals, Demy, 4to., 2 days to page....	70 each.....	Le Count Bros.
Daily Journals, Cap. 3 days to page.....	65 each.....	Le Count Bros.
Daily Journals, Cap, 1 day to page.....	1 29 each.....	Le Count Bros.
Judge's Minute Books, 8x12, 600 pages, rice paper, indexed in front, half bound, cloth sides, paged.....	1 17 each.....	Cunningham, C. & W.
Note Books, canvas, oblong, 80 leaves, ink paper, 6x8½.....	72 per doz.....	Le Count Bros.
Transit Books, Demy, 8vo., 60 leaves, heavy cover, sheep turned in, Crocker's No. 398 or equal.....	7 00 per doz.....	H. S. Crocker Co.
Level Books, Demy, 8vo, 60 leaves, heavy cover, sheep turned in, Crocker's No. 404 or equal.....	7 00 per doz.....	H. S. Crocker Co.
Books, 8x12½ or 6½x15, Chemical Manilla 12-lb. cap, full duck, paged.....	13 per 100 pp..	Cunningham, C. & W.
Books, 8x12½ or 6½x15, fine white paper, 14-lb. cap, full duck, paged.....	14½ per 100 pp..	Le Count Bros.
Books, cap size, superfine white paper, 16-lb. cap, ¾ Russia, cloth sides, paged.....	30 per 100 pp..	H. S. Crocker Co.
Books, Demy size, superfine white paper, 28-lb. Demy, imitation ends and bands, with or without index in front, paged.....	54 per 100 pp..	Le Count Bros.
Books, 5¼x12½, fine white paper, 14-lb. cap, full duck, paged.....	10½ per 100 pp..	Le Count Bros.
Demy Extra Books, extra Ledger paper.....	1 10 per 100 pp..	Le Count Bros.

STATIONERY—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Medium Extra Books, extra Ledger paper.....	1 35 per 100 pp..	Le Count Bros.
Demy, 4to, superfine white paper, 28-lb. Demy, half bound, cloth sides.....	23 per 100 pp..	Payot, Upham & Co.
INK AND MUCILAGE.		
INK—		
Stafford's Commercial, quarts.....	6 59 per doz.....	Payot, Upham & Co.
Stafford's Machine Copying, quarts.....	9 94 per doz.....	Payot, Upham & Co.
Stafford's Universal, quarts.....	6 59 per doz.....	Payot, Upham & Co.
Stafford's Blue, Violet or Green, quarts.....	6 59 per doz.....	Payot, Upham & Co.
Stafford's Carmine, quarts.....	12 64 per doz.....	Payot, Upham & Co.
Blackstone Crimson, quarts	12 85 per doz.....	Cunningham, C. & W.
Stafford's Carmine, pints.....	6 45 per doz.....	Payot, Upham & Co.
Carter's Fluid, quarts.....	5 85 per doz.....	Payot, Upham & Co.
Carter's Combined, quarts.....	6 25 per doz.....	Le Count Bros.
Carter's Crimson, quarts.....	8 10 per doz.....	Le Count Bros.
Arnold's Fluid, quarts.....	5 75 per doz.....	Cunningham, C. & W.
Arnold's Fluid, pints.....	3 35 per doz.....	Cunningham, C. & W.
Sanford's Fluid, quarts.....	3 50 per doz.....	Le Count Bros.
Barnes' Fluid, quarts.....	5 80 per doz.....	Payot, Upham & Co.
Barnes' Fluid, pints.....	3 48 per doz.....	Payot, Upham & Co.
Barnes' Copying, quarts.....	9 50 per doz.....	H. S. Crocker Co.
Blackstone Fluid, quarts.....	5 00 per doz.....	Cunningham, C. & W.
David's Scarlet, quarts.....	13 50 per doz.....	Le Count Bros.
David's U. S. Copying, quarts.....	6 75 per doz.....	Le Count Bros.
David's Fluid, quarts.....	4 80 per doz.....	Le Count Bros.
Higgins' Waterproof, Black or Colored.....	2 25 per doz.....	Le Count Bros.
Blue or Red, ½ oz., for numbering stamp.....	1 45 per doz.....	Moise-Klinkner Co.
Rubber Stamp, assorted colors, ½ pints.....	4 20 per doz.....	Moise-Klinkner Co.

STATIONERY--CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Rubber Stamp, assorted colors, 4oz.....	2 99 per doz.....	Moise-Klinkner Co.
Rubber Stamp, assorted colors, 2 oz.....	1 49 per doz.....	Moise-Klinkner Co.
Universal Ink, 4 oz, round or flat.....	1 05 per doz.....	Cunningham, C. & W.
Sanford's Ink Eradicator.....	2 60 per doz.....	Payot, Upham & Co.
MUCILAGE—		
Stafford's Pure Gum, quarts.....	8 60 per doz.....	Payot, Upham & Co.
Sanford's Superior, quarts.....	9 45 per doz.....	Payot, Upham & Co.
Carter's Arabin, quarts.....	8 20 per doz.....	Payot, Upham & Co.
Stafford's Pure Gum, pints.....	5 40 per doz.....	Cunningham, C. & W.
Stafford's Quick Feed, Sponge Top.....	1 40 per doz.....	Cunningham, C. & W.
Blackstone, quarts.....	8 10 per doz.....	Cunningham, C. & W.
Blackstone, pints.....	4 73 per doz.....	Payot, Upham & Co.
David's, quarts.....	8 25 per doz.....	Payot, Upham & Co.
PASTE—		
Sanford's quarts.....	7 50 per doz.....	Payot, Upham & Co.
Sanford's, pints.....	4 45 per doz.....	Payot, Upham & Co.
Sanford's Utopian, 8 oz.....	3 85 per doz.....	Payot, Upham & Co.
Sanford's Utopian, pints.....	6 25 per doz.....	Cunningham, C. & W.
Carter's, quarts.....	6 64 per doz.....	Payot, Upham & Co.
Stafford's, quarts.....	7 50 per doz.....	Payot, Upham & Co.
Invincible, quarts.....	7 80 per doz.....	Cunningham, C. & W.
Higgins' Photo, quarts.....	16 00 per doz.....	Payot, Upham & Co.
Higgins' Photo, ½ gallon.....	23 00 per doz.....	Payot, Upham & Co.
INKSTANDS, PAPER FILES AND PAPER WEIGHTS.		
INKSTANDS—		
Safety No. 3.....	3 00 per doz.....	Payot, Upham & Co.
Safety No. 5.....	2 18 per doz.....	Payot, Upham & Co.

STATIONERY—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Pressed glass, solid, No. 60, hinged cover.....	90 per doz.....	Le Count Bros.
Pressed glass, solid, No. 60, metal or glass cover	1 28 per doz.....	Payot, Upham & Co.
Cut Glass, 3 inches square.....	8 00 per doz.....	Cunningham, C. & W.
Cut Glass, 3½ inches square.....	10 50 per doz.....	Le Count Bros.
Cut Glass, 3 inches double.....	16 00 per doz.....	Cunningham, C. & W.
Single, with rack, P. S. & W. Co's No. 350 or similar	4 50 per doz.....	Payot, Upham & Co.
Double, with rack, P. S. & W. Co.'s No. 360 or similar	9 00 per doz.....	Payot, Upham & Co.
Double, revolving, P. S. & W. Co.'s No. 280 or similar	4 05 per doz.....	Payot, Upham & Co.
Wood base (oak or mahogany), 3 wells, 2½ inch cut glass.....	2 48 each.....	Payot, Upham & Co.
Wood base (oak or mahogany), 2 wells, 3 inch cut glass.....	2 50 each.....	Cunningham, C. & W.
Wood base (oak or mahogany), 3 wells, 3 inch cut glass.....	3 00 each.....	Cunningham, C. & W.
PAPER FILES—		
Upright, 6 inch wire, P. S. & W. Co., No. 10 or similar	80 per doz.....	Payot, Upham & Co.
Upright, 6 inch wire and slide, P. S. & W. Co., No. 15 or similar.....	1 20 per doz.....	Le Count Bros.
Upright, 9 inch wire, heavy base, P. S. & W. Co., No. 28 or similar.....	2 25 per doz.....	Payot, Upham & Co.
Upright, 9 inch wire and slide, P. S. & W. Co., No. 29 or similar.....	3 08 per doz.....	Payot, Upham & Co.

STATIONERY—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Upright, 9 inch wire, slide and cutter, heavy base, P. S. & W. Co., No. 27 or similar....	3 90 per doz.....	Payot, Upham & Co.
Harp Pattern, P. S. & W. Co., No. 30 or similar	60 per doz.....	Cunningham, C. & W.
Harp Pattern, P. S. & W. Co., No. 12 or similar	75 per doz.....	Cunningham, C. & W.
Harp Pattern, all wire, No. 6½.....	40 per doz.....	Cunningham, C. & W.
MUCILAGE BOTTLES—		
Morgan's No. 6.....	2 40 per doz.....	H. S. Crocker Co.
Morgan's No. 7.....	2 85 per doz.....	Payot, Upham & Co.
PAPER WEIGHTS—		
Metal, 1½ lb., P. S. & W. Co., No. 70 or similar	4 10 per doz.....	Cunningham, C. & W.
Metal, 3 lb., P. S. & W. Co., No. 80 or similar	5 90 per doz.....	Cunningham, C. & W.
Metal, 4 lb., 3x6 inches.....	8 50 per doz.....	Cunningham, C. & W.
Nickel-plated, 4¾ inches long, handy No. 4 or similar	5 00 per doz.....	Cunningham, C. & W.
Metal, ebony finish, brass handle, 8 inches long, 4 lbs., County No. 12 or similar.....	16 00 per doz.....	Payot, Upham & Co.
Metal, ebony finish, leather cover, County No. 13 or similar.....	19 00 per doz.....	Payot, Upham & Co.
Pen Racks, spiral, iron base.....	1 05 per doz.....	Payot, Upham & Co.
Pen Racks and Letter-holder, double.....	3 50 per doz.....	Cunningham, C. & W.
Pen Cleaners, plain porcelain, with brush.....	2 75 per doz.....	Cunningham, C. & W.
LEAD PENCILS—		
A. W. Faber's Round Gilt.....	4 18 per gross....	Cunningham, C. & W.
A. W. Faber's Hexagon.....	6 30 per gross....	Cunningham, C. & W.

STATIONERY—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Johann Faber's "Golden Rod" Hexagon.....	4 57 per gross....	Payot, Upham & Co.
Eagle Co's Turquois, 6 B to 6 H.....	4 75 per gross....	Payot, Upham & Co.
Dixon's Hexagon.....	7 20 per gross....	H. S. Crocker Co.
Hardmuth Hexagon.....	4 49 per gross....	Payot, Upham & Co.
A. W. Faber's Siberian, BB to 6H.....	12 00 per gross....	H. S. Crocker Co.
A. W. Faber's Siberian, 3B to 5B.....	12 15 per gross....	Payot, Upham & Co.
A. W. Faber's Siberian, 6E.....	14 50 per gross....	Payot, Upham & Co.
Koh-I-Noor, BB to 6H.....	11 20 per gross....	Cunningham, C. & W.
Koh-I-Noor, 3B to 6B.....	12 42 per gross....	Cunningham, C. & W.
Ye Needa Stenographer.....	6 00 per gross....	Cunningham, C. & W.
Pacific Mail Hexagon.....	3 50 per gross....	Le Count Bros.
Eagle Co's Draughting, No. 314.....	4 45 per gross....	Cunningham, C. & W.
Commercial, round gilt.....	3 00 per gross....	Cunningham, C. & W.
Commercial, Hexagon gilt.....	3 60 per gross....	Cunningham, C. & W.
Hardmuth's Account Book, round.....	5 40 per gross....	Cunningham, C. & W.
Hardmuth's Account Book, hexagon.....	6 40 per gross....	Cunningham, C. & W.
Indelible Copying, Eagle No. 812.....	11 25 per gross....	Payot, Upham & Co.
Indelible Copying, Hardmuth's, 73B.....	5 38 per gross....	Cunningham, C. & W.
Hardmuth's Vermillion and Blue Combined Hexagon, 9 inch.....	14 00 per gross....	Le Count Bros.
PENCILS WITH RUBBER TIPS—		
E. Faber's Hexagon, No. 375.....	3 28 per gross....	Payot, Upham & Co.
E. Faber's round, No. 395.....	2 90 per gross....	Payot, Upham & Co.
Dixon's Cabinet, round.....	3 38 per gross....	Cunningham, C. & W.
Dixon's Cabinet, hexagon.....	4 08 per gross....	Cunningham, C. & W.
Climax	3 75 per gross....	Le Count Bros.
Elbee, hexagon.....	3 75 per gross....	Le Count Bros.
Unique, round.....	3 00 per gross....	Cunningham, C. & W.

STATIONERY—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Superior, hexagon.....	5 00 per gross....	Cunningham, C. & W.
Empire, hexagon.....	4 50 per gross....	Cunningham, C. & W.
Faber's yellow, fine.....	5 18 per gross....	Payot, Upham & Co.
Eagle red, No. 777.....	5 70 per gross....	Payot, Upham & Co.
Eagle blue, No. 776.....	5 70 per gross....	Payot, Upham & Co.
Eagle green, No. 778.....	5 70 per gross....	Payot, Upham & Co.
A. W. Faber's carmine, large, fine.....	8 55 per gross....	Payot, Upham & Co.
A. W. Faber's blue, large, fine.....	6 45 per gross....	Cunningham, C. & W.
Hardmuth's blue, round.....	7 05 per gross....	Payot, Upham & Co.
Hardmuth's red, round.....	8 00 per gross....	Le Count Bros.
MIMEOGRAPH AND TYPEWRITER SUPPLIES, ETC.—		
Mimeograph Ink, in tubes, black.....	64 per lb.....	Payot, Upham & Co.
Mimeograph Ink, tubes, blue, green or purple	96 per lb.....	Payot, Upham & Co.
Mimeograph Varnish, 2 oz.....	20 each.....	H. S. Crocker Co.
Mimeograph Stencil Paper, No. 12.....	2 00 per quire...	H. S. Crocker Co.
Mimeograph Stencil Paper, No. 1.....	90 per quire....	H. S. Crocker Co.
Mimeograph Perforating Silk, No. 12.....	45 per sheet...	H. S. Crocker Co.
Yellow Neostyle Paper, cap size.....	1 50 per ream...	Payot, Upham & Co.....
Yellow Neostyle Paper, letter size.....	1 20 per ream....	Payot, Upham & Co.
Autograph Neostyle, Stencil Paper, Rotary Cap A.....	1 50 per quire...	Payot, Upham & Co.
Rotary Neostyle Ink, No. 2.....	3 40 per can.....	Payot, Upham & Co.
Rotary Cap "A" Neostyle Typo Stencil Paper..	2 20 per quire ..	Payot, Upham & Co.
Typewriter Ribbons, Eureka.....	68 each.....	Cunningham, C. & W.
Typewriter Ribbons, Invincible.....	50 each.....	United T. & S. Co.
Typewriter Ribbons, Little's.....	60 each.....	Payot, Upham & Co.

STATIONERY--CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Typewriter Ribbons, M. & M.....	50 each.....	Le Count Bros.
Typewriter Ribbons, Webster's.....	60 each.....	United T. & S. Co.
Typewriter Ribbons, Paragon.....	90 each.....	Payot, Upham & Co.
Typewriter Ribbons, Elliott & Hatch.....	54 each.....	Cunningham, C. & W.
Typewriter Ribbons, Royal.....	75 each.....	H. S. Crocker Co.
Typewriter Ribbons, Oliver.....	60 each.....	Payot, Upham & Co.
Typewriter Pads, Yost.....	1 50 each.....	United T. & S. Co.
Typewriter Ribbons, Clark's.....	75 each.....	Cunningham, C. & W.
Typewriter Oil, 1½ oz. bottles.....	70 per doz.....	Payot, Upham & Co.
Typewriter Benzine, ½ pint bottles.....	2 00 per doz.....	Brown & Power
PENS--		
Esterbrook's, No. 9.....	45 per gross....	Payot, Upham & Co.
Esterbrook's, No. 14.....	54 per gross....	Le Count Bros.
Esterbrook's, No. 048.....	54 per gross....	Payot, Upham & Co.
Esterbrook's, No. 135.....	54 per gross....	Payot, Upham & Co.
Esterbrook's, No. 161.....	67 per gross....	Cunningham, C. & W.
Esterbrook's, No. 182.....	49 per gross....	Payot, Upham & Co.
Esterbrook's, No. 222.....	90 per gross....	Payot, Upham & Co.
Esterbrook's, No. 232.....	67 per gross....	Cunningham, C. & W.
Esterbrook's, No. 239.....	67 per gross....	Cunningham, C. & W.
Esterbrook's, No. 267.....	67 per gross....	Payot, Upham & Co.
Esterbrook's, No. 284.....	67 per gross....	Cunningham, C. & W.
Esterbrook's, No. 312.....	67 per gross....	Payot, Upham & Co.
Esterbrook's, No. 313.....	67 per gross....	Cunningham, C. & W.
Esterbrook's, No. 314.....	67 per gross....	Payot, Upham & Co.
Esterbrook's, No. 344.....	67 per gross....	Payot, Upham & Co.
Esterbrook's, No. 442.....	67 per gross....	Cunningham, C. & W.
Perry's, 834.....	67 per gross....	Payot, Upham & Co.

STATIONERY—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Gillott's, 170.....	74 per gross....	Cunningham, C. & W.
Gillott's, 303.....	1 00 per gross....	H. S. Crocker Co.
Gillott's, 404.....	55 per gross....	Cunningham, C. & W.
Gillott's, 601.....	93 per gross....	Cunningham, C. & W.
Gillott's, 604.....	67 per gross....	Cunningham, C. & W.
Gillott's, 907, oblique.....	1 12 per gross....	Cunningham, C. & W.
Gillott's, 1060.....	55 per gross....	Cunningham, C. & W.
Gillott's, 1064.....	90 per gross....	Cunningham, C. & W.
Gillott's, 1068.....	90 per gross....	Cunningham, C. & W.
Gillott's, 1071.....	67 per gross....	Cunningham, C. & W.
Eagle Co's Assorted, Nos. E 10, E 60, E 110, E 140, E 260, E 530.....	45 per gross....	Payot, Upham & Co.
Spencerian, assorted Nos.....	97 per gross....	Payot, Upham & Co.
Enterprise, assorted Nos.....	32 per gross....	Le Count Bros.
Isaac's Glucinum, assorted Nos.....	97 per gross....	Cunningham, C. & W.
Macowsky, assorted Nos.....	1 50 per gross....	Cunningham, C. & W.
Pacific Railroad.....	27½ per gross..	Cunningham, C. & W.
Pacific Mail.....	45½ per gross..	Cunningham, C. & W.
Pacific Limited Express.....	48 per gross....	Le Count Bros.
Ball-Pointed Gray.....	1 02 per gross....	Payot, Upham & Co.
Meyer's Aluminum, No. 4.....	1 30 per gross....	Cunningham, C. & W.
Electro-Platinum, No. 21.....	1 00 per gross....	Cunningham, C. & W.
Tadella Zinc, assorted Nos.....	1 02 per gross....	Payot, Upham & Co.
Mitchell's, No. 505.....	1 00 per gross....	Cunningham, C. & W.
Tuxedo, Aluminum, assorted Nos.....	1 50 per gross....	Le Count Bros.
Salomon's Aluminoid Pens, assorted Nos.....	1 50 per gross....	Cunningham, C. & W.
Ruling, German Silver, extra quality, bone handle	4 00 per doz.....	Payot, Upham & Co.

STATIONERY—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Ruling, German Silver, extra quality, bone handle, hinged.....	6 00 per doz.....	Payot, Upham & Co.
PENHOLDERS—		
Cedar, large, straight, plain or spiral.....	1 40 per gross....	Le Count Bros.
Cedar, large swell.....	1 50 per gross....	Cunningham, C. & W.
Cedar, colored polished swell, medium nickel tips	2 10 per gross....	Payot, Upham & Co.
Cedar, colored polished swell, large nickel tips.	2 25 per gross....	Payot, Upham & Co.
Eagle Crown, No. 3.....	6 10 per gross....	Cunningham, C. & W.
Oblique, polished handles.....	4 98 per gross....	Cunningham, C. & W.
Rubber Tipped, Faber's No. 88 or similar.....	4 28 per gross....	Payot, Upham & Co.
Cork Tipped, "Bank" or similar.....	4 95 per gross....	Le Count Bros.
Rubber Tipped, Faber's No. 101 or similar.....	4 45 per gross....	Le Count Bros.
Cork, Spencerian or similar.....	5 40 per gross....	Payot, Upham & Co.
Hard Rubber, No. 3, long.....	1 08 per doz.....	Cunningham, C. & W.
Hard Rubber, No. 5, short.....	1 20 per doz.....	Le Count Bros.
PAPER FASTENERS, EYELETS, ETC.		
McGill's Paper Fasteners, No. 1, round head..	85 per M.....	Cunningham, C. & W.
McGill's Paper Fasteners, No. 2, round head..	87 per M.....	Le Count Bros.
McGill's Paper Fasteners, No. 3, round head..	1 17 per M.....	Le Count Bros.
McGill's Paper Fasteners, No. 4, round head..	1 47 per M.....	Le Count Bros.
McGill's Staples, flat wire, Nos. 1 or 2.....	20 per M.....	Le Count Bros.
McGill's Staples, broad head, Nos. 1 or 2.....	2 10 per M.....	Cunningham, C. & W.
Niagara Paper Clips.....	1 13 per M.....	Payot, Upham & Co.
Middleton's Paper Clips.....	2 25 per M.....	Payot, Upham & Co.
Gem Paper Clips.....	1 35 per M.....	Cunningham, C. & W.
Star Automatic Staples.....	60 per M.....	Cunningham, C. & W.
Samson's Adjustable File Punches.....	1 29 each.....	Cunningham, C. & W.

STATIONERY—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Star Automatic Fastener Presses.....	1 50 each.....	Brown & Power.
McGill's Paper Fastener Presses.....	1 43 each.....	Cunningham, C. & W.
McGill's Single Stroke Staple Presses, No. 1....	1 20 each.....	Payot, Upham & Co.
Eyelets, J. N., 250 in box.....	95 per doz. bxs	Payot, Upham & Co.
Eyelets, C. Z., 250 in box.....	1 85 per doz. bxs	Payot, Upham & Co.
Eyelets, Challenge, 1 oz. boxes.....	2 35 per doz. bxs	United T. & S. Co.
Challenge Eyelet Punch and Fastener.....	2 15 each.....	United T. & S. Co.
Robbins' Eyelet Punch and Fastener.....	1 32 each.....	Payot, Upham & Co.
Triumph Eyelet Punch and Fastener.....	1 75 each.....	Cunningham, C. & W.
Pins, Pyramid, No. 3.....	93 per doz.....	Cunningham, C. & W.
Pins, Pyramid, No. 4.....	85 per doz.....	Cunningham, C. & W.
Pins, Pyramid, No. 5.....	76 per doz.....	Cunningham, C. & W.
Pins, loose in box, No. 2, Taylor's Bank or equal	42 per lb.....	Le Count Bros.
Pins, loose in box, No. 4, Taylor's Bank or equal	52 per lb.....	Le Count Bros.
RUBBER BANDS AND ERASERS—		
Rubber Bands No. 10—Goodyear Rubber Co.'s or equal.....	1 19 per gt. gr...	Cunningham, C. & W.
Rubber Bands No. 12—Goodyear Rubber Co.'s or equal.....	1 48 per gt. gr...	Cunningham, C. & W.
Rubber Bands No. 14—Goodyear Rubber Co.'s or equal.....	1 77 per gt. gr...	Cunningham, C. & W.
Rubber Bands No. 15—Goodyear Rubber Co.'s or equal.....	1 90 per gt. gr...	Cunningham, C. & W.
Rubber Bands No. 16—Goodyear Rubber Co.'s or equal.....	1 83 per gt. gr...	Le Count Bros.

STATIONERY—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Rubber Bands No. 17—Goodyear Rubber Co.'s or equal.....	2 22 per gt. gr...	Cunningham, C. & W.
Rubber Bands No. 30—Goodyear Rubber Co.'s or equal.....	41 per gross....	Payot, Upham & Co.
Rubber Bands No. 32—Goodyear Rubber Co.'s or equal.....	53 per gross....	Payot, Upham & Co.
Rubber Bands No. 33—Goodyear Rubber Co.'s or equal.....	59 per gross....	Payot, Upham & Co.
Rubber Bands No. 00¼—Goodyear Rubber Co.'s or equal.....	73 per gross....	Cunningham, C. & W.
Rubber Bands No. 000¼—Goodyear Rubber Co.'s or equal.....	88 per gross....	Cunningham, C. & W.
Rubber Bands No. 0000¼—Goodyear Rubber Co.'s or equal.....	1 03 per gross....	Cunningham, C. & W.
Rubber Bands No. 000¼—Goodyear Rubber Co.'s or equal.....	1 75 per gross....	Cunningham, C. & W.
Rubber Bands No. 0000¼—Goodyear Rubber Co.'s or equal.....	2 67 per gross....	Cunningham, C. & W.
Rubber Bands, 4½-inch package—Goodyear Rubber Co.'s or equal.....	3 54 per gross....	Cunningham, C. & W.
Rubber Bands, 5-inch package—Goodyear Rub- ber Co.'s or equal.....	5 35 per gross....	Cunningham, C. & W.
Rubber Bands, 6-inch package—Goodyear Rub- ber Co.'s or equal.....	4 48 per gross....	Cunningham, C. & W.
Rubber Bands, 7-inch package—Goodyear Rub- ber Co.'s or equal.....	7 08 per gross....	Cunningham, C. & W.
Rubber Bands, ¼ inch, assorted—Goodyear Rubber Co.'s or equal.....	88 per gross....	Cunningham, C. & W.

STATIONERY—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Rubber Bands, $\frac{1}{2}$ inch, assorted—Goodyear Rubber Co.'s or equal.....	1 56 per gross....	Payot, Upham & Co.
Rubber Bands, $\frac{3}{4}$ inch, assorted—Goodyear Rubber Co.'s or equal.....	2 39 per gross....	Payot, Upham & Co.
Rubber Bands, $\frac{1}{8}$ inch., assorted—Goodyear Rubber Co.'s or equal.....	50 per gross....	Cunningham, C. & W.
Rubber Bands—Faber's No. 100.....	95 per box.....	Le Count Bros.
RUBBER ERASERS—		
Ink and Pencil, large, Faber's or Eagle.....	1 87 per doz.....	Payot, Upham & Co.
Faber's 110 or equal.....	44 per doz.....	Payot, Upham & Co.
Faber's, 1080.....	37 per doz.....	United T. & S. Co.
Ink—Faber's, 7220.....	38 per doz.....	Le Count Bros.
Typewriter, large—Faber's, 104.....	70 per doz.....	United T. & S. Co.
Multiplex	2 25 per lb.....	H. S. Crocker Co.
Sponge Rubber, 2x2x1 inches.....	2 00 per doz.....	Payot, Upham & Co.
E. Faber's—Emerald, No. 111.....	39 per doz.....	Payot, Upham & Co.
Pencil Rubber, assorted—Faber's Para or equal	83 per lb.....	Le Count Bros.
Rubber Heads for Pencils.....	2 00 per gross...	Payot, Upham & Co.
Pencil Point Protectors, with rubbers—Eagle 549 or similar.....	2 95 per gross....	Cunningham, C. & W.
Faber's Artist's Rubber.....	1 49 per lb.....	Payot, Upham & Co.
Excelsior Erasers, brush attached.....	2 10 per doz.....	Payot, Upham & Co.
RUBBER STAMPS—		
Wooden Back or Handle, 3 inches long.....	04½ per line..	Moise-Klinkner Co.
Wooden Back or Handle, 4 inches long.....	06 per line.....	J. M. Patrick.
Wooden Back or Handle, 5 inches long.....	09 per line.....	J. M. Patrick.
Wooden Back or Handle, 6 inches long.....	13½ per line...	Moise-Klinkner Co.
Wooden Back or Handle, 7 inches long.....	18 per line.....	Moise-Klinkner Co.

STATIONERY—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Additional charge for air cushion, 3-inch, 1 to 3 lines.....	04 each stamp.	J. M. Patrick.
Additional charge for air cushion, 3-inch, 4 to 7 lines.....	07 each stamp.	J. M. Patrick.
Additional charge for air cushion, 4 to 6 inch, to 3 lines.....	065 each stmp.	Moise-Klinkner Co.
Additional charge for air cushion, 4 to 6 inch, 4 to 7 lines.....	13 7-10 each stamp.	Moise-Klinkner Co.
Midget Self-Inking, No. 2, with die.....	45 each.....	J. M. Patrick.
Midget Self-Inking, No. 4, with die.....	60 each.....	J. M. Patrick.
Midget Self-Inking, No. 5, with die.....	75 each.....	J. M. Patrick.
Midget Self-Inking, No. 6, with die.....	95 each.....	J. M. Patrick.
Midget Self-Inking, No. 7, with die.....	1 20 each.....	J. M. Patrick.
Standard Self-Inking, No. 2, with die.....	1 50 each.....	J. M. Patrick.
Standard Self-Inking, No. 2½, with die.....	2 25 each.....	J. M. Patrick.
Standard Self-Inking, No. 3, with die.....	2 50 each.....	J. M. Patrick.
Standard Self-Inking, No. 3½, with die.....	3 30 each.....	J. M. Patrick.
Standard Self-Inking, No. 4, with die.....	3 75 each.....	J. M. Patrick.
Additional charge for air cushion on Self-Inking Stamps.....	No charge.....	J. M. Patrick.
Standard Self-Inking, with die and band dater No. 1.....	2 40 each.....	J. M. Patrick.
Standard Self-Inking, with die and band dater No. 1½.....	2 50 each.....	J. M. Patrick.
Standard Self-Inking, with die and band dater No. 2.....	2 95 each.....	J. M. Patrick.
Standard Self-Inking, with die and band dater No. 2½.....	3 20 each.....	J. M. Patrick.

STATIONERY—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Standard Self-Inking, with die and band dater No. 3.....	3 45 each.....	J. M. Patrick.
Standard Self-Inking Solid Rubber Type Band Dater, with die, 2½x1½.....	3 49 each.....	Moise-Klinkner Co.
Stamp for Cashier Tax Collector, autograph....	1 25 each.....	J. M. Patrick.
Checking Stamps for Tax Collector's Office.....	90 each.....	J. M. Patrick.
Stamps, autographs.....	98 each.....	Moise-Klinkner Co.
Seal for Auditor, as per sample in office.....	12 00 each.....	Moise-Klinkner Co.
Self-Inking Pads, in tin case, with hinged cover, 3x6.....	21 each.....	Moise-Klinkner Co.
Self-Inking Pads, in tin case, with hinged cover, 4x9.....	45 each.....	J. M. Patrick.
Bates' Line Dating Machines.....	6 99 each.....	Moise-Klinkner Co.
Bates' Numbering Machines, 4-wheel.....	8 98 each.....	Moise-Klinkner Co.
Bates' Numbering Machine, 5-wheel.....	10 90 each.....	Moise-Klinkner Co.
Badges, hack or similar, each different No.....	89 00 per 100.....	J. C. Irvine
Tags, peddlers' or similar, each different No....	7 39 per 100.....	Moise-Klinkner Co.
Tags, basket or similar, each different No.....	7 99 per 100.....	Moise-Klinkner Co.
Tags, nickel-in-the-slot or similar, each differ- ent No.....	2 75 per 100.....	Wirth & Jachens.
Tags, dog or similar, each different No.....	2 69 per 100.....	Moise-Klinkner Co.
Tags, dog duplicate, each different No.....	2 69 per 100.....	Moise-Klinkner Co.
Vehicle numbers, each different No.....	6 50 per 100.....	J. M. Patrick.
SUNDRIES—		
Arm Rests, 10x16, mahogany.....	35 each.....	Le Count Bros.
Blackboard Erasers, corduroy.....	1 13 per doz.....	Payot, Upham & Co.
Japanned Tin Holders, to take card, 5¼x7 inch, for Coroner.....	18 each.....	Cunningham, C. & W.

STATIONERY—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Brushes for paste, flat, 1-inch wide.....	80 per doz.....	Cunningham, C. & W.
Brushes for paste, flat, 1½ inches wide.....	1 05 per doz.....	Cunningham, C. & W.
Brushes for paste, flat, 2 inches wide.....	1 45 per doz.....	Cunningham, C. & W.
Blotter Baths, 10x15, enameled iron, Hill's Jr equal	2 95 each.....	Cunningham, C. & W.
Brushes for copying, camels hair, 3-inch.....	2 25 per doz.....	Cunningham, C. & W.
Brushes for copying, camels hair, 3½ inch.....	2 63 per doz.....	Cunningham, C. & W.
Brushes, camel's hair, Keufel & Esser, 3136-2.	62 each.....	Cunningham, C. & W.
Blanks for watchman's clock, manufactured by Newman Manufacturing Co., Bridgeport, Ohio	2 30 for lot.....	Cunningham, C. & W.
Board Clips, note size, tarboard, cloth back, nickel clips.....	3 10 per doz.....	Payot, Upham & Co.
Board Clips, letter size, tarboard, cloth backs, nickel clips.....	3 36 per doz.....	Cunningham, C. & W.
Board Clips, cap size, tarboard, cloth backs, nickel clips.....	3 36 per doz.....	Cunningham, C. & W.
Board Clips, note size, wooden, nickel clips, Favorite or similar.....	3 83 per doz.....	Payot, Upham & Co.
Board Clips, letter size, wooden, nickel clips, Favorite or similar.....	4 13 per doz.....	Payot, Upham & Co.
Board Clips, cap size, wooden, nickel clips, Favorite or similar.....	4 65 per doz.....	Payot, Upham & Co.
Cloths for copying, cap size.....	53 per doz.....	Payot, Upham & Co.
Chalk Crayons, white.....	11 per gross....	Payot, Upham & Co.
Chalk Crayons, assorted colors.....	26 per gross....	Payot, Upham & Co.
Copying Presses, black and bronze, 10x15.....	6 55 each.....	Cunningham, C. & W.
Calendar Pads, "Memorandum," H. B. & Co..	84 per doz.....	Payot, Upham & Co.

STATIONERY — CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Calendar Stands, Japanned.....	1 50 per doz.....	Cunningham, C. & W.
Calendar Pads, "Handy".....	32 each.....	Le Count Bros.
Calendar Stands, "Handy".....	32 each.....	Le Count Bros.
Cash Boxes, 10½ inch, extra heavy, reinforced edges and corners.....	1 47 each.....	Cunningham, C. & W.
Cash Boxes, 12 inch, extra heavy, reinforced edges and corners.....	1 62 each.....	Cunningham, C. & W.
Cash Boxes, 14 inch, extra heavy, reinforced edges and corners.....	1 84 each.....	Payot, Upham & Co.
Cash Boxes, 16 inch, extra heavy, reinforced edges and corners.....	2 04 each.....	Payot, Upham & Co.
Chamois Skins, 20x25 inches.....	6 00 per doz.....	Cunningham, C. & W.
Desk Pads for blotting, 19x24, heavy tarboard, leather corners.....	3 00 per doz.....	Le Count Bros.
Desk Pads for blotting, 19x24, heavy tarboard, with clips and leather bands.....	9 00 per doz.....	Cunningham, C. & W.
Dictionary (Webster International), sheep, in- dexed	11 62 each.....	Cunningham, C. & W.
Dusters, ostrich feather "carriage," 14 inch..	25 00 per doz.....	Brown & Power.
Dusters, ostrich feather, "carriage," 16 inch..	30 00 per doz.....	Brown & Power.
Dusters, ostrich feather, "carriage," 18 inch..	14 70 per doz.....	Payot, Upham & Co.
Erasers, steel, Faber's 132.....	4 75 per doz.....	Cunningham, C. & W.
Erasers, steel, Faber's 150.....	4 50 per doz.....	H. S. Crocker Co.
Erasers, steel, cocoa handle, knife and eraser..	3 75 per doz.....	Cunningham, C. & W.
Erasers, office, 1 folding blade.....	4 95 per doz.....	Cunningham, C. & W.
Files, newspaper, 25 in. Globe or similar.....	5 94 per doz.....	Cunningham, C. & W.
Files, letter size, Falcon or similar.....	6 40 per doz.....	Le Count Bros.
Files, letter size, Favorite or similar.....	3 30 per doz.....	Le Count Bros.

STATIONERY—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Files, Shannon No. 4.....	3 98 per doz.....	Cunningham, C. & W.
Files, Shannon No. 6.....	3 98 per doz.....	Cunningham, C. & W.
Shannon C. C. Covers.....	20 per doz.....	Cunningham, C. & W.
Shannon Perforators.....	2 54 per doz.....	Cunningham, C. & W.
Shannon Perforators Cabinet.....	17 93 per doz.....	Cunningham, C. & W.
Shannon Indexes, No. 4.....	36 per doz.....	Cunningham, C. & W.
Shannon Binding Cases, No. 4.....	2 69 per doz.....	Payot, Upham & Co.
Shannon Binding Cases, No. 6.....	3 20 per doz.....	Cunningham, C. & W.
Box Files, letter size, with index, Sterling or similar.....	2 63 per doz.....	Cunningham, C. & W.
Box Files, cap size, with index, Sterling or similar	3 75 per doz.....	Cunningham, C. & W.
Hones for Erasers, 1½x5.....	4 50 per doz.....	Brown & Power.
Magnifying Glasses, 3 inch diameter, best quality, with handle.....	1 50 per doz.....	Cunningham, C. & W.
Sheets Oiled Board, 10x12.....	13 per doz.....	Cunningham, C. & W.
Sheets Oiled Board, 10x14.....	18 per doz.....	Cunningham, C. & W.
Oil Stones, 2x6 inches, in case.....	99 each.....	Cunningham, C. & W.
Paper Cutters, nickel, 12 inches long, with knob	7 60 per doz.....	Cunningham, C. & W.
Envelope Openers, metal, 8 inches long.....	2 00 per doz.....	Payot, Upham & Co.
Portfolios Globe Desk, leatherette cover.....	6 20 per doz.....	Payot, Upham & Co.
Bottles Pounce, ½ oz.....	98 per doz.....	Payot, Upham & Co.
Pounce Boxes, wooden.....	2 10 per doz.....	Cunningham, C. & W.
RULERS—		
Maple, brass edge, 15 inch.....	81 per doz.....	Payot, Upham & Co.
Maple, brass edge, 18 inch.....	96 per doz.....	Payot, Upham & Co.
Maple, brass edge, 24 inch.....	1 27 per doz.....	Payot, Upham & Co.

STATIONERY—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Double brass edge, 15 inch, E. Faber's polished maple	1 65 per doz.....	Cunningham, C. & W.
Double brass edge, 18 inch, E. Faber's polished maple	1 92 per doz.....	Cunningham, C. & W.
Double brass edge, 21 inch, E. Faber's polished maple	2 23 per doz.....	Cunningham, C. & W.
Flat Rubber, 16 inch.....	2 37 per doz.....	Cunningham, C. & W.
Flat Rubber, 21 inch.....	3 69 per doz.....	Payot, Upham & Co.
Triangular Boxwood, 12 inch, engineer's or architect's	90 each.....	H. S. Crocker Co.
Rubber, 17x22x¼, cloth finish.....	4 05 each.....	Cunningham, C. & W.
Rubber, 9x12x½, soft for stamping.....	3 38 each.....	Cunningham, C. & W.
Scales, U. S. Postal, 4 lbs.....	1 90 each.....	Moise-Klinkner Co.
Scale, Union, 2½ lbs.....	3 30 each.....	Cunningham, C. & W.
Scale, Fairbanks or similar, 64 oz.....	7 20 each.....	Payot, Upham & Co.
Sealing Wax, American Express or equal.....	20 per lb.....	Le Count Bros.
SEALS—		
Dennison's Gold, No. 23.....	2 45 per M.....	Payot, Upham & Co.
Dennison's Gold, No. 24.....	2 93 per M.....	Payot, Upham & Co.
Dennison's Gold, No. 25.....	3 45 per M.....	Payot, Upham & Co.
Dennison's Colored, No. 24.....	1 58 per M.....	Payot, Upham & Co.
Lawyers' assorted sizes, gold.....	1 48 per doz. bxs	Cunningham, C. & W.
Lawyers' assorted sizes, colored.....	79 per doz. bxs	Cunningham, C. & W.
Seals lead, for coin sacks, Treasurer's office..	30 per 100.....	Cunningham, C. & W.
Shears, bankers' nickel plated, 9 inch.....	8 55 per doz.....	Payot, Upham & Co.
Shears, bankers' nickel plated, 12 inch.....	11 10 per doz.....	Payot, Upham & Co.
Shears, extra quality and extra heavy, 12 inch.	15 30 per doz.....	Payot, Upham & Co.
Shipping Tags, Dennison's No. 4 linen.....	3 95 per M.....	Payot, Upham & Co.

PRINTING—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Sponge Cups, heavy plain glass, 3 inch diameter	50 per doz.....	Cunningham, C. & W.
Sponges, for same, large, fine.....	60 per doz.....	Le Count Bros.
Stamp Moisteners, roller, glass.....	35 each.....	Cunningham, C. & W.
Thumb Tacks, $\frac{5}{8}$ inch, German silver, steel points	40 per doz.....	H. S. Crocker Co.
Thumb Tacks, $\frac{1}{2}$ inch, German silver, steel points	35 per doz.....	H. S. Crocker Co.
Spools, Tape, No. 19, 72 yards to spool.....	2 10 per doz.....	Payot, Upham & Co.
Reels, Silk Taste, $\frac{1}{4}$ inch wide, assorted colors.....	3 00 per doz.....	Cunningham, C. & W.
Twine, No. 9 B. C.....	22 per lb.....	Union Pulp & P. Co.
Twine, No. 12 B. C.....	22 per lb.....	Payot, Upham & Co.
Twine, No. 18 B. C.....	20 per lb.....	Union Pulp & P. Co.
Twine, No. 24 B. C.....	20 per lb.....	Union Pulp & P. Co.
Twine, No. 36 B. C.....	20 per lb.....	Union Pulp & P. Co.
Twine, No. 48 B. C.....	20 per lb.....	Union Pulp & P. Co.
Twine, heavy jute, Nos. 6, 7, 8, assorted.....	10 $\frac{1}{2}$ per lb.....	Union Pulp & P. Co.
Twine, cotton, 4 ply, No. 1.....	16 per lb.....	Union Pulp & P. Co.
Twine, linen, No. 18.....	35 per lb.....	Union Pulp & P. Co.
Waste Baskets, willow, round, 13 inches high..	6 00 per doz.....	Cunningham, C. & W.
Waste Baskets, willow, round, 14 $\frac{1}{2}$ inches high	6 45 per doz.....	Cunningham, C. & W.
Waste Baskets, willow, square, 14 $\frac{1}{2}$ inches high	8 40 per doz.....	Cunningham, C. & W.
Waste Baskets, willow, square, 16 inches high.	9 20 per doz.....	Cunningham, C. & W.
Wire Desk Trays, 10x14, single.....	2 76 per doz.....	Cunningham, C. & W.
Wire Desk Trays, 10x14, double.....	6 48 per doz.....	Cunningham, C. & W.
Wire Desk Trays, 10x14, triple.....	9 87 per doz.....	Cunningham, C. & W.
Cakes Photo Drawing Ink, Keuffel & Essen, No. 3070.....	75 each.....	H. S. Crocker Co.

PRINTING—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Cakes India Ink, Keuffel & Esser, No. 3031-2..	1 48 each.....	Cunningham, C. & W.
Cardboard, 4x9 inches, 160 lb. mill Bristol, Whiting's Standard or equal.....	4 18 per M.....	Cunningham, C. & W.
Sheets Filler Paper, large, 8¼x14, Magna Charta 12 lb. cap. 2 holes punched in end..	4 00 per 500.....	Cunningham, C. & W.
Sheets Filler Paper, small, 3½x7¼, for filing box, round cornered and cut out at top,, two holes punched in end.....	5 00 per 500.....	Cunningham, C. & W.
Drawing Pens, K. & E., No. 320.....	60 per doz.....	Cunningham, C. & W.
Apex Albums, 25 leaves, 7¼x11½, cardboard, half bound, cloth sides.....	3 60 each.....	Cunningham, C. & W.

BLANKBOOKS.

ARTICLE.	PRICE.	CONTRACTOR.
ALMS HOUSE—		
Inmate's Pass, 50 leaves.....	15 each.....	Payot, Upham & Co.
Requisition Book, 300 leaves.....	2 65 each.....	Payot, Upham & Co.
ASSESSOR'S OFFICE—		
Warehouse Book (Mdse.), 90 leaves.....	4 75 each.....	Brown & Power.
Warehouse Book (Furniture).....	4 75 each.....	Brown & Power.
Field Books P. P.....	70 each.....	Phillips, Smyth & V. O.
Field Books, Poll Tax.....	78 each.....	John Kitchen Jr.

BLANKBOOKS—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Binding, Annual Poll Tax Report Books.....	2 00 each.....	John Kitchen Jr.
Cashier's Poll Tax Recap. of Cash.....	5 50 each.....	Payot, Upham & Co.
Cashier's Poll Tax Blotter.....	3 50 each.....	Brown & Power.
Receipts from Treasurer, Poll Tax.....	3 15 each.....	Payot, Upham & Co.
Receipts, Poll Tax from Deputy.....	4 25 each.....	Brown & Power.
Poll Tax Ledger.....	6 45 each.....	Payot, Upham & Co.
Receipts, P. P., from Deputy.....	4 55 each.....	John Kitchen Jr.
P. P. Cash Books.....	1 85 each.....	Payot, Upham & Co.
P. P. Cash Blotters.....	2 95 each.....	John Kitchen Jr.
Receipts from Treasurer, P. P.....	3 15 each.....	Payot, Upham & Co.
P. P. Recap. of Cash.....	3 50 each.....	Payot, Upham & Co.
Probate Books.....	2 35 each.....	John Kitchen Jr.
Segregation Books, P. P. Rolls.....	30 each.....	John Kitchen Jr.
Segregation Books, R. E. Rolls.....	21½ each.....	John Kitchen Jr.
Recorder's Transcript of Mortgages.....	2 30 each.....	John Kitchen Jr.
Crocker's Directories.....	10 00 each.....	Payot, Upham & Co.
Real Estate Rolls.....	7 73 each.....	John Kitchen Jr.
Personal Property Rolls.....	8 90 each.....	John Kitchen Jr.
R. E. Roll Indexes.....	11 23 each.....	Cunningham, C. & W.
Ream Time Sheets.....	6 75 per ream.....	Cunningham, C. & W.
Pads	01½ each.....	Payot, Upham & Co.
Covers, 11x16½, No. 20.....	08 each.....	Brown & Power.
Recorder's Transcript of Trust Deeds.....	3 50 each.....	J. B. McIntyre.
Recorder's Transcript of Chattel Mortgages....	4 00 each.....	J. B. McIntyre.
AUDITOR'S OFFICE—		
Ledger	7 50 each.....	Brown & Power.
General Ledger.....	30 00 each.....	Cunningham, C. & W.
General Journal.....	13 75 each.....	Cunningham, C. & W.

BLANKBOOKS—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Cash Book.....	13 75 each.....	Brown & Power.
General Summary.....	55 00 each.....	Phillips, Smyth & V. O.
Summary of Itemized Accounts.....	9 75 each.....	J. E. McIntyre.
Register of Audited Demands.....	21 00 each.....	Brown & Power.
Register of Audited Demands.....	18 00 each.....	Brown & Power.
Register of Audited Demands—Public Works and Stationery.....	18 25 each.....	Payot, Upham & Co.
Register of Audited Demands—Park, Library, etc.....	17 00 each.....	Payot, Upham & Co.
Register of Audited Demands—School Fund....	18 00 each.....	Brown & Power.
Register of Demands—General Fund.....	7 70 each.....	John Kitchen Jr.
Register of Demands—Sundry Funds.....	7 50 each.....	John Kitchen Jr.
Register of Demands—School Fund.....	7 25 each.....	John Kitchen Jr.
Receipt Book for Assessor.....	3 65 each.....	Payot, Upham & Co.
Receipt Book for Tax Collector.....	7 50 each.....	Phillips, Smyth & V. O.
Sets of Books—Rebate Personal Property Col- lections.....	23 50 per set.....	A. Carlisle & Co.
Index to R. E. and P. P Assessments.....	18 95 each.....	John Kitchen Jr.
Sheets Report Paper.....	9 50 per 500.....	J. E. McIntyre.
Sheets Report Paper.....	9 00 per 500.....	Brown & Power.
Sheets Report Paper.....	7 50 per 500.....	John Kitchen Jr.
Blotter.....	50 each.....	Payot, Upham & Co.
Cash Books, Treasurer.....	6 50 each.....	Brown & Power.
LICENSE BOOKS—		
License Books, 25 Licenses in book.....	39 each.....	Phillips, Smyth & V. O.
License Books, 50 Licenses in book.....	49 each.....	Phillips, Smyth & V. O.
License Books, 100 Licenses in book.....	63 each.....	John Kitchen Jr.
Drivers' Cards.....	1 95 per 100.....	Phillips, Smyth & V. O.

BLANKBOOKS—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Personal Property Receipt Books.....	19 each.....	Phillips, Smyth & V. O.
Fee Books, Sheriff.....	28 each.....	Phillips, Smyth & V. O.
Fee Books, Recorder.....	28 each.....	Phillips, Smyth & V. O.
Fee Books, County Clerk.....	28 each.....	Phillips, Smyth & V. O.
Fee Books, Justice's Court.....	28 each.....	Phillips, Smyth & V. O.
Fee Books, Miscellaneous.....	38 each.....	Phillips, Smyth & V. O.
Fee Books, Police.....	43 each.....	Cunningham, C. & W.
Fee Books, Pound.....	43 each.....	Cunningham, C. & W.
Fee Books, City Engineer.....	1 00 each.....	A. Carlisle & Co.
Fee Receipt Book, 150 leaves.....	9 00 each.....	Brown & Power.
Sales Book, 125 leaves.....	16 00 each.....	Brown & Power.
Outstanding Books, 100 leaves.....	6 00 each.....	A. Carlisle & Co.
Binding Powers of Attorney, 250 leaves.....	1 50 each.....	Brown & Power.
Weekly Summary of Accounts, 75 leaves.....	11 75 each.....	John Kitchen Jr.
Jury Fees and Witness Expenses, 60 leaves....	16 00 each.....	Brown & Power.
License Day Book.....	9 00 each.....	Brown & Power.
BOARD OF PUBLIC WORKS—		
Minute Book, 300 leaves.....	7 75 each.....	Brown & Power.
Index to Minute Book, 75 leaves.....	3 60 each.....	Payot, Upham & Co.
Record of Petition, etc., 125 folios.....	11 65 each.....	Payot, Upham & Co.
Index to Record of Petitions, 88 leaves.....	9 80 each.....	Brown & Power.
Index to Permits to Tear Down Buildings, 200 leaves	10 25 each.....	Payot, Upham & Co.
Record of Complaints, Architect, 150 folios....	10 35 each.....	Payot, Upham & Co.
Record of Paid Building Permits, Architect, 200 folios.....	12 50 each.....	Payot, Upham & Co.
Record of Free Building Permits, 150 folios....	11 00 each.....	Brown & Power.

BLANKBOOKS—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Requisition Books, Supt. Public Buildings, 100 leaves	42 each.....	A. Carlisle & Co.
Requisition Books, mechanics, 100 leaves.....	50 each.....	Cunningham, C. & W.
Receipt Book for Papers Referred, 100 leaves..	4 50 each.....	Phillips, Smyth & V. O.
Ledger, 200 leaves.....	8 95 each.....	John Kitchen Jr.
Ledgers, 250 leaves.....	8 95 each.....	John Kitchen Jr.
Blotter, 100 leaves.....	4 30 each.....	Payot, Upham & Co.
Audited Demands, 100 leaves.....	4 30 each.....	Payot, Upham & Co.
Record, 150 leaves.....	4 60 each.....	John Kitchen Jr.
Stock Books, 150 leaves.....	4 60 each.....	John Kitchen Jr.
Sewer Material Delivered, 150 leaves.....	4 60 each.....	John Kitchen Jr.
Street Material Delivered, 150 leaves.....	4 60 each.....	John Kitchen Jr.
Material Book, 100 leaves.....	5 35 each.....	John Kitchen Jr.
Material Book, 150 leaves.....	5 00 each.....	Phillips, Smyth & V. O.
Record of Sewer Breaks, 150 leaves.....	5 50 each.....	Phillips, Smyth & V. O.
Monthly Time Book, 250 folios.....	10 00 each.....	Phillips, Smyth & V. O.
Requisitions on Corporation Yard, 50 leaves...	25 each.....	Brown & Power.
Receipts from Treasurer, 250 leaves.....	2 70 each.....	Payot, Upham & Co.
Record of Bids Received, 200 leaves.....	19 50 each.....	Brown & Power.
Record of General Contracts, 100 leaves.....	17 90 each.....	Payot, Upham & Co.
Requisition Books, General, 100 leaves.....	1 05 each.....	A. Carlisle & Co.
Monthly Record Material on Hand, 250 leaves.	18 00 each.....	Cunningham, C. & W.
Location of Tools and Implements, 100 leaves.	9 00 each.....	A. Carlisle & Co.
Report of Daily Operations of Work, 150 folios	1 50 each.....	J. B. McIntyre.
Certificate of Acceptance, 250 leaves.....	5 00 each.....	Phillips, Smyth & V. O.
Record of Award of Contract, 150 leaves.....	2 00 each.....	Payot, Upham & Co.
Monthly Pay Roll, 350 leaves.....	13 00 each.....	Phillips, Smyth & V. O.
Record for Bookkeeper, 100 leaves.....	10 50 each.....	Payot, Upham & Co.

BLANKBOOKS—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Recommendations to Board of Supervisors to Accept Streets, 250 leaves.....	9 00 each.....	Brown & Power.
Recommendations to Board of Supervisors to Order Paving.....	9 00 each.....	Brown & Power.
Index, Side Sewer Permits, 200 leaves.....	8 50 each.....	Cunningham, C. & W.
Index, Building Permits.....	8 50 each.....	Cunningham, C. & W.
Index, Obstruction Notices.....	8 50 each.....	Cunningham, C. & W.
Index, Sewers and Cesspools Cleaned.....	5 50 each.....	Cunningham, C. & W.
Book of Complaints, Bureau of Streets.....	12 00 each.....	Phillips, Smyth & V. O.
Index to Book of Complaints, 150 leaves.....	7 70 each.....	Payot, Upham & Co.
Accounts of Side Sewers, 150 leaves.....	7 45 each.....	Payot, Upham & Co.
Notice to Repair Bulkhead, 500 leaves.....	4 75 each.....	Phillips, Smyth & V. O.
Notice to Remove Obstructions, 500 leaves. .	7 50 each.....	Brown & Power.
Notice to Repair Side Sewer, 250 leaves.....	7 35 each.....	Payot, Upham & Co.
Notice to Repair and Reconstruct Sidewalks, 500 leaves.....	7 95 each.....	John Kitchen Jr.
House Numbering Notice, 100 leaves.....	59 each.....	A. Carlisle & Co.
Permit to Move a Building, 250 leaves.....	4 00 each.....	Brown & Power.
Permit for Side Sewer, 100 leaves.....	45 each.....	Brown & Power.
Permit to Occupy Street Space, 250 leaves.....	1 50 each.....	Brown & Power.
Permit to Place Asphaltum Kettles, 250 leaves	5 00 each.....	Brown & Power.
Permit for Performance of Street Work.....	3 95 each.....	A. Carlisle & Co.
Permit, Miscellaneous, 250 leaves.....	5 00 each.....	Brown & Power.
Permit to Construct Artificial Stone Sidewalks, 250 leaves.....	3 90 each.....	A. Carlisle & Co.
Permit to Tear Down Building, 250 leaves.....	4 00 each.....	Brown & Power.
Permit to Erect, Alter or Repair Building. 250 leaves	4 00 each.....	Brown & Power.

BLANKBOOKS—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Requisition, Bureau of Streets, Corporation		
Yard, 100 leaves.....	60 each.....	Payot, Upham & Co.
Record, 250 folios.....	8 00 each.....	Phillips, Smyth & V. O.
Bench Books, 150 leaves.....	7 60 each.....	Brown & Power.
Work Ledger, 200 leaves.....	7 00 each.....	Payot, Upham & Co.
Record of Matters Referred from Board of		
Public Works, 200 leaves.....	7 75 each.....	Brown & Power.
Construction Ledger, 200 leaves.....	8 00 each.....	Brown & Power.
Inspector's Daily Report, 100 leaves.....	75 each.....	Phillips, Smyth & V. O.
Requisition, Bureau of Engineering, 100 leaves		
Certificates, 250 leaves.....	3 75 each.....	Phillips, Smyth & V. O.
Certificate of Inspector, 250 leaves.....	7 25 each.....	A. Carlisle & Co.
Transit Books, 100 leaves.....	35 each.....	Phillips, Smyth & V. O.
Index Books, different forms, 150 leaves.....	6 25 each.....	Payot, Upham & Co.
Binding Book of Official Grades, book 6x9 300		
pages.....	2 45 each.....	Levinson Printing Co.
Records Taken by Employees, 250 leaves.....	9 00 each.....	Phillips, Smyth & V. O.
Records Examined by Public.....	9 00 each.....	Phillips, Smyth & V. O.
Record of Gas Consumed, 100 folios.....	8 00 each.....	Phillips, Smyth & V. O.
Record of Water Used in Public Buildings, 100		
folios.....	9 75 each.....	Phillips, Smyth & V. O.
Record of Candle Power of Gas, 200 leaves.....	5 50 each.....	Phillips, Smyth & V. O.
Certificate of Meter Inspector, 100 leaves.....	3 25 each.....	A. Carlisle & Co.
Record of Burning Street Lights, 70 leaves.....	4 75 each.....	Phillips, Smyth & V. O.
Assessment Record, 100 folios.....	14 90 each.....	A. Carlisle & Co.
Register of Street Improvement Proceedings		
200 leaves.....	15 75 each.....	Brown & Power.
Index of Street Assessments, 225 leaves.....	13 75 each.....	Brown & Power.

BLANKBOOKS—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Index to Corporation Excavations, 250 leaves..	9 50 each.....	Brown & Power.
CITY AND COUNTY HOSPITAL—		
Requisition Books, 200 leaves.....	3 00 each.....	J. B. McIntyre.
Medicine Books, 16 leaves.....	09 each.....	Payot, Upham & Co.
Covers for Medicine Books.....	25 each.....	John Kitchen Jr.
Ward Order Books, 185 leaves.....	18 each.....	J. B. McIntyre.
Laundry Books, 100 leaves.....	14½ each.....	Phillips, Smyth & V. O.
Register of Deaths, 150 folios.....	8 20 each.....	Payot, Upham & Co.
Receipt for Valuables, 500 leaves.....	7 00 each.....	Phillips, Smyth & V. O.
Register, 250 folios.....	11 75 each.....	Brown & Power.
Index to Register, 250 leaves.....	8 00 each.....	Phillips, Smyth & V. O.
Journal, 150 leaves.....	5 60 each.....	A. Carlisle & Co.
Daily Report, 200 leaves.....	3 80 each.....	John Kitchen Jr.
Receipts from Undertaker for Body and Clothing, 200 leaves.....	95 each.....	John Kitchen Jr.
Journal, 150 leaves.....	8 95 each.....	John Kitchen Jr.
Matron's Record, 200 leaves.....	14 50 each.....	John Kitchen Jr.
Gatekeeper's Report, 200 leaves.....	4 00 each.....	Phillips, Smyth & V. O.
Requisition Books, 200 leaves.....	5 50 each.....	Phillips, Smyth & V. O.
CIVIL SERVICE COMMISSIONERS—		
Certification Book, 200 folios.....	9 95 each.....	John Kitchen Jr.
Civil Service List, Fire Department, 150 folios	9 85 each.....	Payot, Upham & Co.
Civil Service List, Police Department.....	9 85 each.....	Payot, Upham & Co.
Silicate Book Slate, 25 leaves.....	8 00 each.....	Payot, Upham & Co.
CLERK'S OFFICE, BOARD OF SUPERVISORS—		
Minute Books, 240 leaves.....	9 00 each.....	Phillips, Smyth & V. O.
Demand Registers, 200 folios.....	8 25 each.....	Payot, Upham & Co.

BLANKBOOKS—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Resolution Books, 100 leaves.....	4 50 each.....	J. B. McIntyre.
Book of Ordinances.....	4 50 each.....	J. B. McIntyre.
Passed for Printing.....	3 35 each.....	Payot, Upham & Co.
Advertisements for Proposals, 150 leaves.....	3 35 each.....	Payot, Upham & Co.
Poll Books, 125 leaves.....	3 70 each.....	Payot, Upham & Co.
Index to Resolutions, 290 leaves, 158 leaves indexed through, 32 leaves printed heading no index.....	6 75 each.....	Brown & Power.
Ledger, 100 leaves.....	3 90 each.....	Payot, Upham & Co.
Index to Land Grants, 125 leaves.....	6 40 each.....	Payot, Upham & Co.
Vols. Military Roll, about 500 leaves each....	3 45 each.....	John Kitchen Jr.
Vols. Water Reports.....	2 50 each.....	Payot, Upham & Co.
Receipt Books, Special Forms, 200 leaves.....	3 00 each.....	Phillips, Smyth & V. O.
Receipt Books, General.....	3 00 each.....	Phillips, Smyth & V. O.
Record Stock Received at Store Room, 150 leaves	5 75 each.....	Phillips, Smyth & V. O.
Record Stock Issued from Store Room, 150 leaves	5 75 each.....	Phillips, Smyth & V. O.
Ledger Store Room, 150 leaves.....	5 75 each.....	Brown & Power.
Record of Printed Forms, 150 pages.....	4 00 each.....	Payot, Upham & Co.
Requisition Books, Printing, 300 leaves.....	3 00 each.....	J. B. McIntyre.
Requisition Book, Almshouse.....	3 00 each.....	J. B. McIntyre.
Requisition Book, Hospitals.....	3 00 each.....	J. B. McIntyre.
Requisition Book, Health and Police.....	4 00 each.....	J. B. McIntyre.
Requisition Books, General.....	3 00 each.....	A. Carlisle & Co.
Street Index Register, 200 leaves.....	18 00 each.....	Payot, Upham & Co.
Current Book, 175 leaves.....	8 50 each.....	Payot, Upham & Co.

BLANKBOOKS—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Books, Requisitions on Stationery Dept, 100 leaves	97 each.....	John Kitchen Jr.
CORONER'S OFFICE—		
Autopsy Record, 100 folios.....	10 00 each.....	Brown & Power.
Autopsy Book, 125 leaves.....	4 00 each.....	Cunningham, C. & W.
Receipt for Body, 200 leaves.....	2 95 each.....	John Kitchen Jr.
Description Unknown Dead, 300 leaves.....	7 90 each.....	Payot, Upham & Co.
Record Countersigned Certificates, 250 folios....	5 60 each.....	Payot, Upham & Co.
Property Book, 100 leaves.....	3 50 each.....	Payot, Upham & Co.
Receipt for Property, 250 leaves.....	2 89 each.....	John Kitchen Jr.
Jury Book, 200 leaves.....	4 00 each.....	Cunningham, C. & W.
Memo. for Deputy, 50 leaves.....	15½ each.....	Payot, Upham & Co.
Receipt from Deputy, 50 leaves.....	18 each.....	Payot, Upham & Co.
Cards for Bodies.....	2 25 per 1000....	Payot, Upham & Co.
Photos of Unidentified Dead, 200 leaves.....	6 60 each.....	John Kitchen Jr.
COUNTY CLERK'S OFFICE—		
Order Books, 200 leaves.....	2 75 each.....	Cunningham, C. & W.
Registers, 280 leaves.....	9 00 each.....	A. Carlisle & Co.
Judgment Records, 350 leaves.....	10 50 each.....	Brown & Power.
Judgment Docket, 150 leaves.....	7 95 each.....	John Kitchen Jr.
Civil Indexes, 260 leaves.....	17 50 each.....	Brown & Power.
Register of Adoption, 280 leaves.....	12 75 each.....	Brown & Power.
Department Book, 150 leaves.....	7 75 each.....	Payot, Upham & Co.
Book for Bail and Fines Deposited in Court, 240 leaves.....	12 95 each.....	Payot, Upham & Co.
Cash Book, 250 leaves.....	11 25 each.....	Cunningham, C. & W.
Index for Incorporations, 250 leaves.....	13 50 each.....	Cunningham, C. & W.
Index for Copartnerships.....	13 50 each.....	Cunningham, C. & W.

BLANKBOOKS—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Index for Official Appointments, 250 leaves....	9 20 each.....	Payot, Upham & Co.
Index for Official Bonds, 250 leaves.....	10 20 each.....	Payot, Upham & Co.
Receipt Book, 185 leaves.....	2 50 each.....	Payot, Upham & Co.
Desk Receipt Books for Papers, 250 leaves....	8 25 each.....	Cunningham, C. & W.
Minute Book, Superior Court, 300 leaves.....	10 00 each.....	Brown & Power.
Record of Divorce Cases, 250 leaves.....	6 50 each.....	Payot, Upham & Co.
CRIMINAL DEPARTMENT—		
Register of Criminal Actions, 300 leaves.....	14 50 each.....	Brown & Power.
Declaration of Intention Books, 500 leaves....	5 95 each.....	Payot, Upham & Co.
Naturalization Books, Aliens, 500 leaves.....	5 95 each.....	Payot, Upham & Co.
Naturalization Books, Minors.....	6 49 each.....	Cunningham, C. & W.
Naturalization Books, Soldiers.....	8 49 each.....	Cunningham, C. & W.
Receipts for Papers, 150 leaves.....	2 75 each.....	Payot, Upham & Co.
Insane Commitments, 400 leaves.....	20 00 each.....	Payot, Upham & Co.
MARRIAGE LICENSE DEPARTMENT		
Marriage License Register, 400 leaves.....	11 00 each.....	Payot, Upham & Co.
Medical Certificate Register, 450 leaves.....	10 75 each.....	Payot, Upham & Co.
Marriage License Index, 200 leaves.....	8 50 each.....	Payot, Upham & Co.
Medical Certificate Index, 250 leaves.....	8 75 each.....	Cunningham, C. & W.
Dental Certificate Register, 300 leaves.....	8 00 each.....	Payot, Upham & Co.
PROBATE DEPARTMENT.		
Will Books, 500 leaves.....	11 20 each.....	Payot, Upham & Co.
Minute Books, 375 leaves.....	8 35 each.....	John Kitchen Jr.
Inventories and Appraisements, Guardianship, 300 leaves.....	10 00 each.....	Cunningham, C. & W.
Receipts from Searchers, 150 leaves.....	3 55 each.....	Payot, Upham & Co.
Receipts for Wills.....	3 55 each.....	Payot, Upham & Co.
Rough Minute Books, 180 leaves.....	1 50 each.....	Payot, Upham & Co.

BLANKBOOKS—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Letters of Administration, 250 leaves.....	10 25 each.....	Payot, Upham & Co.
Bonds of Executors, Administrators and Guardians on Qualifying, 250 leaves.....	10 25 each.....	Payot, Upham & Co.
Miscellaneous Bonds, 375 leaves.....	10 75 each.....	Payot, Upham & Co.
Bonds of Executors and Administrators on Sale of Real Estate, 250 leaves.....	10 25 each.....	Payot, Upham & Co.
Special Letters of Administration, 250 leaves .	10 25 each.....	Payot, Upham & Co.
Letters of Administration with Will Annexed, 250 leaves.....	10 25 each.....	Payot, Upham & Co.
Letters of Guardianship, 250 leaves.....	10 25 each.....	Payot, Upham & Co.
Bonds of Surety Companies, 250 leaves.....	10 50 each.....	Payot, Upham & Co.
Bond of Guardian on Sale of Real Estate, 250 leaves	10 50 each.....	Payot, Upham & Co.
Letters Testamentary, 250 leaves.....	10 50 each.....	Payot, Upham & Co.
Probate Registers, 400 leaves.....	15 00 each.....	Brown & Power.
Cash Book, 125 leaves.....	6 75 each.....	John Kitchen Jr.
Record of Posting, 150 leaves.....	6 10 each.....	Payot, Upham & Co.
Reference Book, 75 leaves.....	5 55 each.....	Payot, Upham & Co.
POLICE COURTS—		
Records, 400 leaves.....	9 45 each.....	John Kitchen Jr.
Order on Treasurer, 500 leaves.....	3 25 each.....	Phillips, Smyth & V. O.
Cash Statement Sheets.....	7 25 per 1000.....	Payot, Upham & Co.
Set Indices, Probate Dept.....	39 00 per set.....	Payot, Upham & Co.
DEPARTMENT OF ELECTRICITY—		
Day Books, 175 folios.....	4 20 each.....	John Kitchen Jr.
Police Call Book, 200 leaves.....	5 25 each.....	Payot, Upham & Co.
Daily Record, 375 leaves.....	14 90 each.....	A. Carlisle & Co.
House Moving Permits, 250 leaves.....	4 75 each.....	Phillips, Smyth & V. O.

BLANKBOOKS—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Certificate of Inspection, 500 leaves.....	3 50 each.....	Phillips, Smyth & V. O.
Fire Alarm Books, 50 pages.....	89 25 per 1000.....	Phillips, Smyth & V. O.
Complaint Book, 125 leaves.....	4 85 each.....	Payot, Upham & Co.
Certificate Records, 400 folios.....	26 50 each.....	Payot, Upham & Co.
Index to Certificate Records, 100 leaves.....	4 75 each.....	Payot, Upham & Co.
Order Books, 250 leaves.....	4 20 each.....	A. Carlisle & Co.
Record of Certificates of Inspection, 150 leaves	5 65 each.....	Payot, Upham & Co.
Certificate of Inspection Outside Work, 500 leaves	5 65 each.....	John Kitchen Jr.
Housemovers' Permit Account, 50 leaves.....	3 75 each.....	Brown & Power.
Receipts from Treasurer, 100 leaves.....	2 75 each.....	Brown & Power.
DEPARTMENT OF PUBLIC HEALTH.		
Minute Book, 250 leaves.....	6 10 each.....	Payot, Upham & Co.
Laundry Permits, 200 leaves.....	5 95 each.....	John Kitchen Jr.
Plumbers' Permits, 200 leaves.....	2 90 each.....	A. Carlisle & Co.
Market Inspector's Seizures, 100 leaves.....	57 each.....	Payot, Upham & Co.
Record of Contagious Diseases, 125 leaves.....	7 75 each.....	Payot, Upham & Co.
Certificates of Death, 100 leaves.....	5 00 each.....	A. Carlisle & Co.
Mortuary Statistics, 384 folios.....	40 00 each.....	Payot, Upham & Co.
Plumbers' Licenses, 200 leaves.....	5 50 each.....	Phillips, Smyth & V. O.
Mortuary Record, 350 folios.....	17 30 each.....	Payot, Upham & Co.
Index to Mortuary Record, 300 leaves.....	11 40 each.....	Payot, Upham & Co.
Permit to Disinter, 300 leaves.....	3 90 each.....	A. Carlisle & Co.
Removal Permit After Disinterment	3 90 each.....	A. Carlisle & Co.
Record of Complaints, 250 folios.....	15 95 each.....	Payot, Upham & Co.
Market Inspector's Record, 200 folios.....	9 25 each.....	Brown & Power.
Food Inspector's Record, 200 folios.....	9 25 each.....	Payot, Upham & Co.
Vaccination Certificates, 200 leaves.....	3 95 each.....	John Kitchen Jr.

BLANKBOOKS—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Certificate on Admission to School, 200 leaves..	3 95 each.....	John Kitchen Jr.
Disinfectors' Reports, 200 leaves.....	4 25 each.....	A. Carlisle & Co.
Requisition Book, 250 leaves.....	4 15 each.....	John Kitchen Jr.
Food Inspector's Seizures, 100 leaves.....	60 each.....	A. Carlisle & Co.
DISTRICT ATTORNEY—		
Bail Receipt Books, 200 leaves.....	65 each.....	Phillips Smyth & V. O
Criminal Record, 200 leaves.....	11 47 each.....	Cunningham, C. & W.
Receipt Book for Papers, 150 leaves.....	3 35 each.....	John Kitchen Jr.
EMERGENCY HOSPITAL—		
Registers, 250 folios.....	10 00 each.....	Payot, Upham & Co.
Journal, 100 leaves.....	6 95 each.....	John Kitchen Jr.
FIRE DEPARTMENT—		
Requisition Books, "General," 300 leaves.....	3 50 each.....	A. Carlisle & Co.
Requisition Books, Forage, 300 leaves.....	5 00 each.....	Brown & Power.
Order Book, 350 leaves.....	7 35 each.....	John Kitchen Jr.
Record, 175 leaves.....	9 45 each.....	John Kitchen Jr.
Membership Record Index, 150 leaves.....	9 25 each.....	Payot, Upham & Co.
Record of Members, 300 leaves.....	17 60 each.....	Payot, Upham & Co.
Supply Book, 150 leaves.....	24 00 each.....	Payot, Upham & Co.
Orders for Uniform Cloth, 100 leaves.....	56 each.....	John Kitchen Jr.
Map Book, 100 leaves.....	6 55 each.....	John Kitchen Jr.
Time Book, 150 leaves.....	5 75 each.....	Payot, Upham & Co.
Receipt Books, Corporation Yard, 250 leaves...	4 20 each.....	A. Carlisle & Co.
Schedule of Bids, 60 leaves.....	14 00 each.....	A. Carlisle & Co.
JUSTICES' COURTS—		
Judgment Docket Tax Suits, 410 leaves.....	11 00 each.....	Brown & Power.
Judgment Docket, Civil, 410 leaves.....	11 00 each.....	Brown & Power.
Index to Docket, Civil, 100 leaves.....	6 00 each.....	Brown & Power.

BLANKBOOKS—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Cash Book, 200 leaves.....	7 75 each.....	Payot, Upham & Co.
Journal, Cases Set for Trial, 150 leaves.....	8 69 each.....	Cunningham, C. & W.
Index to Docket Tax Suits, 60 leaves.....	4 60 each.....	Cunningham, C. & W.
Receipts from Treasurer, 500 leaves.....	3 15 each.....	John Kitchen Jr.
Sheets Daily Receipts.....	7 00 per 1000.....	Payot, Upham & Co.
POLICE DEPARTMENT—		
Record of Warrants, 300 folios.....	9 85 each.....	Payot, Upham & Co.
Index to Record of Warrants, 200 leaves.....	4 10 each.....	Cunningham, C. & W.
Record of Subpoenas, 200 folios.....	7 50 each.....	Payot, Upham & Co.
Record Court Orders to Deliver Property, 200 folios	9 25 each.....	Payot, Upham & Co.
Record of Police Patrol, 250 folios.....	8 05 each.....	Cunningham, C. & W.
Criminal Record, 400 leaves.....	17 50 each.....	Phillips, Smyth & V. O.
Receipt Books, 200 leaves.....	6 80 each.....	Phillips, Smyth & V. O.
Index to Receipt Book, 40 leaves.....	90 each.....	John Kitchen Jr.
Prison Registers, 300 leaves.....	18 25 each.....	A. Carlisle & Co.
Prison Registers, 300 leaves.....	14 00 each.....	Brown & Power.
Officers' and Sergeants' Reports from Patrol Boxes, 200 leaves.....	7 50 each.....	Phillips, Smyth & V. O.
Record of Arrests, 400 leaves.....	7 65 each.....	John Kitchen Jr.
Sergeants' Reports from Patrol Boxes, 200 leaves	5 90 each.....	John Kitchen Jr.
Street Record Liquor Licenses, 250 leaves.....	15 60 each.....	Payot, Upham & Co.
Permit Books, Liquor Licenses, 250 leaves.....	7 75 each.....	Payot, Upham & Co.
Index to Permit Book, 70 leaves.....	3 00 each.....	Payot, Upham & Co.
Record Concealed Weapons, 200 leaves.....	12 00 each.....	Phillips, Smyth & V. O.
Index to Peddlers' Applications, 100 leaves.....	4 50 each.....	Payot, Upham & Co.
Memo. Books, 80 leaves.....	9 95 per 100.....	Payot, Upham & Co.

BLANKBOOKS—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Criminal Photos, 100 leaves.....	7 50 each.....	Brown & Power.
Key to Photos, 300 leaves.....	6 00 each.....	Brown & Power.
Record of Stolen Property, 400 leaves.....	7 75 each.....	Cunningham, C. & W.
Record Discharges from State's Prison, 200 leaves	13 75 each.....	Phillips, Smyth & V. O.
Index to Discharges, 100 leaves.....	6 75 each.....	Brown & Power.
Index to Letters, Double, 36 leaves.....	15 00 each.....	Phillips, Smyth & V. O.
Record of Letters Received, 250 leaves.....	9 75 each.....	Brown & Power.
Record of Convicts, Folsom, 400 leaves.....	9 75 each.....	Brown & Power.
Record of Convicts, San Quentin.....	9 75 each.....	Brown & Power.
Index to Record, Folsom, 75 leaves.....	3 90 each.....	A. Carlisle & Co.
Index to Record, San Quentin.....	3 80 each.....	Phillips, Smyth & V. O.
Detectives' Record of Complaints, 200 folios....	9 05 each.....	Payot, Upham & Co.
Record of Refusals, 200 leaves.....	3 95 each.....	John Kitchen Jr.
Index to Record of Refusals.....	3 95 each.....	John Kitchen Jr.
Permits for Licenses.....	3 00 each.....	John Kitchen Jr.
Street Book, Restaurant, Retail Liquor Deal- ers, 150 leaves.....	14 50 each.....	Phillips, Smyth & V. O.
Permit Books for Above, 100 leaves.....	7 90 each.....	John Kitchen Jr.
Indexes to Above, 50 leaves.....	1 75 each.....	Payot, Upham & Co.
Street Book, Auctioneers, etc., 250 leaves.....	15 50 each.....	Phillips, Smyth & V. O.
Index to above, 100 leaves.....	4 00 each.....	Payot, Upham & Co.
Record Trials of Police Officers, 200 leaves.....	4 50 each.....	John Kitchen Jr.
Record of Police Officers.....	4 50 each.....	John Kitchen Jr.
Account Money Received for Services of Police Officers, 125 leaves.....	8 90 each.....	Cunningham, C. & W.
Account Money Received from Sheriffs, etc., 125 leaves.....	8 90 each.....	Cunningham, C. & W.

BLANKBOOKS—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Record of Evidence Taken, 300 folios.....	10 15 each.....	Cunningham, C. — ..
Receipts from Officers, Official Business, 250 leaves	3 10 each.....	A. Carlisle & Co.
Cards, 4¼x5, Round Corners.....	3 50 per 1000....	Payot, Upham & Co.
Index Criminal Cases, 320 leaves.....	6 50 each.....	Brown & Power.
General Index, California Criminal Reports....	6 50 each.....	Brown & Power.
General Index, General Criminal Reports.....	6 50 each.....	Brown & Power.
General Index, Letters, Captain of Detectives..	6 50 each.....	Brown & Power.
General Index to Photos.....	6 50 each.....	Brown & Power.
Record Hacks and Coupes, 200 folios.....	8 40 each.....	Payot, Upham & Co.
Supplement to Record Hacks, Coupes, etc., 120 leaves	9 00 each.....	Payot, Upham & Co.
Application for Hack Licenses, 400 leaves.....	4 00 each.....	Phillips, Smyth & V. O.
Record of Sick and Disabled, 375 leaves.....	8 00 each.....	Payot, Upham & Co.
Time Books, 150 leaves.....	8 00 each.....	Brown & Power.
Morning Duty Reports, 200 leaves.....	6 65 each.....	Payot, Upham & Co.
Morning and Day Duty Reports, 200 leaves....	6 65 each.....	Payot, Upham & Co.
RECORDER'S OFFICE—		
General Indexes, 240 leaves.....	9 85 each.....	John Kitchen Jr.
Index to Deeds, 240 leaves.....	10 00 each.....	Phillips, Smyth & V. O.
Index to Mortgages.....	10 10 each.....	John Kitchen Jr.
Index to Releases.....	10 10 each.....	John Kitchen Jr.
Indexes, Miscellaneous.....	10 00 each.....	Phillips, Smyth & V. O.
Records, 200 leaves.....	4 85 each.....	Brown & Power.
Cash Book, 300 leaves.....	8 60 each.....	Payot, Upham & Co.
Treasurer's Receipt Book, 600 leaves.....	4 00 each.....	Phillips, Smyth & V. O.
Folio Account Book, 200 leaves.....	6 45 each.....	John Kitchen Jr.
Monthly Blotters, 100 leaves.....	3 50 each.....	Payot, Upham & Co.

BLANKBOOKS—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
SHERIFF'S OFFICE—		
Records of Sults Against Sheriff, 100 leaves...	9 75 each.....	Brown & Power.
Sales Book, Superior Court, 200 folios.....	9 65 each.....	John Kitchen Jr.
Sales Books, Justices' Court, 250 folios.....	9 75 each.....	Brown & Power.
Memorandum Sales, 150 folios.....	7 65 each.....	Cunningham, C. & W.
Head Keepers' Register, 250 folios.....	9 95 each.....	Cunningham, C. & W.
Guards' Daily Register, 250 leaves.....	8 75 each.....	Phillips, Smyth & V. O.
Register County Jail, 200 leaves.....	9 20 each.....	Payot, Upham & Co.
Daily Record County Jail, 300 leaves.....	13 00 each.....	Brown & Power.
Writs of Possession, 250 folios.....	5 15 each.....	Payot, Upham & Co.
Bond Book, 150 leaves.....	8 40 each.....	Payot, Upham & Co.
Record of Persons Employed, 250 leaves.....	13 75 each.....	Brown & Power.
Keeper's Office Record, 250 folios.....	10 10 each.....	Cunningham, C. & W.
Record of Mileage, 250 leaves.....	12 00 each.....	Brown & Power.
Registers Justice's Court, 250 leaves.....	14 65 each.....	John Kitchen Jr.
Index to Justice Court Register, 150 leaves....	8 50 each.....	Brown & Power.
Fee Books, 150 leaves.....	9 60 each.....	Payot, Upham & Co.
Register Superior Court.....	13 00 each.....	Brown & Power.
Index to above.....	8 85 each.....	John Kitchen Jr.
Transportation of Insane and Prisoners, 100		
leaves	5 25 each.....	Payot, Upham & Co.
Record Book, 100 leaves.....	3 60 each.....	Payot, Upham & Co.
Corridor Book, 100 leaves.....	3 60 each.....	Payot, Upham & Co.
Keeper's Cash Book, 125 leaves.....	3 25 each.....	Payot, Upham & Co.
Visitors' Record Book, 400 leaves.....	10 75 each.....	Phillips, Smyth & V. O.
Ledger, 150 leaves.....	4 50 each.....	Payot, Upham & Co.
Receipt Book Superior Court, 500 leaves.....	6 10 each.....	Payot, Upham & Co.
Receipt Book Justice's Court.....	6 10 each.....	Payot, Upham & Co.

BLANKBOOKS—CONTINUED.

ARTICLE	PRICE	CONTRACTOR
Record Books, 250 leaves.....	7 00 each.....	J. B. McIntyre.
Record of Prisoners' Clothes, 150 leaves.....	3 50 each.....	Payot, Upham & Co.
Van Driver's Register, 250 leaves.....	2 95 each.....	John Kitchen Jr.
Receipts for Assistance, 250 leaves.....	3 00 each.....	A. Carlisle & Co.
Receipts from Treasurer, 250 leaves.....	2 65 each.....	John Kitchen Jr.
Commitment Book, 250 leaves.....	3 15 each.....	John Kitchen Jr.
Commissary Order Books, Jail No. 1, 200 leaves	2 40 each.....	A. Carlisle & Co.
Commissary Order Books, Jail No. 2.....	40 each.....	A. Carlisle & Co.
Commissary Order Books, Jail No. 3.....	2 40 each.....	A. Carlisle & Co.
Receipt Books, Money Paid Sheriff, 250 leaves	3 20 each.....	A. Carlisle & Co.
Cash Book, 200 leaves.....	3 95 each.....	Payot, Upham & Co.
Small Ledgers.....	1 25 each.....	John Kitchen Jr.
Receipts for Property, 100 leaves.....	3 10 each.....	A. Carlisle & Co.
Commissary Supply Books, 150 folios.....	8 15 each.....	John Kitchen Jr.
Record of Commitments, 300 leaves.....	11 25 each.....	Brown & Power.
Receipts for Prisoners, 150 leaves.....	5 00 each.....	Payot, Upham & Co.
TAX COLLECTOR'S OFFICE—		
Cash Blotters, 125 leaves.....	1 84 each.....	Cunningham, C. & W.
Check Blotters, 100 leaves.....	2 93 each.....	Cunningham, C. & W.
Cash Books, R. E. and P. P., 100 leaves.....	5 30 each.....	John Kitchen Jr.
Delivery Book, 200 leaves.....	8 25 each.....	Phillips, Smyth & V. O.
Cash Books, Unsecured P. P., 100 leaves.....	6 70 each.....	Payot, Upham & Co.
Back Tax Cash, 100 leaves.....	8 65 each.....	Payot, Upham & Co.
Duplicate Payments, 125 leaves.....	8 50 each.....	Phillips, Smyth & V. O.
Partial Payments.....	8 50 each.....	Phillips, Smyth & V. O.
Over Payments.....	5 50 each.....	Phillips, Smyth & V. O.
Recapitulation of Cash Books by Roll Num- bers, 170 leaves.....	10 25 each.....	Brown & Power.

BLANKBOOKS—CONTINUED.

ARTICLE	PRICE	CONTRACTOR
Sales Books, 150 leaves.....	5 00 each.....	Payot, Upham & Co.
Check Record, 100 leaves.....	7 00 each.....	Payot, Upham & Co.
Set Skeleton Rolls, 54 volumes.....	72 00 per set.....	Cunningham, C. & W.
Receipts from Treasurer, 350 leaves.....	4 25 each.....	Payot, Upham & Co.
Record of Dog Licenses, 170 leaves.....	8 75 each.....	Phillips, Smyth & V. O.
Dog License Receipt Books, 250 leaves.....	3 95 each.....	John Kitchen Jr.
Duplicate Dog License Receipt Book.....	4 75 each.....	Brown & Power.
Cash Books, Vehicle Licenses, 300 folios.....	9 70 each.....	Cunningham, C. & W.
Cash Books, General Licenses.....	9 70 each.....	Cunningham, C. & W.
Pads of Bills.....	03 per pad.....	Brown & Power.
Sheets Certificate of Sale.....	20 00 per 1000....	Phillips, Smyth & V. O.
Binding Certificates of Sale in Book.....	2 95 each.....	John Kitchen Jr.
Wagon Books, 125 leaves.....	3 50 each.....	John Kitchen Jr.
Requisition for Licenses, 250 leaves.....	3 95 each.....	John Kitchen Jr.
Ledger, Dept. Public Works, 330 folios.....	28 00 each.....	Phillips, Smyth & V. O.
Ledger, Peddler's Licenses, 100 leaves.....	20 00 each.....	Brown & Power.
Deposits with Treasurer, License Dept., 350 leaves	5 25 each.....	Payot, Upham & Co.
Affidavit for Duplicate Dog Tag, 170 leaves....	4 60 each.....	A. Carlisle.
Ledger Slot Tag Licenses, 150 leaves.....	10 40 each.....	Payot, Upham & Co.
TREASURER'S OFFICE—		
Teller's Blotter, 100 leaves.....	3 00 each.....	Brown & Power.
Cash Book, 250 leaves.....	9 25 each.....	Phillips, Smyth & V. O.
Day Book, General Fund, 225 leaves.....	9 25 each.....	Phillips, Smyth & V. O.
Day Book, School Fund, 225 leaves.....	9 50 each.....	Phillips, Smyth & V. O.
Day Book, Sundry Funds, 225 leaves.....	9 50 each.....	Phillips, Smyth & V. O.
Cash Books, Police Courts, 150 leaves.....	8 00 each.....	Phillips, Smyth & V. O.
Ledgers, Police Courts, 150 leaves.....	8 50 each.....	A. Carlisle & Co.

BLANKBOOKS—CONTINUED.

ARTICLE.	PRICE.	CONTRACTOR.
Auditor's Demands Redeemed, 250 leaves.....	8 10 each.....	A. Carlisle & Co.
Receipt Book, Special Redemption, 200 leaves..	8 80 each.....	John Kitchen Jr.
Treasury Receipt Books, 500 leaves.....	9 75 each.....	Brown & Power.
Fee Book, Justices' Court, 150 leaves.....	7 00 each.....	J. B. McIntyre.
Fee Books, Sheriff.....	7 00 each.....	J. B. McIntyre.
Fee Books, County Clerk.....	7 00 each.....	J. B. McIntyre.
Fee Books, Recorder.....	7 00 each.....	J. B. McIntyre.
Fee Books, Miscellaneous.....	7 00 each.....	J. B. McIntyre.
Sheets Fee Reports to Auditor, Cap.....	9 00 per 1000.....	Phillips, Smyth & V. O.
Sheets Recapitulation of Monthly Receipts....	5 90 per 100.....	Phillips, Smyth & V. O.
Cash Books, Rebate Taxes, 110 leaves.....	8 10 each.....	A. Carlisle & Co.
Registered Demands, General Fund, 150 leaves	9 90 each.....	Phillips, Smyth & V. O.
Registered Demands, School Fund.....	8 90 each.....	Phillips, Smyth & V. O.
Registered Demands, Sundry Funds.....	8 90 each.....	Phillips, Smyth & V. O.
Summary and Receipt Demands Redeemed, Cap, 100 leaves.....	8 65 each.....	A. Carlisle & Co.
Receiving Teller's Books, 100 leaves.....	4 60 each.....	A. Carlisle & Co.
Sheets Monthly Reports.....	10 90 per 100.....	A. Carlisle & Co.
Sheets Quarterly Reports.....	10 90 per 100.....	A. Carlisle & Co.
Sheets Special Reports.....	10 90 per 100.....	A. Carlisle & Co.
Ledger County Clerk's Deposits, 150 leaves....	9 65 each.....	John Kitchen Jr.
Sheets Balance Paper.....	5 25 per 100.....	A. Carlisle & Co.
Sheets for Loose Leaf Ledger.....	20 00 per 50.....	Phillips, Smyth & V. O.
Sheets, same as foregoing.....	30 00 per 100.....	Phillips, Smyth & V. O.
Sheets, same as foregoing.....	15 00 per 25.....	Phillips, Smyth & V. O.
Sheets, same as foregoing.....	20 00 per 50.....	Phillips, Smyth & V. O.
Paying Teller's Daily Cash Account, 160 leaves	5 25 each.....	A. Carlisle & Co.
Redemption of Real Estate Sold to State, 250 folios	6 50 each.....	Brown & Power.

BLANKBOOKS—CONCLUDED.

ARTICLE.	PRICE.	CONTRACTOR.
Poll Tax Receipts \$2.00, 100 leaves.....	25½ each.....	Phillips, Smyth & V. O.
Poll Tax Receipts \$3.00.....	25½ each.....	Phillips, Smyth & V. O.
MISCELLANEOUS—		
Scrap Books for Superior Courts, 125 leaves..	2 45 each.....	John Kitchen Jr.
Scrap Book, 300 leaves.....	2 45 each.....	John Kitchen Jr.
LETTERING BOOKS—		
Books to be lettered from time to time, in gold or black, as may be ordered, on back.....	08 per line.....	Brown & Power.
Books to be lettered from time to time, in gold or black, as may be ordered, on side.....	08 per line.....	Brown & Power.

MISCELLANEOUS CONTRACTS.

CONTRACT.	PRICE.	CONTRACTOR.	DEPARTMENT.	CONTRACT TERMINATES
Burial indigent dead, each interment..	\$2 99	Edward Kelly	Hospital, Almshouse, Health Office, Morgue and Smallpox Hospital,	June 30, 1902
Municipal Reports—				CONTRACT AWARDED.
For each long primer page.....	38			July 15, 1901
For alterations per hour.....	Nothing.	W. M. Hinton, Jr....	Board of Supervisors..	
For extra copies of reports of departments, irrespective of size of type				
For 250 copies, per page.....	30			
For 500 copies, per page.....	60			
Official advertising—				CONTRACT TERMINATES
For each insertion, per ¼ inch.....	29	{ The Evening Post } { Newspaper..... }	Public Departments & Commissions of the City and County.....	Apr. 1, 190
Publishing and distributing the Delinquent Tax List for the year 1900—				CONTRACT AWARDED
Each assessment of personal property..	06½			May 10, 1901
Each assessment of real estate.....	06½	The Star.....	Tax Collector.....	
Each assessment for poll tax	06½			
Publishing and delivering copies of the decisions of the Supreme Court, daily trial calendar and law and motion calendar of the Superior Court, per month.....	\$200 00	{ Recorder Publish- } { ing Company, a } { corporation..... }	Offices and Departments.....	CONTRACT TERMINATES June 30, 1902

LIGHTING STREETS AND PUBLIC BUILDINGS.

The Charter of the City and County of San Francisco, Article II, Chapter II, Sec. 1, Sub. 14, empowers the Board of Supervisors "to fix and determine by Ordinance, in the month of February of each year, to take effect on the 1st day of July thereafter, the rates of compensation to be collected by any person, company or corporation in the City and County, for the use of water, heat, light or power supplied to the City and County, or to the inhabitants thereof, and to prescribe the quality of the service."

In order that the Board of Supervisors might obtain information upon which to intelligently fix the rates or compensation to be collected by any person, company or corporation for the use of gas or electric light or power supplied to the City and County or the inhabitants thereof, the Board, on January 21, 1901, adopted the following Resolution "requiring persons, companies and corporations furnishing heat, light or power to furnish information as to the revenue derived, the expenditures and the cost of the plant, etc.," viz:

RESOLUTION No. 1204.

Resolved, That the San Francisco Gas and Electric Co., Central Light and Power Co., Harbor Light and Power Co., Western Light and Power Co., California Hotel, California Light and Fuel Co., Mutual Electric Light Co., Independent Light and Power Co., Pacific Power Co., Mills Building, Martel Power Co. (149 Fremont street), Martel Power Co. (12 Stevenson street), Pacific Sheet Metal Works, Halleck Block, Thomas Dougherty, Central Gas Light Co., Pacific Gas Improvement Co., Pacific Lighting Co., Equitable Gas Light Co., San Francisco Gas Light Co., Geo. F. Day and all other persons, companies and corporations supplying heat, light or power to this City and County, or the inhabitants thereof, are hereby required to furnish this Board, on or before January 31, 1901, with the following information, to wit:

First—A detailed statement showing all revenue derived by such person, company or corporation supplying heat, light or power, from all sources.

Second—An itemized statement showing all expenditures made, for the manufacture and supply of heat, light or power.

Third—The original cost and the estimated present value of the plant used for the manufacture and supply of heat, light or power.

Fourth—If it be a company or corporation, the amount of capital stock of the company or corporation outstanding; the amount of the bonds of the company or corporation outstanding, and the amount of the floating debt of the company or corporation.

The above statements to be verified by the president of such company or corporation, or of such person, as the case may be.

The object of this inquiry is in order that this Board may obtain information upon which to fix and determine, in the month of February, the rates or compensation to be collected by any person, company or corporation in this City and County for the use of heat, light or power supplied to this City and County, or the inhabitants thereof, and to prescribe the quality of the service, as provided under the provisions of the new Charter of the City and County of San Francisco, Article II, Chapter II, Section 1, Subdivision 14, under the title "Powers of the Supervisors."

Further Resolved, That the Clerk of this Board be and is hereby directed to forthwith serve a certified copy of this Resolution upon the president and

LIGHTING STREETS AND PUBLIC BUILDINGS. 697

secretary of each company or corporation, or upon such person, hereinbefore named, and upon all other companies or corporations, or such persons, as the case may be, furnishing heat, light or power to this City and County, or the inhabitants thereof.

And the Clerk is hereby directed to advertise this Resolution in The Evening Post Newspaper.

In Board of Supervisors, San Francisco, January 21, 1901.

Adopted by the following vote:

Ayes—Supervisors Booth, Brandenstein, Braunhart, Comte, Connor, Curtis, D'Ancona, Dwyer, Fontana, Jennings, McCarthy, Reed, Stafford, Tobin, Wilson.

Absent—Supervisors Bixton, Hotelling, Sanderson.

JNO. A. RUSSELL, Clerk.

In compliance with the foregoing Resolution, the following statements were filed by persons, companies and corporations engaged in the business of furnishing heat, light and power, viz:

STATEMENTS FILED IN COMPLIANCE WITH RESOLUTION
NO. 1204 OF THE BOARD OF SUPERVISORS.

STATEMENT OF SAN FRANCISCO GAS AND ELECTRIC COMPANY
FOR THE YEAR 1900.

	AMOUNT.	TOTAL.
GAS.		
Sales of gas	\$1,209,129 75	
Sales of coke.....	71,054 04	
Sales of tar.....	18,968 97	
Sales of ammonia.....	3,779 67	
Sales of old material.....	310 85	
Wharfage and rents.....	2,497 36	
Creditors' discounts.....	1,027 15	
Gas stoves.....	28,301 94	
		\$1,335,069 73
ELECTRICITY.		
Sales of current.....	\$706,295 84	
Sales of steam	7,512 00	
Sales of old material.....	1,773 15	
Jobbing.....	29,927 47	
Creditors' discounts	510 84	
Gain on investments.....	35,196 27	
		781,205 57
Total receipts.....		\$2,116,275 30

From January 1, 1900, to July 1, 1900—Rate per M cubic feet.....\$1 50
 From July 1, 1900, to January 1, 1901—Rate per M cubic feet..... 1 40

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COST OF PRODUCTION, 1900.

	AMOUNT.	TOTAL.
GAS.		
Coal carbonized.....	\$153,191 29	
Anthracite and coke used.....	97,306 48	
Gas oil.....	127,355 80	
Wages and salaries.....	295,353 50	
Legal expenses.....	6,960 56	
Taxes.....	66,284 14	
Gas stoves.....	37,321 86	
Repairs, wear and tear, etc.....	129,377 62	\$913,151 25
ELECTRIC.		
Fuel used.....	\$185,068 41	
Wages and salaries.....	193,878 30	
Carbons.....	10,397 06	
Legal expenses.....	2,383 65	
Taxes.....	25,378 86	
Current purchased.....	56,425 80	
Jobbing.....	27,487 49	
Wear and tear.....	24,000 00	
General expenses.....	49,986 94	575,006 51
SUMMARY.		
Total receipts.....	\$2,116,275 30	\$1,488,157 76
Total costs.....	1,488,157 76	
Net profits.....		628,117 54
Dividends paid (12).....	\$516,717 96	
Bond interest.....	37,380 00	554,097 96
Surplus.....		\$74,019 58

LIGHTING STREETS AND PUBLIC BUILDINGS. 699

COST OF PLANT.

	AMOUNT.	TOTAL.
Cost of gas plant.....	\$9,887,847 33	
Cost of electric plant.....	3,154,731 22	
		\$13,042,578 55
Present value of plant (estimated).....		\$11,500,000 00
Capital stock issued.....		12,994,284 36
Bonds outstanding.....		623,000 00
Floating debt.....		446,223 55

SAN FRANCISCO GAS AND ELECTRIC COMPANY,

By J. B. CROCKETT, President.

STATEMENT OF THE PACIFIC GAS IMPROVEMENT COMPANY.

To the Honorable Board of Supervisors
Of the City and County of San Francisco—

Gentlemen: In response to Resolution No. 1204 of your Board, adopted January 21, 1901, the Pacific Gas Improvement Company respectfully submits the following statement:

For the first and second questions the period taken is for the twelve months ending October 31, 1900, with this change: During eight months of the mentioned period the established price for gas was \$1.50 per M cubic feet, and during four months the price was \$1.40 per M cubic feet. This statement is made up as if the collectible rate for gas for the entire period had been \$1.40 per M cubic feet, which is the established rate at present.

	AMOUNT.	TOTAL.
Answer to first question :		
REVENUE.		
Gas sales.....	\$412,320 72	
From other sources.....	25,494 43	
Total.....		\$437,815 15

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Answer to second question :

	AMOUNT.	TOTAL.
EXPENDITURES FOR THE SAME PERIOD.		
Oil and coal	\$128,836 67	
Labor, salaries, office and general expenses, etc.....	106,941 50	
Purifying materials, interest, maintenance and other items..	67,399 44	
Taxes	31,302 77	
Total.....		334,480 38

Answer to third question:

The works operated by this company were not built by it solely, but from the records we have we find the cost of the property was.....\$4,520,157 66
 We estimate the present value of the plant used for the manufacture and supply of heat, light or power at..... 3,272,000 00

Answer to fourth question:

The company has outstanding 32,000 shares of capital stock. It has a bonded indebtedness of \$1,250,000, and on October 31, 1900, the net floating indebtedness was \$51,607.49.

The above statements are true to the best of my knowledge and belief.
 C. O. G. MILLER, President.

STATEMENT OF THE MUTUAL ELECTRIC LIGHT COMPANY.
 San Francisco, January 31, 1901.

To the Honorable the Board of Supervisors
 Of the City and County of San Francisco—

Gentlemen: In answer to your request for information called for by Resolution No. 1204, adopted by your Honorable Board at a meeting held January 21, 1901, we beg to submit the following:

First: Our revenue for the twelve months ending December 31, 1900, was as follows:

	AMOUNT.	TOTAL.
1. From light and power service.....	\$145,894 82	
2. From miscellaneous sources	336 16	
		\$146,230 98

LIGHTING STREETS AND PUBLIC BUILDINGS. 701

Second: Our expenditures for the manufacture and supply of heat, light and power during the twelve months ending December 31, 1900, were as follows:

	AMOUNT.	TOTAL.
1. General expense.....	\$23,957 95	
2. Manufacturing.....	74,675 88	
3. Distribution.....	12,501 83	
		\$111,135 66

Third.

1. Original cost of plant.....\$361,846 08
2. Present value.....Impossible to estimate

Fourth: The capital stock of the company amounts to \$500,000, in 50,000 shares at \$10 each of these shares 41,000 have been issued.

We have no bonds outstanding.

Our floating debt December 31, 1900 (after deducting cash on hand and collectible outstandings), amounted to \$23,173.50.

Respectfully,

MUTUAL ELECTRIC LIGHT COMPANY.

P. B. Cornwall, President.

STATEMENT OF THE CENTRAL LIGHT AND POWER COMPANY FOR THE YEAR COMMENCING JANUARY 1 AND ENDING DECEMBER 31, 1900.

	AMOUNT.	TOTAL.
Revenue derived from the sale of electric current and steam		\$138,678 31
Expenditures in the manufacture of said electric current and steam—		
Fuel.....	\$54,896 13	
Salaries (engine-room).....	17,206 25	
Salaries (meter department and outside work).....	4,769 85	
Salaries (office).....	5,800 00	
Engine-room (expenses).....	4,285 26	
Office (expenses).....	1,143 11	
Water.....	2,749 60	
Carbon.....	1,824 00	
Insurance and taxes.....	2,340 62	
		95,014 82

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Expended in construction and repairs.....	\$15,560 58
The original cost of plant.....	238,600 00
A corporation	
70,000 shares outstanding.	
No bonds.	
Floating indebtedness, about.....	10,000 00

This is to certify that the enclosed statement is a true and correct statement of the company's business for the year commencing January 1 and ending December 31, 1900.

CENTRAL LIGHT AND POWER COMPANY,

By J. W. PAUSON, Secretary.

By FRANK PAUSON, President.

STATEMENT OF THE EQUITABLE GAS LIGHT COMPANY.

Receipts from sale of gas, etc., for July, August, September, October, November and December, 1900, as follows:

	CUBIC FEET GAS.	AMOUNT.
1900- July.....	9,230,300	\$9,269 50
August.....	12,099,700	12,071 35
September.....	13,080,000	13,062 20
October.....	16,486,200	16,629 05
November.....	17,339,300	17,292 00
December.....	18,948,000	18,908 15
Sale of oil tar.....		55 25
Total.....	87,111,500	\$87,287 50

Expenditures for July, August, September, October, November and December, 1900, for the manufacture, sale and distribution of gas, as follows:

	AMOUNT.	TOTAL.
Manufacturing Expenditures -		
Coal.....	\$21,119 11	
Oil.....	19,203 90	
Labor.....	2,989 75	
Expenses and repairs.....	600 34	
Water.....	551 25	
		\$44,464 35

EXPENDITURES—CONTINUED.

	AMOUNT	TOTAL.
Administration Expenditures -		
Salaries.....	\$3,790 00	
Clerk hire.....	2,068 50	
Janitor and office expenses.....	433 70	
Stationery.....	304 23	
Telephone.....	118 55	
Telegrams.....	16 15	
Horse and buggy.....	180 00	
Water for offices.....	31 85	
Ground rent (works).....	1,800 00	
Office rent... ..	1,200 00	
Insurance and taxes.....	829 55	
		10,772 53
		\$55,236 88

Actual cost of plant—Mains, services, etc, December 31, 1900..... \$304,669 56
 Capital stock outstanding—138,800 shares, par value \$20 00..... 2,776,000 00

STATEMENT OF H. H. TAYLOR, MILLS BUILDING.

To the Honorable the Board of Supervisors
 Of the City and County of San Francisco—

Gentlemen: In reply to your notice to comply with Resolution No. 1204: The surplus electricity generated by the house plant of the Mills Building is distributed and sold by H. H. Taylor, who obtained street privileges for the conduits and who sells under a merchandise license, as required by the License Collector.

The following figures for 1900 are only approximate, but are as close as it is possible to arrive at the figures for the purpose indicated by you, the generating plant from which the distributing system derives its current being a part of and inseparable from the Mills Building:

	AMOUNT.	TOTAL.
1. Revenue—		
Receipts from sale of electricity.....	\$8,215 07	
Receipts from sale of supplies.....	119 80	
		\$8,334 87
2. Expenditures—		
Coal consumption.....	\$1,680 00	
Purchase of supplies.....	743 48	
		2,423 48
		\$5,911 39

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3. The original cost of the distributing system was.....\$10,000 00
 The estimated present value is 500 00
 4. The distribution and sale of electricity is conducted by an individual, and there are no bonds-
 liens or other indebtedness outstanding against the system.

H. H. TAYLOR.

San Francisco, February 4, 1901.

STATEMENT OF CENTRAL POWER PLANT.

John A. Russell, Clerk of the Board of Supervisors—

In compliance with yours of January 24th, we beg to submit the following statement of receipts and expenditures:

Per month—		
Engineer contract for supplying fuel, water, labor and oil for running power plant.....	\$212 50	
Rents	80 00	\$292 50
Revenue from all sources.....		301 50
		\$0 00

With the balance of nine dollars we have to keep shafting in order, belting in order and replace the same when worn out.

Respectfully,

CENTRAL POWER PLANT,

117 Beale street.

THOS. DOHERTY.

Can not give you the original cost or present value, as the plant does not belong to us, we holding it under a lease. We have no capital stock.

CENTRAL POWER PLANT,

Per F. C. PETERS.

STATEMENT OF THE PACIFIC POWER COMPANY.

San Francisco, January 29, 1901.

To the Honorable the Board of Supervisors
 Of the City and County of San Francisco—

Gentlemen: Herewith please find data, as per Resolution No. 1204, adopted by your Honorable Board January 21, 1901:

Earning of plant.....	\$21,511 90
Operating expenses	20,764 67
Original cost of plant.....	410,625 11
Value now estimated.....	406,048 77
Amount of capital stock of company outstanding.....	5,000 shares
Amount of bonds of company outstanding.....	None
Amount of floating debt of company.....	45,650 00

PACIFIC POWER COMPANY,

By S. C. BIGELOW, President.

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STATEMENT OF THE INDEPENDENT ELECTRIC-LIGHT AND POWER COMPANY.

(Filed February 20, 1901.)

	AMOUNT.	TOTAL.
Land, stations and buildings.....	\$273,692 01	
Motive power.....	523,162 91	
Arc apparatus.....	21,652 37	
Incandescent and power apparatus.....	472,400 98	
Pole lines.....	60,380 02	
Installations.....	50,463 13	
Conduits	528,057 10	
Cables.....	343,089 07	
Total cost to January 31, 1901, inclusive.....		\$2,272,897 59

FRANK HARROLD, Secretary.

The following is a copy of Bill No. 321, Ordinance No. 250, "Fixing the standard quality and illuminating power of gas, and the maximum rate to be charged therefor, for the fiscal year ending June 30, 1902, which was approved by his Honor Mayor Jas. D. Phelan, on March 12, 1901, viz:

BILL NO. 321—ORDINANCE NO. 250.

FIXING THE MINIMUM STANDARD QUALITY AND ILLUMINATING POWER OF GAS AND THE MAXIMUM PRICE TO BE CHARGED THEREFOR.

Be it ordained by the People of the City and County of San Francisco as follows:

Section 1. The minimum standard quality and illuminating power of gas to be furnished by any person, company or corporation to be used in the City and County of San Francisco, be and is hereby established at nineteen (19) candles, said candle power to be determined by the Board of Public Works of the City and County of San Francisco, and the maximum rate and price to be charged and collected therefor from consumers by any such person, company or corporation, for the fiscal year ending June 30, 1902, is hereby fixed and established at one dollar and 40-100 (\$1.40) per one thousand cubic feet.

Section 2. The maximum rate and price to be charged by any person, company or corporation for furnishing gas for lighting public buildings for the fiscal year ending June 30, 1902, is hereby fixed at one dollar and 25-100 (\$1.35) per one thousand cubic feet.

Section 3. The maximum rate or price to be charged by any person, company or corporation for furnishing gas for lighting the public streets, parks or squares for the fiscal year ending June 30, 1902, is hereby fixed at nine (9) cents per lamp

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per night, including care, lighting and extinguishing, each lamp to be kept burning from thirty (30) minutes after sunset until thirty (30) minutes before sunrise on the next day, and the number of such gas lamps may be increased or diminished by the Board of Supervisors, and subject to any moonlight schedule the Board may adopt, provided that the price of 150 Welsbach lamps of three lights each is hereby fixed at 15 cents a lamp per night.

Section 4. The maximum rate and price to be charged by any person, company or corporation for furnishing gas for heating purposes for the fiscal year ending June 30, 1902, is hereby fixed at one dollar and 40-100 (\$1.40) per one thousand cubic feet.

Section 5. All Orders, Ordinances and Resolutions, and parts of all Orders, Ordinances and Resolutions in conflict with the provisions of this Ordinance be and are hereby repealed.

Section 6. This Ordinance shall take effect and be in force on the first day of July, 1901..

In Board of Supervisors, San Francisco, March 11, 1901.

After having been published five successive days, according to law, taken up and passed by the following vote

Ayes—Supervisors Booth, Brandenstein, Braunhart, Comte, Connor, Curtis, Dywer, Hotaling, Jennings, McCarthy, Reed, Stafford, Wilson. Absent—Supervisors Boxton, D'Ancona, Fontana, Sanderson, Tobin.

JNO. A. RUSSELL, Clerk.

Approved, San Francisco, March 13, 1901.

JAS. D. PHELAN,

Mayor and ex-officio President of the Board of Supervisors.

The following is a copy of Bill No. 323, Ordinance No. 249, "Fixing the maximum rate and price to be charged for incandescent and electric lights, and for electricity for heat and power purposes, for the fiscal year ending June 30, 1902, which Ordinance was approved by his Honor Mayor Jas. D. Phelan, on March 18th, 1901, viz:

BILL NO. 323—ORDINANCE NO. 249.

FIXING THE MAXIMUM RATE AND PRICE TO BE CHARGED FOR INCANDESCENT AND ELECTRIC LIGHTS, AND FOR ELECTRICITY FOR HEAT AND POWER PURPOSES.

Be it ordained by the People of the City and County of San Francisco as follows:

Section 1. The maximum rate and price to be charged by any person, company or corporation for furnishing incandescent light for the fiscal year ending June 30, 1902, is hereby fixed at eleven cents for one thousand watt hours.

From this rate discounts shall be allowed for quantity consumed per sixteen candle lamp, as follows:

On a consumption per 16 candle power incandescent lamp of 2,000 to 3,000 watt hours in one month, 5 per cent.

On a consumption per 16 candle power incandescent lamp of 3,000 to 4,000 watt hours in one month, 10 per cent.

On a consumption per 16 candle power incandescent lamp of 4,000 to 5,000 watt hours in one month, 15 per cent.

On a consumption per 16 candle power incandescent lamp of 5,000 to 6,000 watt hours in one month, 20 per cent.

On a consumption per 16 candle power incandescent lamp of 6,000 to 7,000 watt hours in one month, 25 per cent.

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On a consumption per 16 candle power incandescent lamp of 7,000 to 8,000 watt hours in one month, 30 per cent.

On a consumption per 16 candle power incandescent lamp of 8,000 to 9,000 watt hours in one month, 55 per cent.

On a consumption per 16 candle power incandescent lamp of over 9,000 watt hours per month, 40 per cent.

In estimating the discounts, one arc lamp shall be equivalent to two sixteen incandescent lamps for each ampere of current used by said arc lamp.

A charge of \$1.50 for the maintenance of a meter during any month may be made to any consumer whose bill for current furnished during such month does not exceed \$1.50, but in the event of such charge being made, no further charge shall be made for current furnished during said month to said consumer.

Section 2. The maximum rate and price to be charged by any person, company or corporation for furnishing arc lights of two thousand candle power for the fiscal year ending June 30, 1902, for the City and County of San Francisco and the inhabitants thereof, is hereby fixed as follows:

For each arc light burning twenty-four hours, \$5.50 per week.

For each arc light burning from sunrise to sunset, \$3.30 per week.

For each arc light burning from sunset to sunrise, \$2.75 per week.

For each arc light burning from sunset to midnight, \$1.95 per week.

For each arc light burning for six nights from sunset to 9:30 P. M., \$1.65 per week.

Each arc light must be of 2,000 candle power.

Section 3. The maximum rate or price to be charged by any person, company or corporation for furnishing electricity for heat and power purposes for the fiscal year ending June 30, 1902, is hereby fixed at 10 cents per 1,000 watt hours. Subject to the above discounts, each horsepower of motor capacity connected being considered as equivalent to twelve and one-half sixteen candle power incandescent lamps.

Section 4. This Ordinance shall take effect and be in force on the first day of July, 1901.

In Board of Supervisors, San Francisco, March 11, 1901.

After having been published five successive days, according to law, taken up and passed by the following vote:

Ayes—Supervisors Booth, Brandenstein, Braunhart, Comte, Connor, Curtis, Dwyer, Hotaling, Jennings, McCarthy, Reed, Stafford, Wilson. Absent—Supervisors Boxton, D'Ancona, Fontana, Sanderson, Tobin.

JNO. A. RUSSELL, Clerk.

Approved, San Francisco, March 13, 1901.

JAS. D. PHELAN,

Mayor and ex-officio President of the Board of Supervisors.

At the meeting of the Board of Supervisors held on May 13, 1901, the following Resolution approving the specifications prepared by the Board of Public Works and approved by the Committee on Artificial Lights of the Board of Supervisors, for the lighting of the streets and outlying districts, and directing the Clerk to advertise for proposals therefor, was adopted, to wit:

RESOLUTION NO. 1514.

Resolved, That specifications for lighting with gas or electricity streets and outlying districts of the City and County of San Francisco for the term commencing July 1, 1901, to and including June 30, 1902, as prepared by the Board of Public Works and approved by the Committee on Artificial Lights, be and they are hereby approved and adopted, and the Clerk of this Board be and he is

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hereby directed to advertise the proposal notice prepared by the Board of Public Works and approved by the Committee on Artificial Lights inviting bids for lighting streets and outlying districts.

In Board of Supervisors, San Francisco, May 13, 1901.

Adopted by the following vote: Ayes—Supervisors Booth, Brandenstein, Braunschart, Comte, Connor, Curtis, D'Ancona, Dwyer, Hotelling, Jennings, McCarthy, Reed, Sanderson, Stafford, Tobin. Absent—Supervisors Boxton, Fontana, Wilson.

JNO. A. RUSSELL, Clerk.

At the same meeting the specifications for furnishing gas of the standard quality and illuminating power of not less than 19 candles or incandescent electric lights of not less than 16 candle power, for lighting all the public buildings and offices of the City and County of San Francisco, which were prepared by the Board of Public Works and which specifications received the approval of the Committee on Artificial Lights of the Board of Supervisors, were approved by the adoption of Resolution No. 1513, which also directed the Clerk to advertise for proposals therefor, a copy of which Resolution is as follows:

RESOLUTION NO. 1513.

Resolved, That the specifications for furnishing gas of the standard quality and illuminating power of not less than nineteen (19) candles or incandescent electric lights of not less than sixteen (16) candle power for lighting all of the public buildings and offices of this City and County, prepared by the Board of Public Works and approved by the Committee on Artificial Lights of this Board, be and the same are hereby approved and adopted, and the Clerk of this Board be and he is hereby directed to advertise the proposal notice prepared by the Board of Public Works and approved by the Committee on Artificial Lights inviting bids for lighting said buildings for the period specified in said specifications.

In Board of Supervisors, San Francisco, May 13, 1901.

Adopted by the following vote: Ayes—Supervisors Booth, Brandenstein, Braunschart, Comte, Connor, Curtis, D'Ancona, Dwyer, Hotelling, Jennings, McCarthy, Reed, Sanderson, Stafford, Tobin. Absent—Supervisors Boxton, Fontana, Wilson.

JNO. A. RUSSELL, Clerk.

PROPOSALS

TO LIGHT THE STREETS AND OUTLYING DISTRICTS WITH GAS OR ELECTRICITY.

Clerk's Office. Board of Supervisors, San Francisco, May 14, 1901.

In accordance with Resolution No. 1514 of the Board of Supervisors, sealed proposals will be received in open session of the Board of Supervisors on Monday, May 27, 1901, between 2:30 and 3 o'clock P. M., to light with gas or with electricity or both for the term commencing July 1, 1901, to and including June 30, 1902, the streets and outlying portions of the City and County of San Francisco, as provided and hereinafter described.

The districts within which the streets are to be lighted with gas or electricity are hereby described as follows:

DISTRICT NO. 1—Beginning at the intersection of Market and East streets, along and including Market street to Thirteenth (formerly Ridley) street; along and including Thirteenth (formerly Ridley) street to Mission street; along and including Thirteenth street to Division street; along and including Division street to Channel street; along and including Channel street to the Bay; along the Bay line to the point of beginning at East and Market streets.

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DISTRICT NO. 2—Beginning at the intersection of Market and East streets, along line not including Market street to Van Ness avenue; thence along but not including Van Ness avenue to the Bay; thence along the Bay line to the point of beginning.

DISTRICT NO. 3—Beginning at the intersection of Market street and Van Ness avenue, along and including Van Ness avenue to the Bay; thence along the Bay line to Devisadero street, thence along and including Devisadero street to Thirteenth (formerly Ridley) street; thence along and including Thirteenth (formerly Ridley) street to Market street; thence along but not including Market street to Van Ness avenue to point of beginning.

DISTRICT NO. 4—Beginning at the northerly termination of Devisadero street, along but not including Devisadero street to Thirteenth (formerly Ridley) street; along and including Thirteenth (formerly Ridley) street to Buena Vista avenue; along and including Buena Vista avenue south to Buena Vista Park to Frederick street; along and including Frederick street to Stanyan street; along and including Stanyan street to Fulton street; along and including Fulton street to the Ocean; along the Ocean line and Bay line to the point of beginning.

DISTRICT NO. 5—Beginning at the easterly termination of Channel street, along but not including Channel street to Division street; along but not including Division street to Thirteenth street; along but not including Thirteenth street to Buena Vista avenue; along but not including Buena Vista avenue to Frederick street; along but not including Frederick street to "H" street; along and including "H" street to the Ocean; along the Ocean line to the San Mateo County line; along the San Mateo County line to the Bay; along the Bay line to the point of beginning.

DISTRICTS 1, 2, 3, 4 AND 5—Separate bids will be received for lighting Districts 1, 2, 3, 4 and 5, with either incandescent gas lights consuming sufficient gas to give 30 candle power, or electric arc lights of 2,000 candle power; with the understanding that the Board reserves the right to award contract for lighting each District separately with either gas or electricity or both.

SPECIFICATIONS—GAS.

The gas to be furnished to be of standard quality and of illuminating power of not less than nineteen candles, said illuminating power to be determined by tests made by the Light and Water Inspector in his office, who will use for said tests such burners as will obtain from the gas the greatest amount of light, and practicable for use by the consumer, and consuming at the rate of five (5) cubic feet per hour.

"LAMP-POSTS AND LAMPS."—The lamp-posts to be used to be of the same material and not be less in height than the lamp-posts now in use, and to be erected and lighted at such locations on mains of the company as may be designated by the Board of Public Works.

The number of lamp-posts to be erected and maintained during the continuance of the contract shall not be less than four thousand and not to exceed seven thousand in all, and to be erected or maintained at or contiguous to the present locations of street lamps erected throughout the City and County, except the locations wherein the streets or portions of streets are to be lighted by electricity, and at such locations as may be designated by the Board of Public Works. The Board of Public Works to have the right to change the locations of gas lamps from time to time, upon the payment of the actual cost of labor and material in making said change or removals.

"LAMPS AND BURNERS."—All lamps and burners to be equivalent to the type supplied by the Welsbach Street Lighting Company of America. The burners of all gas lamps to consume sufficient gas to give 60 candle power.

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The lamp-posts, lamps, service pipes, mains and all appurtenances incidental and necessary to complete and equip the lamps ready for lighting to be furnished by the successful bidders, who shall erect, maintain and keep the same in a proper condition of repair at their own expense.

"LIGHTING LAMPS."—The last lamp on each lamp-lighter's beat to be lighted one hour after sunset and extinguished one-half hour before sunrise, except that during the night of full moon, and not exceeding two nights preceding and two nights following, no lamps shall be lighted.

SPECIFICATIONS—ELECTRIC LIGHTS.

Arc lamps to be furnished during the continuance of this contract wherever ordered by the Board of Public Works.

The electric current to be furnished for the arc lights is never to be less than nine and six-tenths amperes, at the pressure at each lamp not less than forty-five volts, and giving a nominal candle power of two thousand, or lamps of an equivalent wattage shall be used.

Carbons used must be one-half or seven-sixteenths inch in diameter, of the best quality and style adapted for street lighting, and must burn uniformly and give a clear and steady light.

The poles, wires, conductors, lamps, carbon electrodes and each and every appliance, article or apparatus which may be necessary for electric lighting to be furnished and erected and kept in good order and condition by the successful bidder.

The wires and conductors to be thoroughly insulated and placed in such locations and in such manner as will prevent them from being tampered with or handled by any unauthorized person or persons, it being distinctly understood that the City and County shall not be responsible, but must be held harmless against any claim for damages for any injury or accident which may be occasioned by the wires or conductors, and against any claim for damages by reason of any infringement of any patent right in the use of the lamps, machinery or appliances connected with the said electric light.

The said lights to be erected and maintained at or contiguous to the present locations of the lights erected throughout the City and County, with the distinct understanding that the City reserves the right to discontinue the use of any such lights and to change the locations of, and designate the character of the electric lights and the height of the mast to be used at any particular location during the continuance of the contract, upon the payment of the actual cost of labor and materials in making the change or removals.

All wooden poles to be hereafter apportioned or erected at such locations as may be designated by the Board of Public Works.

All arc lights necessary to be erected at such locations as may be determined by the Board of Public Works shall be furnished by successful bidder when required, provided the direction to furnish new lights be given on or before November 1, 1901, at the bidder's expense, but in no event shall more lights be maintained than can be paid for out of the fund provided for street lighting during the fiscal year.

The lamps to be lighted during the entire night, from one hour after sunset until one-half hour before sunrise, except that during the night of full moon, two nights preceding and one night following, no lamps shall be lighted, and in addition to said nights when no lights shall be lighted, the company or companies, corporation or persons furnishing said light to the City and County upon notice from the Board of Public Works, delivered and served three (3) hours before the schedule time of lighting said lights, shall refrain from lighting or turning on said electric lights until ordered by the Board of Public Works to do so, and during such time when the lights are so turned off, in addition to the nights specified as dark nights, no charge shall be made to the City and County.

GENERAL PROVISIONS.

All the lamps to be kept in proper condition, and cleaned at least twice each week, and at each of said cleanings all the glass shall be thoroughly cleaned, both on the inside and outside of the lamp, and all dust and dirt shall be brushed from the frames. The lamps are to be repaired and reglazed within twenty-four hours after any portion of the same is broken.

STREET SIGNS.—The names of streets, places and alleys to be painted on the gas lamps throughout the City and County at street crossings, main and subdivision street intersection and at the intersection of places and alleys with the main streets; at main street crossings two names on each lamp; at intersection of main streets not less than two names on each lamp; at intersection of subdivision streets, places or alleys not less than two names on each lamp, and the names of streets, places or alleys shall be painted on a metal sign, approved by the Board of Public Works, and attached to all electric poles at the intersection of street or alley, not higher than ten feet above the ground.

The letter, color, style and location of the names on the lamps to be approved or designated by the Board of Public Works.

The names of streets, etc., on each lamp to be kept clean and in position so as to be plainly visible, and within twenty-four hours, in case of breakage, to be repaired and the name or names repainted thereon, and in no event are the lamps to be turned so as to misplace the names of the streets as indicated on each of them.

No compensation shall be allowed for any lamp or lamps, either gas or electric light, except for the actual time such lamps shall be lighted, also that within three days prior to the expiration of each month the Gas Inspector shall furnish the parties to whom the contract is awarded the time during which the lamps shall be lighted and extinguished each and every night and morning of the successive month and in accordance with the foregoing specification. All the bills of the successful bidder, upon the execution of a contract, and the performance in compliance therewith, shall be presented and paid monthly at the end of each calendar month.

NOTICE TO BIDDERS.

Bidders will estimate and bid a price per lamp per night, for which they will furnish, erect, repair and keep lighted and in good repair and condition all lamp-posts, masts, poles, wires, lamps, services, street signs and appurtenances, furnish gas or electric light on all streets, places and alleys according to the foregoing specifications.

FIRST.—Bidders will estimate and State a price per night for each gas lamp or each electric light in District 1, 2, 3, 4 and 5, with the understanding that either gas or electricity, or both, will be used in the lighting of each district.

The Board reserves the right to award a contract to light each district with gas or electricity, or both, to the lowest responsible bidder.

All proposals must be accompanied with a certificate of deposit or certified check on a solvent bank in the City and County of 10 per cent, on the amount of the bid, payable at sight to the order of the Clerk of the Board of Supervisors. If the bidder to whom the contract is awarded shall, for five days after such award, fail or neglect to enter into the contract, and file a good and sufficient bond with two sureties in the sum of \$35,000.00 for the proper fulfillment of said contract, the Clerk shall draw the money due on said certificate of deposit or check, and pay the same into the Treasury, and under no circumstances shall the certificate of deposit or check or the proceeds be returned to such defaulting bidder.

It is also to be distinctly understood that the Board reserves the right to reject any and all bids if the public good so requires.

Also, that the party or parties to whom the contract is awarded will be required, prior to or at the time of the execution of the contract to pay the pro rata

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of the cost for publishing this notice; to be divided by the number of districts (five in number), each bidder to pay for the number for which he may be awarded a contract; also to pay the cost of publishing in the official paper the Resolution awarding the contract.

The bidder to whom the contract is awarded, shall pay to the City and County, the cost of publishing Resolutions authorizing the payment of sums of money over \$500, in accordance with the terms of the contract. Said Resolutions to be published monthly five times on passages to print and once upon Mayor's approval, at the rate of thirty cents per square, per insertion.

Blank proposals furnished by the Clerk.

PROPOSALS

FOR LIGHTING PUBLIC BUILDINGS AND OFFICES.

OFFICE OF THE CLERK OF THE BOARD OF SUPERVISORS.

In accordance with Resolution No. 1513 of the Board of Supervisors, sealed proposals will be received in open session of the Board of Supervisors on Monday afternoon May 27, 1901, from 2:30 to 3 o'clock, for furnishing gas of the standard quality and illuminating power of not less than nineteen candles, said illuminating power to be determined by the Light and Water Inspector in his office, who will use for said tests such burners as will obtain from the gas the greatest amount of light, and practicable for use by the consumer, and consuming at the rate of 5 cubic feet per hour, or incandescent electric lights of not less than sixteen candle-power, for lighting all of the public buildings and offices of the City and County, for the period specified, in accordance with the following specifications:

SPECIFICATIONS.

Gas or incandescent electric light of the quality and illuminating power above stated, to be furnished for the lighting of the following buildings and offices (also such other buildings and offices as may be erected or used):

Separate bids will be received to light each of the public buildings, as follows:

To light with gas or incandescent electric lights, or both, the following public buildings and offices separately.

Bids will be received to light with gas or electricity, or both, for the term beginning July 1st, 1901, to and including June 30th, 1902, any or all of the following public buildings or offices:

BUILDING.	LOCATION.
City Hall.....	.....
Hall of Justice.....	.....
Central Police Station.....	City Hall.
Corporation Yard.....	50 Sacramento street.
Coroner's Office.....	Dunbar alley,
Fire Alarm and Police Telegraph.....	17 Brenham place.
Exempt Engine Company.....	15 Brenham place.
Engine No. 2.....	410 Bush street.

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BUILDINGS AND OFFICES—CONTINUED.

BUILDING.	LOCATION.
County Jail No. 1.....	Broadway street.
County Jail No. 2.....	Industrial School Building.
County Jail No. 3.....	House of Correction.
Engine No. 1.....	419 Pacific street.
Engine No. 3.....	1317 California street.
Engine No. 4.....	144 Second street.
Engine No. 5.....	1219 Stockton street.
Engine No. 6.....	311 Sixth street.
Engine No. 7.....	Sixteenth street and Albion avenue.
Engine No. 8.....	1648 Pacific avenue.
Engine No. 9.....	320 Main street.
Engine No. 10.....	516 Bryant street.
Engine No. 11.....	1632 Fifteenth avenue South.
Engine No. 12.....	Drumm and Commercial streets.
Engine No. 13.....	1458 Valencia street.
Engine No. 14.....	1017 McAllister street.
Engine No. 15.....	2114 California street.
Engine No. 16.....	1009 Tennessee street.
Engine No. 17.....	34 Mint avenue.
Engine No. 18.....	317 Duncan street.
Engine No. 19 and Hook and Ladder No 3.	1749 Market street.
Engine No. 20.....	2117 Filbert street.
Engine No. 21.....	1154 Oak street.
Engine No. 22.....	1348 Tenth avenue.
Engine No. 23.....	3022 Washington street.
Engine No. 24.....	449 Douglass street.
Engine No. 25.....	2547 Folsom street.
Engine No. 26.....	327 Second avenue.
Engine No. 27.....	619 Hermann street.
Engine No. 28.....	S. E. cor. Francisco and Stockton streets.
Engine No. 29.....	Bryant, opposite Eleventh street.

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BUILDINGS AND OFFICES - CONCLUDED.

BUILDING.	LOCATION.
Engine No. 30.....	1737 Waller street.
Engine No. 31.....	1214 Pacific street.
Engine No. 32.....	S.W. cor. West and Holly Park ave.
Engine No. 33.....	117 Broad street.
Engine No. 34.....	1119 Ellis street.
Engine No. 35.....	Bluxome street, bet. Fourth and Fifth streets.
Engine No. 37.....	Twenty-third street, near Florida.
Truck No. 1.....	22 O'Farrell street.
Truck No. 2 and Chemical No. 5.....	627 Broadway.
Truck No. 7.....	3050 Seventeenth street.
Chemical No. 2.....	1819 Post street.
Chemical No. 3.....	112 Jackson street.
Chemical No. 4.....	451 McAllister street.
Chemical No. 6.....	311 Sixth street.
Water Tower No. 1.....	108 New Montgomery street.
Fire Department Stables No. 1.....	Tenth street, bet. Bryant and Division streets.
Corporation Yard No. 2.....	Francisco and Stockton streets.
Carpenter shop.....	Thirteenth street, bet. Fillmore and Steiner streets.
Plumbing shop.....	Bryant street, opposite Eleventh street.
Department house.....	1812 Stockton street.
Store house.....	54 Waller street.
Corporation Yard, Board of Public Works.	City Hall avenue.
North End Station.....	N. s. Washington street, bet. Polk and Van Neas.
O'Farrell Street Police Station.....	S. s. O'Farrell street, bet. Broderick and [Devisadero streets.
Stanyan Street Police Station.....	Stanyan street.
Seventeenth Street Station.....	3215 Seventeenth street.
South San Francisco Station.....	E. s. Railroad ave., bet. 14th and 15th aves. South.
Potrero Station.....	609 Twentieth street.
Ocean View Station.....	110 Plymouth avenue.
Harbor Station.....	32 Sacramento street.
Boarding Station.....	Foot of Taylor street.
City and County Hospital.....	Potrero avenue.
Branch Receiving Hospital.....	Foot of Mission street.

LIGHTING STREETS AND PUBLIC BUILDINGS. 715

The contractor to run service pipes or wires and place meters wherever designated or whenever required by the Gas Inspector, free of charge to the City.

Should any of the buildings or offices above provided for be vacated by the City and County, such buildings or offices will thereafter be exempt from the conditions of the contract.

Bidders will also estimate with the distinct understanding that the contractors will agree during the pendency of the contract to any system of meter inspection which the Board of Public Works may hereafter approve, provided they are put to no expense for such inspection, except for disconnection as may be regulated by Ordinance. If meters inspected by the Gas Inspector's office are found fast, then the contractor shall refund the amount of the excess of bills of the consumer, public or private, for three full months next preceding date of test. The contractors shall have notice of the time of each test so that they may have a representative present.

NOTICE.

Bidders will estimate and state a price per 1,000 cubic feet for which they will furnish gas of not less than the standard quality called for. Bidders will also estimate and state a price per 1,000 watt hours for which they will furnish incandescent electric light, with the understanding that the gas or electric light furnished for and used in the Gas Inspector's office must be furnished free of charge.

All proposals must be accompanied with a certificate of deposit or certified check on a solvent bank in the City and County of ten (10) per centum on the amount of the bid, payable at sight to the order of the Clerk of the Board of Supervisors. The amount of said check or certificate shall be based upon the consumption during the previous year.

If the bidder to whom the contract is awarded shall for five days after such award fail or neglect to enter into the contract and file a good and sufficient bond, with two sureties, in the sum of ten thousand (\$10,000) dollars, for the proper fulfillment of said contract, the Clerk shall draw the money due on such certificate of deposit or check and pay the same into the Treasury; and under no circumstance shall the certificate of deposit or check or the proceeds thereof be returned to such defaulting bidder.

It is also to be distinctly understood that the Board reserves the right to award the lighting of the different buildings enumerated separately with either gas or incandescent electric light, or both, also that the party or parties to whom the contract is awarded will be required, prior to or at the time of execution of the contract, to pay the cost of advertising this notice in the official newspaper, as follows: Each building to be charged with its portion of one-half the cost, the City Hall to be charged with the remaining one-half the cost; also to pay the cost of publishing in the official newspaper the Resolution awarding the contract.

The bidder to whom the contract is awarded shall pay to the City and County the cost of publishing Resolutions authorizing the payments of sums of money over \$500 in accordance with the terms of the contract, said Resolutions to be published monthly five times on passage to print and once upon Mayor's approval, at the rate of thirty cents per square, per insertion.

Blank proposals furnished by the Clerk.

The Board reserves the right to reject any and all bids if the public good so require.

RESOLUTION OF AWARD

OF CONTRACT FOR LIGHTING CERTAIN PUBLIC BUILDINGS WITH ELECTRICITY FOR THE TERM COMMENCING JULY 1, 1901, AND ENDING JUNE 30, 1902.

RESOLUTION No. 1590 (General Award of Contract).

Resolved, That the contract for lighting the following Public Buildings and Offices with electricity for the term of one year, commencing July 1st, 1901, to

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and including June 30th, 1902, in strict accordance with the specifications and advertisement inviting proposals thereon, be and the same is hereby awarded to the Independent Electric Light and Power Co., it being the lowest responsible bidder therefor; provided the sureties on its bond, which is hereby fixed at \$5,000.00, are satisfactory to his Honor the Mayor, who is hereby authorized to enter into said contract at the following prices, viz:

BUILDING.	LOCATION.	PER 1,000 WATT HRS.
City Hall.....	.....	.029 cts.
Hall of Justice.....	Kearny street.....	.029
Central Police Station.....	City Hall.....	.029
Corporation Yard.....	50 Sacramento street.....	.029
Coroner's Office.....	Dunbar alley.....	.029
Fire Alarm and Police Telegraph..	17 Brenham place.....	.029
Exempt Engine Company.....	15 Brenham place.....	.029
Engine No. 2.....	410 Bush street.....	.029
Engine No. 1.....	419 Pacific street.....	.029
Engine No. 4.....	144 Second street.....	.029
Engine No. 6.....	311 Sixth street.....	.029
Engine No. 9.....	320 Main street.....	.029
Engine No. 10.....	516 Bryant street.....	.029
Engine No. 12.....	Drumm and Commercial streets.....	.029
Engine No. 17.....	34 Mint avenue.....	.029
Engine No. 19, Hook and L. No. 3..	1749 Market street.....	.029
Engine No. 35.....	Bluxome street, bet. Fourth and Fifth.....	.029
Truck No. 1.....	22 O'Farrell street.....	.029
Corporation Yard, B'd Pub. Wks..	City Hall avenue.....	.029
North End Station.....	Washington street, bet. Polk and Van Ness ave.....	.029
O'Farrell Street Police Station.....	O'Farrell street, bet. Broderick and Devisadero.....	.029

And all other bids received for the above are hereby rejected.

In Board of Supervisors, San Francisco, June 17, 1901.

After having been published five successive days, according to law, taken up and passed by the following vote:

Ayes—Supervisors Boxtton, Brandenstein, Braunhart, Connor, Curtis, D'Ancona, Dwyer, Fontana, Hotalling, Jennings, McCarthy, Reed, Sanderson, Wilson. Absent—Supervisors Booth, Comte, Stafford, Tobin.

JOHN A. RUSSELL, Clerk.

Approved, San Francisco, June 25, 1901.

JAMES D. PHELAN,
Mayor and ex-Officio President of the Board of Supervisors.

RESOLUTION OF AWARD

OF CONTRACT FOR LIGHTING CERTAIN PUBLIC BUILDINGS WITH GAS FOR THE TERM COMMENCING JULY 1, 1901, AND ENDING JUNE 30, 1902.

RESOLUTION No. 1593 (General Award of Contract).

Resolved, That the contract for lighting the following Public Buildings and Offices with gas, for the term of one year, commencing July 1, 1901, to and including June 30, 1902, in strict accordance with the specifications and advertisement inviting proposals thereon, be and the same is hereby awarded to the Equitable Gas Light Company, it being the lowest responsible bidder therefor; provided the sureties on its bond, which is hereby fixed at \$5000 00, are satisfactory to his Honor the Mayor, who is hereby authorized to enter into said contract at the following prices, viz:

Fire Alarm and Police Telegraph, No. 17 Brenham place, per 1,000 cubic feet .....	.98 cents
Exempt Engine Company, No. 15 Brenham place, per 1,000 cubic feet .....	.98 cents
Engine No. 3, No. 1317 California street, per 1,000 cubic feet.	.98 cents

All other bids received for the above are hereby rejected.

In Board of Supervisors, San Francisco, June 17, 1901.

After having been published five successive days, according to law, taken up and passed by the following vote:

Ayes—Supervisors Boxton, Brandenstein, Braunhart, Connor, Curtis, D'Ancona, Dwyer, Fontana, Hotaling, Jennings, McCarthy, Reed, Sanderson, Wilson.

Absent—Supervisors Booth, Comte, Stafford, Tobin.

JNO. A. RUSSELL, Clerk.

Approved, San Francisco, June 25, 1901.

JAMES D. PHELAN,
Mayor and ex-Officio President of the Board of Supervisors.

RESOLUTION OF AWARD

OF CONTRACT FOR LIGHTING CERTAIN PUBLIC BUILDINGS WITH GAS AND ELECTRICITY FOR THE TERM COMMENCING JULY 1, 1901, AND INCLUDING JUNE 30, 1902.

RESOLUTION No. 1649 (General Award of Contract).

Resolved, That the contract for lighting the following Public Buildings and Offices with gas and electricity for the term of one year, commencing July 1, 1901, to and including June 30, 1902, in strict accordance with the specifications and advertisement inviting proposals thereon, be and the same is hereby awarded to the San Francisco Gas and Electric Company, it being the lowest responsible bidder therefor; provided the sureties on its bond, which is hereby fixed at \$5,000.00, are satisfactory to his Honor the Mayor, who is hereby authorized to enter into said contract, at the following prices, viz:

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BUILDINGS AND LOCATIONS,

BUILDING.	LOCATION.	PER 1,000 CUBIC FT.
GAS.		
Engine No. 7.....	Sixteenth street and Albion avenue.....	\$1 35
Engine No. 9	320 Main street	1 35
Engine No. 11.....	1632 Fifteenth avenue South.....	1 35
Engine No. 13.....	1458 Valencia street.....	1 35
Engine No. 16.....	1009 Tennessee street	1 35
Engine No. 17.....	34 Mint avenue	1 35
Engine No. 18.	317 Duncan street.....	1 35
Engine No. 19 and H. & L. No. 3..	1749 Market street	1 35
Engine No. 21.....	1154 Oak street.....	1 35
Engine No. 24.....	449 Douglass street	1 35
Engine No. 25.....	2547 Folsom street.....	1 35
Engine No. 27.....	619 Hermann street.....	1 35
Engine No. 28.....	S. E. cor. Francisco and Stockton streets.....	1 35
Engine No. 29.....	Bryant, opposite Eleventh street	1 35
Engine No. 31.....	1214 Pacific street.....	1 35
Engine No. 32.....	S. W. cor West and Holly Park ave.....	1 35
Engine No. 33.....	117 Broad street	1 35
Engine No. 34.....	1119 Ellis street.....	1 35
Engine No 35.....	Bluxome street, bet. Fourth and Fifth.....	1 35
Truck No. 7.....	3050 Seventeenth street.....	1 35
Fire Department Stables No. 1....	Tenth street, bet. Bryant and Division	1 35
Corporation Yard No. 2.....	Francisco and Stockton streets	1 35
Carpenter Shop.....	Thirteenth street, bet. Fillmore and Steiner....	1 35
Plumbing Shop.....	Bryant, opposite Eleventh street.....	1 35
Department House.....	1812 Stockton street.....	1 35
Store House	54 Waller street.....	1 35
Corporation Yard, B'd Pub. Wks..	City Hall avenue	1 35
O'Farrell Street Police Station	O'Farrell street, bet. Broderick and Devisadero	1 35
Seventeenth Street Station.....	3215 Seventeenth street.....	1 35

BUILDINGS AND LOCATIONS—CONTINUED.

BUILDING.	LOCATION.	PER 1,000 CUBIC FT.
South San Francisco Station.....	Railroad ave., bet. 14th and 15th aves. South...	\$1 35
Potrero Station.....	609 Twentieth street.....	1 35
Boarding Station.....	Foot of Taylor street.....	1 35
City and County Hospital.....	Potrero avenue	1 35
Branch Receiving Hospital.....	Foot of Mission street.....	1 35
ELECTRICITY.		PER 1,000 WATT HRS.
County Jail No. 1.....	Broadway.....	.04 cts,
Engine No. 32.....	S.W. cor. West and Holly Park aves.....	.04
Chemical No. 4.....	451 McAllister street.....	.04

All other bids received for the above are hereby rejected.

In Board of Supervisors, San Francisco, July 1, 1901.

After having been published five successive days, according to law, taken up and passed by the following vote:

Ayes—Supervisors Booth, Braunhart, Comte, Connor, Curtis, Dwyer, Jennings, McCarthy, Reed, Stafford, Tobin, Wilson.

Absent—Supervisors Bixton, Brandenstein, D'Ancona, Fontana, Hotelling, Sanderson.

JNO. A. RUSSELL, Clerk.

Approved, San Francisco, July 2, 1901.

JAMES D. PHELAN,
Mayor and ex-Officio President of the Board of Supervisors.

RESOLUTION OF AWARD

OF CONTRACT FOR LIGHTING CERTAIN PUBLIC BUILDINGS WITH GAS FOR THE TERM COMMENCING JULY 1, 1901, AND ENDING JUNE 30, 1902.

RESOLUTION No. 1650 (General Award of Contract).

Resolved, That the contract for lighting the following Public Buildings and Offices with gas, for the term of one year, commencing July 1, 1901, to and including June 30, 1902, in strict accordance with the specifications and advertisement inviting proposals thereon, be and the same is hereby awarded to the Pacific Gas Improvement Company, it being the lowest responsible bidder therefor; provided the sureties on its bond, which is hereby fixed at \$5,000.00, are satisfactory to his Honor the Mayor, who is hereby authorized to enter into said contract at the following prices, viz:

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BUILDINGS AND LOCATIONS.

BUILDING.	LOCATION.	PER 1,000 CUBIC FT.
City Hall	88 cts.
Hall of Justice.....	Kearny street.....	88 cts.
Central Police Station.....	City Hall.....	88 cts.
Corporation Yard.....	50 Sacramento street.....	\$1 35
Coroner's Office.....	Dunbar alley.....	88 cts.
Engine No. 2.....	416 Bush street.....	88 cts.
County Jail No. 1.....	Broadway.....	88 cts.
Engine No. 1.....	419 Pacific street.....	\$1 35
Engine No. 4.....	144 Second street.....	1 35
Engine No. 5.....	1219 Stockton street.....	88 cts.
Engine No. 6.....	311 Sixth street.....	\$1 35
Engine No. 8.....	1648 Pacific avenue.....	1 35
Engine No. 10.....	516 Bryant street.....	1 35
Engine No. 12.....	Drum and Commercial streets.....	1 35
Engine No. 14.....	1017 McAllister street.....	1 35
Engine No. 15.....	2114 California street.....	1 35
Engine No. 20.....	2117 Filbert street.....	1 35
Engine No. 22.....	1348 Tenth avenue.....	1 35
Engine No. 23.....	3022 Washington street.....	1 35
Engine No. 26.....	327 Second avenue.....	1 35
Engine No. 30.....	1737 Waller street.....	1 35
Truck No. 1.....	22 O'Farrell street.....	88 cts.
Truck No. 2 and Chemical No. 5.....	67 Broadway.....	88 cts.
Chemical No. 2.....	1819 Post street.....	\$1 35
Chemical No. 3.....	112 Jackson street.....	1 35
Chemical No. 4.....	451 McAllister street.....	1 35
Chemical No. 6.....	311 Sixth street.....	1 35
Water Tower No.	108 New Montgomery street.....	1 35
North End Station.....	Washington street, bet. Polk and Van Ness ave.....	88 cts.
Stanyan Street Police Station.....	Stanyan street.....	\$1 35
Harbor Station.....	32 Sacramento street.....	1 35

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All other bids received for the above are hereby rejected.

In Board of Supervisors, San Francisco, July 1, 1901.

After having been published five successive days, according to law, taken up and passed by the following vote:

Ayes—Supervisors Booth, Braunhart, Comte, Connor, Curtis, Dwyer, Jennings, McCarthy, Reed, Stafford, Tobin, Wilson.

Absent—Supervisors Boxton, Brandenstein, D'Ancona, Fontana, Hotaling, Sanderson.

JNO. A. RUSSELL, Clerk.

Approved, San Francisco, July 2, 1901.

JAS. D. PHELAN,

Mayor and ex-Officio President of the Board of Supervisors.

RESOLUTION OF AWARD

OF CONTRACT FOR LIGHTING THE PUBLIC STREETS AND OUTLYING DISTRICTS WITH GAS AND ELECTRICITY FROM JULY 1, 1901, TO 30, 1902.

RESOLUTION No. 1626 (General Award of Contract).

Resolved, That the contract to light the streets and outlying districts with gas or electricity for the term of one year, commencing July 1, 1901, to and including June 30, 1902, in strict accordance with the specifications and advertisement inviting proposals thereon, be and the same is hereby awarded to the San Francisco Gas and Electric Company, it being the lowest responsible bidder therefor; provided the sureties on its bond, which is hereby fixed at \$35,000.00, are satisfactory to his Honor the Mayor, who is hereby authorized to enter into said contract at the following prices, viz:

DISTRICT No. 1.

For each Gas Lamp per night.....09 cents
For each Electric Lamp per night.....35 cents

DISTRICT No. 2.

For each Gas Lamp per night.....09 cents
For each Electric Lamp per night.....35 cents

DISTRICT No. 3.

For each Gas Lamp per night.....00 cents
For each Electric Lamp per night.....35 cents

DISTRICT No. 4.

For each Gas Lamp per night.....09 cents
For each Electric Lamp per night.....39½ cents

DISTRICT No. 5.

For each Gas Lamp per night.....09 cents
For each Electric Lamp per night.....39½ cents

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All other bids received for the above are hereby rejected.

In Board of Supervisors, San Francisco, June 24, 1901.

After having been published five successive days, according to law, taken up and passed by the following vote:

Ayes—Supervisors Booth, Bixton, Brandenstein, Braunhart, Comte, Connor, Curtis, Dwyer, Hotaling, Jennings, McCarthy, Reed, Tobin, Wilson.

Absent—Supervisors D'Ancona, Fontana, Sanderson, Stafford.

JNO. A. RUSSELL, Clerk.

Approved, San Francisco, June 25, 1901.

JAS. D. PHELAN,

Mayor and ex-Officio President of the Board of Supervisors.

FINANCIAL EXHIBIT AND REVENUE ORDINANCES.

The Charter of the City and County of San Francisco, Article III, Chapter I, Section 3, provides that "The Supervisors shall meet annually between the first Monday of May and the first Monday of June, and by vote of a majority of all the members thereof make a budget of the amounts estimated to be required to pay the expenses of conducting the public business of the City and County for the next ensuing year. The budget shall be prepared in such detail as to the aggregate sum and the items thereof allowed to each department, office, board or commission, as the Supervisors shall deem advisable."

Article III, Chapter I, Section 11 of the Charter provides that "On or before the last Monday of June in each year the Supervisors shall levy the amount of taxes for City and County purposes required to be levied upon all property not exempt from taxation. The amount shall be sufficient to provide for the payment during the fiscal year of all demands upon the Treasury authorized to be paid out of the same; but such levy, exclusive of the State tax and the tax to pay the interest and maintain the sinking funds of the bonded indebtedness of the City and County and exclusive of the tax to pay for the maintenance and improvement of the parks, squares and public grounds of the City and County, shall not exceed the rate of one dollar on each one hundred dollars valuation of the property assessed. The Supervisors in making the levy shall apportion the taxes to the several funds."

On April 19, 1901, in accordance with Section 2, Chapter I, Article III of the Charter, Asa R. Wells, Auditor of the City and County of San Francisco, filed with the Board of Supervisors his estimate of the expenses and revenue required to meet the expenses of the government for the fiscal year 1901-1902, the revenue from other sources than taxation being estimated as follows:

GENERAL, LIBRARY, POLICE, CONTINGENT, SCHOOL, POUND FEE
FUNDS, ETC.

ESTIMATED REVENUE.

SOURCE OF REVENUE.	AMOUNT.	TOTAL.
Fees City and County Officers.....	\$150,000 00	
Fines imposed in Police Courts.....	30,000 00	
Fines imposed in Superior Courts.....	1,500 00	
Fines imposed, Public Library.....	2,000 00	
Licenses, Municipal.....	470,000 00	

FINANCIAL EXHIBIT

ESTIMATED REVENUE—CONTINUED.

SOURCE OF REVENUE.	AMOUNT.	TOTAL.
Rents, City property.....	2,750 00	
Subsistence (Sheriff), U. S. prisoners.....	7,500 00	
Building permits, Board of Public Works.....	15,000 00	
Building permits, Department of Electricity.....	10,000 00	
Assessor's commission (6 per cent) on personal property collections.....	10,000 00	
Percentage on franchises.....	12,500 00	
Other sources.....	6,850 00	
State apportionment of school moneys.....	675,000 00	
Rents of Lincoln School lots, etc.....	56,000 00	
Collateral Inheritance.....	20,000 00	
Sale of old material.....	1,000 00	
Library fines.....	2,000 00	
Total estimated revenue.....		\$1,470,100 00

On June 10, 1901, the Board of Supervisors finally passed Ordinance No. 311, approving and adopting the Budget of Municipal Expenditures for 1901-1902, prepared in accordance with the provisions of the Charter, a copy of which is as follows:

BILL NO. 397—ORDINANCE NO. 311.

AN ORDINANCE FIXING AND APPROPRIATING THE AGGREGATE SUM, AND THE ITEMS THEREOF, ALLOWED TO EACH DEPARTMENT, OFFICE, BOARD AND COMMISSION FOR THE FISCAL YEAR ENDING JUNE 30, 1902, AND MAKING A BUDGET OF THE SAME.

Be it ordained by the People of the City and County of San Francisco, as follows:

Section 1. The aggregate sums and the items thereof hereinafter set forth are hereby fixed, designated and appropriated for the respective purposes set opposite the same, to be expended during the fiscal year ending June 30, 1902, in accordance with the provisions of Article III, Chapter 1 of the Charter of the City and County, to wit:

GENERAL FUND.

MUNICIPAL PURPOSES.	AMOUNT	TOTAL
SUPERVISORS.		
Salaries Supervisors, Clerks, Expert and Sergeant-at-Arms.....	\$42,000	
Salary clerk for compiling ordinances, 6 months.....	600	
		\$42,600
Clerks Board of Equalization.....		600
Advertising for City and County officers.....		24,000
Burial of the indigent dead.....		4,000
Interment of deceased ex-Union soldiers and sailors.....		2,500
Municipal Reports.....		5,000
Maintenance of the Public Pound.....		8,000
Subsistence of prisoners—		
Sheriff's Department.....	\$38,000	
Police Department.....	5,500	
		43,500
Stationery and printing, including postage stamps and postal cards and printing the opinions of the City Attorney, the ordinances of the Board of Supervisors and the monthly bulletin of the Health Department.....		32,333
Stationery and printing for the Assessor's Office.....		4,000
Rebinding books.....		2,500
Purchase of a library for the Hall of Justice.....		2,000
Purchase of type-writing machines for the Recorder and the Assessor and an adding machine for the Assessor. Any excess above purchases to be used by the Board of Public Works for street and sewer work.....		3,275
Furniture for public buildings.....		7,000

ESTIMATED EXPENDITURES—CONTINUED.

MUNICIPAL PURPOSES.	AMOUNT	TOTAL.
SUPERVISORS—CONTINUED.		
Purchase of a safe for the District Attorney and a safe and a map case for the Assessor. Any excess above purchases to be used by the Board of Public Works for street and sewer work.....		\$2,480
Fourth of July celebration.....		2,500
Observance of Memorial Day.....		500
Telephone service.....		7,400
Urgent necessities.....		36,000
Water for municipal purposes.....		95,000
Maintenance of minors in Magdalen Asylum.....		7,000
Maintenance of minors in State schools.....		8,000
Maintenance of minors in non-sectarian institutions.....		6,000
Maintenance of feeble-minded children.....		20,000
Examination of insane persons.....		5,000
Lighting streets and public buildings.....		257,000
THE MAYOR.		
Office salaries.....	\$10,200	
Contingent expenses.....	3,600	
		13,800
AUDITOR.		
Salaries Auditor, deputies and counsel fees.....		13,600
Salaries Auditor's 4 extra clerks, at \$1,200.....		4,800
Computing and extending, etc., the Assessment Roll.....		9,700
License tags, blanks and numbers.....		2,000
ASSESSOR.		
Salaries Assessor, Deputy, Cashier and Clerks.....		44,200
ASSESSOR.		
Salaries extra clerks.....		40,000
Expenses Assessor's field deputies.....		1,000

ESTIMATED EXPENDITURES—CONTINUED.

MUNICIPAL PURPOSES.	AMOUNT.	TOTAL.
CORONER.		
Salaries Coroner, Deputies, Autopsy Physician, Stenographer and Messenger.....		\$16,000
CORONER.		
Salary Matron at the Morgue.....	\$720	
Salary additional messenger.....	900	
		1,620
CORONER'S EXPENSES.		
Incidentals.....	\$900	
Keep of horses.....	900	
Shoeing horses.....	90	
Recovery of bodies.....	600	
Photographing bodies.....	100	
Purchase three horses.....	\$400	2,590
Purchase buggy.....	100	
		500
RECORDER.		
Salaries Recorders and Deputies.....		8,400
RECORDER.		
Salary Mortgage Clerk.....	\$1,200	
Salaries 2 Index Clerks, at \$1,200.....	2,400	
Salaries Messenger.....	900	
		4,500
RECORDER.		
Salaries of copyists.....		23,000
TAX COLLECTOR.		
Salaries Tax Collector, Deputies and Cashier.....		31,300
Salaries Tax Collector's extra clerks.....		36,000
Publishing Delinquent Tax List.....		3,000

ESTIMATED EXPENDITURES—CONTINUED.

MUNICIPAL PURPOSES.	AMOUNT.	TOTAL.
TREASURER.		
Salaries Treasurer, Deputies and Clerk.....		\$11,200
Salaries Treasurer's extra clerks—		
One clerk at \$1,800.....	\$1,800	
One clerk at \$1,500.....	1,500	
Allowance for Rebate Clerk.....	200	
		3,500
JUDGES SUPERIOR COURT.		
Salaries Judges (12).....	\$24,000	
Salary Secretary.....	1,800	
		25,800
Witnesses' expenses.....		1,500
Stenographers for Superior Court.....		18,000
Court interpreters, salaries.....		6,000
CITY ATTORNEY.		
Salaries City Attorney, Assistants, Clerks, Stenographer and Messenger.....		20,300
DISTRICT ATTORNEY.		
Salaries District Attorney, Assistants, Clerks, Stenographer, Bond and Warrant Clerks.....		36,200
Bookkeeper, salary.....		1,080
COUNTY CLERK.		
Salaries County Clerk, Clerks, Copyists and Cashier.....		75,400
Salary Messenger for County Clerk.....		1,200
Printing transcripts on appeal in criminal cases.....		2,500
Jury expenses in criminal cases.....		500
Fees trial jurors in criminal cases, for actual service only.....		16,000
Grand Jury expenses.....		1,500

ESTIMATED EXPENDITURES—CONTINUED.

MUNICIPAL PURPOSES.	AMOUNT.	TOTAL.
JUSTICES' COURT.		
Salaries Justices, Clerk and Deputies		\$20,700
LAW AND MOTION CALENDAR.....		2,400
LAW LIBRARY.		
Salaries Librarian and Messenger.....		3,240
SHERIFF.		
Salaries Sheriff's Department		82,400
SHERIFF.		
Salaries 4 additional guards for road work and farm		2,400
Maintenance of jails.....		5,000
SHERIFF'S EXPENSES.		
Horse and buggy hire.....	\$360	
Horse-keeping, prison van.....	600	
Shoeing and repairs.....	240	
		1,200
POLICE COURT.		
Salaries 4 Judges and 2 Stenographers.....		19,200
POLICE COURT.		
Salary 2 additional stenographers.....		4,800
BOARD OF PUBLIC WORKS.		
General maintenance.....		504,800
General maintenance, additional.....		2,400
Maintenance Bureau of Light and Water.....		3,600
Maintenance Architect's Department, Architect to devote his entire time to this department.		11,170

ESTIMATED EXPENDITURES—CONTINUED.

MUNICIPAL PURPOSES.	AMOUNT.	TOTAL.
BOARD OF PUBLIC WORKS—CONTINUED.		
Repaving accepted streets in the district bounded by Kearny street, Market street and the Bay, and on Stockton street from Union to Pacific street		\$65,000
Street work in front of city property		14,000
Constructing sewers, including sewer on Army street from San Bruno road easterly		43,500
Examination into public utilities		20,000
Completion of Mission District Police Station		3,864
Fire Department, new buildings		30,000
Central Fire Alarm Station		7,500
Construction Police Station at Fourth and Clara streets		25,000
Fitting up rooms in City Hall		9,470
Building and equipping nurses' quarters at Hospital		3,500
Repairs to City Hall, Hall of Justice and Morgue		20,166
Repairs Fire Department houses		18,450
Repairs Police Department houses		1,000
Repairs at Almshouse, including tank		10,000
Repairs at Pest House		750
Repairs at City and County Hospital		6,000
Repairs at County Jails		7,000
Repaving Post street west of Powell street, and other street work		20,000
For paving streets, including an expenditure of not exceeding \$5,000 on Bush street, and including repaving Polk street, between Sutter and Jackson streets, and not exceeding \$30,000 for repaving streets in the district bounded by Market street, Sixth street and the Bay; paving on Van Ness avenue; repaving Valencia street from Market street to Eighteenth street, and repaving Market street west of Van Ness avenue		114,613
Planting and maintaining trees on Van Ness avenue		5,000

ESTIMATED EXPENDITURES—CONTINUED.

MUNICIPAL PURPOSES.	AMOUNT.	TOTAL.
BOARD OF PUBLIC WORKS—CONCLUDED.		
Purchase of rights of way.....		\$10,000
Construction of a sewer in the Sunset District.....		40,000
Construction of a sewer on Potrero avenue.....		5,200
Purchase of a site for a Pest House.....		10,000
Construction and Equipment of a Pest House on site to be purchased		5,000
Heating plant for City Hall.....		16,310
POLICE DEPARTMENT.		
Salaries		766,708
Police Contingent Fund.....		8,000
Rents of Police stations.....		5,604
Maintenance of Police Patrol and Mounted Police.....		20,000
POLICE PENSIONS.		
To replace deficit in fund in 1900-01.....		8,500
HEALTH DEPARTMENT.		
SALARIES—		
Health Officer.....	\$3,000	
Secretary.....	2,100	
Assistant Secretary.....	1,500	
Four clerks—3 at \$1,200, 1 at 1,500.....	5,100	
Messenger.....	900	
Vaccinator.....	1,200	
Two disinfectors.....	2,400	
Statistician.....	1,800	
Chemist.....	1,800	
Assistant chemist.....	1,200	
Helper to chemist.....	900	

ESTIMATED EXPENDITURES—CONTINUED.

MUNICIPAL PURPOSES.	AMOUNT.	TOTAL.
HEALTH DEPARTMENT—CONTINUED.		
SALARIES—		
Bacteriologist.....	\$1,800	
Chief Sanitary Inspector or Veterinary Surgeon.....	1,500	
Five Sanitary Inspectors at \$1,200.....	6,000	
Chief Plumbing Inspector.....	1,800	
Three Assistant Plumbing Inspectors at \$1,200.....	3,600	
Chief Food Inspector.....	1,800	
Eight Assistant Food Inspectors at \$900.....	7,200	
One Bakery or Bath and Laundry Inspector.....	900	
One Disinfectant Inspector.....	300	
Four Market Inspectors at \$900.....	3,600	
Toxicologist.....	1,200	
City Physician.....	1,800	
Assistant City Physician.....	1,200	
Two Dairy Inspectors at \$900.....	1,800	
		\$57,000
HEALTH DEPARTMENT EXPENSES.....		6,000
LEPER HOSPITAL—		
Salaries.....	\$3,660	
Expenses, including \$500 for clothing and extras.....	4,000	
		7,660
SMALLPOX HOSPITAL—		
Salaries.....	\$5,500	
Expenses.....	3,500	
Purchase of an Ambulance.....	350	
		9,350
EMERGENCY AND INSANE HOSPITALS—		
Salaries.....		24,780
Expenses.....		7,200

ESTIMATED EXPENDITURES—CONTINUED.

MUNICIPAL PURPOSES.	AMOUNT.	TOTAL.
HEALTH DEPARTMENT CONTINUED.		
EMERGENCY AND INSANE HOSPITALS—Continued—		
Maintenance of an Emergency Hospital in Golden Gate Park....		\$5,000
Additional for Emergency Hospital in Golden Gate Park		4,000
ALMSHOUSE—		
Salaries and maintenance.....		82,500
CITY AND COUNTY HOSPITAL--		
Salaries of pupil nurses, orderlies and ward tenders	\$12,480	
Salaries of other employees.....	25,220	
Subsistence and maintenance.....	55,860	
CITY AND COUNTY HOSPITAL—		
For equipping ward for contagious diseases.....		94,560
		1,000
DEPARTMENT OF ELECTRICITY.		
Salaries and maintenance, and for labor and material in placing wires underground.....		100,000
DEPARTMENT OF ELECTRICITY.		
For wiring City Hall dome and installing electric lights thereon.....		3,500
FIRE DEPARTMENT.		
Salaries.....		632,350
FIRE DEPARTMENT.		
Material, supplies and maintenance.....		114,650
FIREMEN'S RELIEF FUND.		
Pensions.....		18,000
DEPARTMENT OF ELECTIONS.		
Salaries and expenses, including cost of a bond election.....		95,000
CIVIL SERVICE DEPARTMENT.		
Salaries Commissioners and Secretary.....		6,000

ESTIMATED EXPENDITURES—CONTINUED.

MUNICIPAL PURPOSES.	AMOUNT.	TOTAL.
CIVIL SERVICE DEPARTMENT.		
Salary clerk.....	\$1,200	
Salary stenographer.....	900	
		\$2,100
FOR PAYMENT OF CLAIMS.		
For payment of claims for materials furnished and work done for the City and County of San Francisco during the forty-first, forty-second, forty-third, forty-fourth and fiftieth State fiscal years, and for unpaid teachers' salaries for the fiftieth State fiscal year, as provided for by constitutional amendment.....		292,509
For payment of interest on claims of school teachers.....		12,000
COMMON SCHOOL FUND.		
Salaries, supplies and expenses.....	\$1,188,000	
Establishment and maintenance of a playground south of Market street and east of Tenth street, for physical culture.....	12,000	
Repairs to school buildings.....	35,000	
Construction of and improvements to school buildings.....	50,000	
		1,285,000
Additional for construction and repairs of schoolhouses.....		10,220
LIBRARY FUND.		
Maintenance of Library and reading-rooms and purchase of books..		60,000
PARK FUND.		
For maintenance, preservation and improvement of parks, squares, avenues and public grounds.....		280,000
INTEREST AND SINKING FUND.		
Interest Account Park Improvement Bonds, 1874-1875.....		15,000
Sinking Fund Park Improvement Bonds, 1874-1875.....		10,000
JUDGMENTS.		
Payment of judgment, costs and interest in case of Rehfeld vs. City and County.....		1,377

Section 2. Any excess in specific appropriations after the purpose for which the money so set aside has been accomplished and the bills therefor paid, and any revenue produced by taxation above the amount of the items specified in this Budget is hereby appropriated to the Board of Public Works to be used for the purpose of reconstructing streets and sewers.

Section 3. This Ordinance shall take effect and be in force from and after its passage.

In Board of Supervisors, San Francisco, June 10, 1901.

After having been published five successive days, according to law, taken up and passed by the following vote:

Ayes—Supervisors Boxton, Brandenstein, Braunhart, Comte, Connor, Curtis, D'Ancona, Dwyer, Fontana, Hotaling, Jennings, McCarthy, Reed, Sanderson, Stafford, Tobin, Wilson. Absent—Supervisor Booth.

JNO. A. RUSSELL, Clerk.

Approved, San Francisco, June 21, 1901.

JAS. D. PHELAN,

Mayor and ex-Officio President of the Board of Supervisors.

On June 17, 1901, the Board finally passed Bill No. 400, Ordinance No. 315, "Providing that certain appropriations contained in the Budget for the fiscal year 1901-1902 shall not be limited by monthly allowances, and calling the attention of the Auditor and Treasurer to same, a copy of which Ordinance is as follows, to wit:

BILL NO. 400—ORDINANCE NO. 315.

PROVIDING THAT CERTAIN APPROPRIATIONS CONTAINED IN THE BUDGET FOR THE FISCAL YEAR 1901-1902 SHALL NOT BE LIMITED BY MONTHLY ALLOWANCES, AND CALLING THE ATTENTION OF THE AUDITOR AND TREASURER TO SAME.

Be it ordained by the People of the City and County of San Francisco, as follows:

Section 1. The following appropriations contained in the Budget for the fiscal year 1901-1902 shall not be limited by monthly allowances, viz:

- Clerks, Board of Equalization.
- Burial of the Indigent Dead.
- Interment of United States Soldiers and Sailors.
- Municipal Reports.
- Stationery and Printing for the Assessor.
- Rebinding Books.
- Purchase Typewriters and Adding Machine.
- Purchase Safes and Map Cases.
- Fourth of July Celebration.
- Memorial Day Observance.
- Assessment Roll, Computing and Extending.
- License Tags and Blanks.
- Purchase Horses and Buggy for the Coroner.
- Publishing Delinquent Tax List.
- Jury Expenses in Criminal Cases.
- Board of Public Works, construction and improvements by contract specified in appropriations made for this and other Departments.
- Ambulance for Smallpox Hospital.
- Equipping Contagious Ward at Hospital.
- Wiring the City Hall Dome.

FINANCIAL EXHIBIT

Purchase Library, Hall of Justice.

Purchase Site for and Construction of Pesthouse.

Purchase Rights of Way.

Payment of Claims provided for in Constitutional Amendment.

Section 2. The attention of the Auditor and Treasurer is hereby called to the provisions of this Ordinance.

Section 3. This Ordinance shall take effect and be in force from and after its passage.

In Board of Supervisors, San Francisco, June 17, 1901.

After having been published five successive days, according to law, taken up and passed by the following vote:

Ayes—Supervisors Boxton, Comte, Connor, Curtis, D'Ancona, Dwyer, Fontana, Hotaling, Jennings, McCarthy, Reed, Sanderson, Wilson. Noes—Supervisors Brandenstein, Braunhart. Absent—Supervisors Booth, Stafford, Tobin.

JNO. A. RUSSELL, Clerk.

Approved, San Francisco, June 25, 1901.

JAS. D. PHELAN.

Mayor and ex-Officio President of the Board of Supervisors.

One June 24, 1901, the Board of Supervisors passed to print Bill No. 408, Ordinance No. —, providing revenue for municipal purposes for the fiscal year ending June 30, 1902, and finally passed said Ordinance July 1, 1901, and numbered the same 318, a copy of which is as follows, to wit:

BILL No. 408—ORDINANCE No. 318.

PROVIDING REVENUE FOR MUNICIPAL PURPOSES FOR THE FISCAL YEAR ENDING JUNE 30, 1902.

Be it ordained by the People of the City and County of San Francisco as follows:

Section 1. Under and in pursuance of the provisions of the Charter of the City and County of San Francisco, and in conformity thereto, there is hereby levied a tax for City and County purposes for the fiscal year ending June 30, 1902, on all property, both real and personal, in the City and County of San Francisco, excepting such property as is by law exempt from taxation, the sum of one dollar and seven 62-100 cents (\$1.0762) on each one hundred (\$100) dollars valuation of said taxable property upon the assessment books of said fiscal year, which sum of one dollar and seven 62-100 cents (\$1.0762) on each one hundred (\$100) dollars valuation as aforesaid is hereby apportioned to the funds and accounts known and designated as follows:

General Fund.....	\$.8490
Fireman's Relief Fund.....	.0044
School Fund.....	.1316
Library Fund.....	.0150
Park Fund.....	.0700
Interest account Park Improvement Bonds, 1874-1875.....	.0037
Sinking Fund Park Improvement Bonds, 1874-1875.....	.0025
Total	<u>\$1.0762</u>

Section 2. This Ordinance shall take effect and be in force from and after its passage.

In Board of Supervisors, San Francisco, July 1, 1901.

After having been published five successive days, according to law, taken up and passed by the following vote:

Ayes—Supervisors Booth, Braunhart, Comte, Connor, Curtis, Dwyer, Jennings, McCarthy, Reed, Stafford, Wilson.

Absent—Supervisors Boxtton, Brandenstein, D'Ancona, Fontana, Hotelling, Sanderson, Tobin.

JNO. A. RUSSELL, Clerk.

Approved, San Francisco, July 1, 1901.

JAMES D. PHELAN,
Mayor and ex-officio President of the Board of Supervisors.

On September 16, 1900, the Board of Supervisors adopted Bill No. 457, Ordinance No. 360, a copy of which hereinafter follows, again fixing the tax levy of the fiscal year 1901-1902, the rate being the same as that fixed by Ordinance No. 318 (a copy of which is hereinbefore published). The tax levy was passed a second time in order that no question could be raised as to its validity, the Charter of the City and County of San Francisco requiring the tax levy for municipal purposes to be made on or before the last Monday in June of each year, and certain Acts of the Legislature requiring the tax levy to be made on the third Monday in September of each year.

On the 10th day of September 1901, a Communication was received from the State Board of Equalization, fixing the rate of State tax at 48 cents on each \$100 valuation of taxable property in the State, a copy of which is as follows:

COMMUNICATION FROM STATE BOARD OF EQUALIZATION.

Sacramento, September 6, 1901.

To the Board of Supervisors of San Francisco, City and County—

The rate of State Tax, fixed this day by the State Board of Equalization, as the ad valorem rate of taxation levied and to be collected upon each one hundred dollars of the assessed valuation of the property of the State, to raise the specific amount of money required to be raised for the 53d fiscal year, is 46 cents, and the said rate was fixed and apportioned as follows:

For the General Fund.....	23.3 cents
For the School Fund.....	21.5 cents
For the Interest and Sinking Fund.....	1.2 cents
	<hr/>
Total rate of State Tax.....	46.0 cents

And the Board also this day, in pursuance of law, declare the levy of an ad valorem tax of two cents upon each one hundred dollars of value of the taxable property of the State for the support of the University of California.

Making a total tax of forty-eight cents.

You are therefore, as provided by Section 3714 of the Political Code, required, on the third Monday of September, to levy the said rate of State taxation upon the taxable property in the County.

A. BROWN,
Chairman of State Board of Equalization.

Attest: C. M. COGLAN,
Clerk of State Board of Equalization.

On September 16, 1901, the Board adopted Bill No. 455, Ordinance No. 350, making the levy for State purposes as fixed by the State Board of Equalization, a copy of which Ordinance is as follows:

FINANCIAL EXHIBIT

BILL No. 455—ORDINANCE No. 359.

PROVIDING REVENUE FOR STATE PURPOSES FOR THE FISCAL YEAR
ENDING JUNE 30, 1902.

Be it ordained by the People of the City and County of San Francisco as follows:

Section 1. Under and in pursuance of the Political Code and of the statutes of the State of California and in conformity thereto, and in pursuance of the action of the State Board of Equalization, and in conformity thereto, there is hereby levied a tax for State purposes for the fiscal year ending June 30, 1902, on all property, both real and personal, in the City and County of San Francisco, except such property as is by law exempt from taxation, the sum of forty-eight cents (\$.48) on each one hundred (\$100) dollars valuation of said taxable property upon the assessment roll for said fiscal year, which said sum of forty-eight cents (\$.48) on each one hundred (\$100) dollars valuation, as aforesaid, is apportioned to the funds and accounts known and designated as follows:

For the General Fund.....	23.3 cents
For the School Fund.....	21.5 cents
For the Interest and Sinking Fund.....	1.2 cents
For the support of the University of California....	2.0 cents
	48.0 cents
Total	48.0 cents

Section 2. This Ordinance shall take effect and be in force from and after its passage.

In Board of Supervisors, San Francisco, September 16, 1901.

Adopted by the following vote: Ayes—Supervisors Booth, Boston, Brandenstein, Braunhart, Connor, Curtis, D'Ancona, Dwyer, Fontana, Jennings, McCarthy, Reed, Sanderson, Stafford. Absent—Supervisors Comte, Hotelling, Tobin, Wilson.

JNO. A. RUSSELL, Clerk.

Approved San Francisco, September 24, 1901.

JAS. D. PHELAN,

Mayor and ex-officio President of the Board of Supervisors.

The action of the Board, as heretofore noted, fixed the total levy for City and County and State purposes at \$1 55 62-100 on each \$100 valuation of assessable property.

The levy made for municipal purposes was in conformity with the provisions of the Charter, being within the one dollar limit on an estimated valuation of \$105,000,000, to wit:

\$1.00 on each \$100 valuation on an estimated valuation of	
\$105,000,000	\$4,050,000
Revenue from other sources than taxation.....	1,470,100
	5,520,100
For expense of maintenance of government.....	\$5,520,100

The following amounts raised by taxation for the following purposes are exempted from the one dollar limit by the provisions of the Charter, viz:

PARK FUND—
For Maintenance, Preservation and Improvements of Parks,
 Squares, Avenues and Public Grounds..... \$280,000

INTEREST AND SINKING FUND—
 Interest Account Park Improvement Bonds, 1874-1875..... 15,000
 Sinking Fund Park Improvement Bonds, 1874-1875..... 10,000

Total amount to be realized from taxation and other
 sources **\$5,825,100**

Note.—The appropriations for Park Fund and Interest and Sinking Funds were made on an estimated Assessment Roll of \$400,000,000—as recommended by the Finance Committee. The appropriations within the dollar limit were made on a Roll of \$405,000,000, upon the statement of his Honor, Mayor James D. Phelan, that he was informed by the Assessor, Washington Dodge, that the collectible Roll would probably reach that figure.

At the meeting of the Board held on September 30, 1901, the following Ordinance was finally passed, providing for the refunding the excess of the amounts collected by the Assessor as the tax on personal property for the fiscal year 1901-1902, to wit:

BILL No. 466—ORDINANCE No. 377.

PROVIDING FOR REFUNDING THE EXCESS OF AMOUNTS COLLECTED BY THE ASSESSOR AS THE TAX ON PERSONAL PROPERTY FOR THE FISCAL YEAR 1901-1902.

Whereas, Under the provisions of Section 3820 of the Political Code it was the duty of the Assessor to collect the taxes on all personal property not secured by realty assessed for the fiscal year 1901-1902; and

Whereas, The Assessor collected the sum of \$625,253 31, based on the tax rate of 1900-1901, for City and County and State purposes, to wit: \$1.625 on each \$100 valuation of said personal property, as provided by Section 3823 of the Political Code; and

Whereas, Such rate of \$1.625 is in excess of \$1.5562, the rate fixed for this year, and the amount so collected by the Assessor in excess of the amount due under the provisions of Section 3824 of the Political Code must be refunded to the persons or their assignees, from whom the several amounts so received were collected; therefore,

Be it ordained by the People of the City and County of San Francisco as follows:

Section 1. On and after the 5th day of November, 1901, all amounts collected by the Assessor as taxes on personal property for the fiscal year 1901-1902 in excess of \$1.5562 (the tax rate as fixed for said fiscal year), on the valuation of personal property assessed for the fiscal year 1901-1902, be and are hereby ordered to be refunded by the Treasurer.

Section 2. On or before the 9th day of October, 1901, the Auditor, under provisions of Sections 3827 and 3828 of the Political Code, is hereby required to certify to the Treasurer from the Assessment Book the amount of the excess paid in each case on personal property assessments collected by the Assessor, and the total amount of the excess so paid, as shown thereon.

Section 3. The Treasurer, on receiving said certified list of payments in excess

FINANCIAL EXHIBIT

of amounts due, is hereby required to set aside from the amount collected and paid into the Treasury by the Assessor, the said total amount of the said payment in excess and place the same in a special subdivision of the General Fund, to be designated "Overpayment of Personal Property Taxes," the moneys in said fund to be used in refunding to the persons entitled thereto of the respective amounts, as certified to by the Auditor.

Section 4. On and after the 5th day of November, 1901, the Treasurer, upon the presentation of a receipt of the Assessor for the payment of the taxes on personal property of the fiscal year 1901-1902, is hereby empowered, under the provision of Section 3824 of the Political Code, to refund the amount so paid in excess, as shown by the certificate of the Auditor, heretofore provided for, and, upon such payment, to indorse the date and the amount so refunded in red ink across the face of the receipt.

Section 5. The Auditor and Treasurer be and are hereby required to take this and such other action as may be required to carry out the provisions of this Ordinance.

Section 6. This Ordinance shall take effect and be in force from and after its passage.

In Board of Supervisors, San Francisco, September 30, 1901.

After having been published five successive days, according to law, taken up and passed by the following vote: Ayes—Supervisors Booth, Boxton, Brandenstein, Braunhart, Comte, Connor, Curtis, D'Ancona, Dwyer, Hotaling, McCarthy, Reed, Stafford, Tobin, Wilson. Absent—Supervisors Fontana, Jennings, Sanderson.
JNO. A. RUSSELL, Clerk.

Approved, San Francisco, October 1, 1901.

JAS. D. PHELAN,
Mayor and ex-officio President of the Board of Supervisors.

As provided by Section 3665 of the Political Code, the State Board of Equalization assessed for the fiscal year 1901-1902 the main track and the value of the railways operating in part in this City and County, and in accordance with the assessment made, the Board of Supervisors apportioned the same as to the San Francisco and San Mateo Electric Railway Company by Ordinance No. 380, as to the Central Pacific Railroad by Ordinance No. 381, as to the Southern Pacific Company by Ordinance No. 382, and as to the Pullman Palace Car Company by Ordinance No. 383, as follows:

RAILROADS.	ASSESSMENT.	TRACKS.		Assessment per mile.....	Apportionment, City and County.
		Miles in State.....	Miles in City and County		
Southern Pacific Railroad Co.	\$22,600,000 00	2,098.70	7.36	\$10,768 11	\$79,253 00
San Francisco and San Mateo Electric Railway Co.....	225,000 00	29.362	21.574	7,662 90	165,320 00
Central Pacific Railroad Co..	13,000,000 00	746.76	2.46	17,408 53	42,825 00
Pullman Palace Car Co.....	350,000 00	2,726 19	8.00	128 34	1,029 00

FINANCIAL CONDITION

OF THE CITY AND COUNTY OF SAN FRANCISCO ON THE
FIRST DAY OF OCTOBER, 1901.

The following statement contained in Resolution No. 1936 was transmitted by direction of the Board of Supervisors on October 22, 1901, to the State Controller:

FUNDED DEBT.

Funded debt at six (6) per cent interest.....	\$252,500 00	
Less Sinking Fund on hand.....	221,474 14	
	<hr/>	
Net funded debt.....		\$31,025 86

DESCRIPTION AND VALUE OF PROPERTY OWNED BY THE CITY AND COUNTY.

Park reservations, public squares and improvements	\$13,000,000 00	
Fire Department lots and improvements, apparatus, furniture, etc.	1,756,000 00	
Police Department lots, improvements and furnishing	100,000 00	
Fire Alarm and Police Telegraph, apparatus, and for underground system, etc.....	150,000 00	
City Hall, Hall of Justice, County Jails, Hospitals, Almshouses, lots and improvements and furniture.	7,500,000 00	
Cemetery reservation	580,000 00	
Sundry lots	260,000 00	
Channel street lots from Ninth to Eighteenth streets	110,000 00	
School lots, improvements, libraries, furniture, etc....	5,415,200 00	
	<hr/>	
Total		\$28,871,200 00

CITY AND COUNTY AND STATE MONEYS.

Cash in hands of City and County Treasurer (City and County)—		
Interest accounts	\$2,178 05	
Sinking funds	194,474 14	
Miscellaneous funds for special purposes.....	583,082 74	
	<hr/>	
Total City and County.....		\$779,734 98
Cash in hands of City and County Treasurer (State)..	44,681 36	
	<hr/>	
Total		\$824,416 29
Loans and transfer from Sinking Funds outstanding..	27,000 00	

FINANCIAL CONDITION.

VALUATION OF PROPERTY FOR CITY AND COUNTY AND STATE PURPOSES FOR 1901-1902.

City and County and State—

Assessed valuation of real estate and improvements.....	\$289,682,062 00	
Assessed value of personal property.....	123,417,901 00	
Total		\$413,099,963 00

RATE OF TAXATION. .

For City and County purposes.....	\$1.0762	
For State purposes.....	.4800	
Total		\$1.5562

Amount of taxes levied on \$405,000,000 00—

City and County purposes.....	\$4,358,610 00	
State purposes	1,944,000 00	
Total amount of taxes.....		\$6,302,610 00

REMARKS—CITY AND COUNTY AND STATE VALUATIONS.

Value of real estate.....	\$192,447,170 00	
Value of improvements.....	97,234,922 00	
Value of personal property (exclusive of money and solvent credit)	85,638,501 00	
Total amount of money and solvent credits City and County	37,779,400 00	
Total		\$413,099,963 00

Value apportioned by the State Board of Equalization of assessment of franchise, roadbed, etc., of railways—

Central Pacific Railroad Company.....	\$42,825 00	
Southern Pacific Railroad Company.....	79,253 00	
San Francisco and San Mateo Railroad Company.....	165,320 00	
Pullman Palace Car.....	1,029 00	
Total		\$288,427 00

Amount of City and County revenue under levy made by the Board of Supervisors on an estimated valuation of \$405,000,000 for City and County purposes (\$1.0762)		\$4,358,610 00
Amount of revenue from assessable property \$413,099,963 (exclusive of railroads assessed by the State Board of Equalization) from levy for City and County purposes (\$1.0762).....		4,445,782 13
Estimated revenue from other sources than taxation for City and County purposes.....		1,470,100 00
Amount of revenue under levy made by the Board of Supervisors on an estimated valuation of \$405,000,000, for State purposes (\$.48).....		1,944,000 00

FINANCIAL EXHIBIT

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Amount of revenue from assessable property \$412,- 099,993 (exclusive of railroads assessed by the State Board of Equalization from levy for State purposes (\$.48)		1,962,879 97
Amount of revenue from assessment of railroads by State Board of Equalization—		
For City and County.....	\$3,104 05	
For State	1,284 45	
	<hr/>	
Total		\$4,488 50

In Board of Supervisors, San Francisco, October 14, 1901.

Adopted by the following vote: Ayes—Supervisors Booth, Boxton, Brandenstein,
Braunhart, Connor, Curtis, Dywer, Fontana, Jennings, McCarthy, Reed, Sanderson,
Stafford. Absent—Supervisors Comte, D'Ancona, Hotaling, Tobin, Wilson.

JNO. A. RUSSELL, Clerk.

Approved, San Francisco, October 21, 1901.

JAS. D. PHELAN,

Mayor and ex-officio President of the Board of Supervisors.

VALUE OF PROPERTY

IN THE SEVERAL COUNTIES OF THE

The following table, received from the Hon. E. P. Colgan, State Controller, shows the assessed the Fiscal Year 1901:

VALUES OF PROPERTY IN, AND INDEBTEDNESS AND RATE OF TAXATION

COUNTIES.	Classification...	Value of Real Estate.	Value of Improvements on Real Estate.	Value of Personal Property.	Money and Solvent Credits.	Total Value of Property, as Returned by Auditors.
Alameda.....	3	\$48,312,625	\$28,302,075	\$10,728,513	\$499,196	\$87,842,409
Alpine.....	57	143,960	113,058	40,835	2,975	300,828
Amador.....	35	2,541,105	1,408,862	580,714	24,663	4,555,344
Butte.....	23	8,643,484	2,242,770	1,808,677	145,278	12,940,209
Calaveras.....	33	2,955,205	1,500,955	828,840	36,745	5,321,745
Colusa.....	42	9,012,147	1,054,093	1,261,425	115,380	11,443,045
Contra Costa.....	19	8,928,200	2,994,800	3,423,233	419,520	15,765,843
Del Norte.....	55	1,509,485	307,000	216,623	15,336	2,048,444
El Dorado.....	40	1,984,320	1,084,485	607,130	34,665	3,710,600
Fresno.....	7	19,145,610	5,077,454	3,797,852	159,904	28,180,820
Glenn.....	47	7,702,983	736,430	957,363	114,629	9,511,405
Humboldt.....	11	12,430,028	2,654,165	2,488,725	527,031	18,099,949
Inyo.....	53	873,609	467,429	456,107	5,400	1,802,545
Kern.....	26	13,352,562	2,433,697	3,256,716	125,115	19,168,090
Kings.....	37	5,050,855	1,045,963	930,426	84,541	7,111,785
Lake.....	45	1,997,135	705,250	432,675	43,400	3,178,460
Lassen.....	51	1,610,540	523,238	1,043,709	121,293	3,298,780
Los Angeles.....	2	58,317,915	27,350,490	*13,948,007	904,544	100,520,956
Madera.....	44	3,751,325	619,710	971,150	18,100	5,360,285
Marin.....	29	7,439,870	2,772,360	1,095,745	28,660	11,336,635
Mariposa.....	49	1,421,687	392,800	279,700	2,400	2,096,587
Mendocino.....	14	6,882,306	1,699,980	1,649,751	99,428	10,331,465
Merced.....	39	9,447,007	1,134,269	1,528,572	37,714	12,147,562
Modoc.....	48	1,253,685	521,742	1,180,861	47,517	3,003,805
Mono.....	56	487,817	344,990	259,774	7,486	1,100,067
Monterey.....	16	12,013,470	2,709,070	1,566,687	117,735	16,406,962
Napa.....	27	5,757,405	3,578,535	1,741,905	176,725	11,254,570

* Includes "solvent credits."

NOTE—Where two rates of taxation are given, the lesser rate is that levied upon property situate within the

AND RATE OF TAXATION

STATE FOR THE FISCAL YEAR 1901.

Value of property and the rates of taxation for State and County purposes in the several Counties of the State for

OF, EACH COUNTY FOR THE YEAR, 1901.

(STATE RATE 48 CENTS).

Value of Railroads as assessed by State Board of Equalization	Grand Total Value of all Property.	Original Assessed Value of Mortgages.	Assessed Value of University and other State Mortgages	Funded Debt.	Floating Debt, with Estimated Interest.	Total County Indebtedness.	Total State and County Rate of Taxation on each \$100.
\$1,928,596	\$89,771,005	\$17,006,400	\$425,275		\$30,922	\$30,922	{ \$1 25 1 65
	300,828	17,087			15,882	15,882	2 65
86,145	4,641,489	441,561					1 95
938,837	13,879,046	2,127,503	357,855	\$38,000	4,770	42,770	{ 1 45 1 85
112,634	5,434,379	373,715			2,500	2,500	1 90
369,501	11,812,546	1,722,979					{ 1 10 1 40 1 50
1,314,088	17,079,931	3,166,725					{ 1 80 1 60 2 00
	2,048,444	145,650		2,900		2,900	{ 2 07 2 40
328,966	4,039,566	345,900		65,000		65,000	{ 1 45 1 75
2,589,909	30,770,729	4,565,740		80,000		80,000	{ 1 33 1 60
495,813	10,007,218	1,726,644		48,000		48,000	{ 1 25 1 65
	18,099,949	2,159,537		18,000		18,000	2 15
82,791	1,885,335	181,267		60,000		60,000	{ 1 20 1 50
1,961,800	21,129,890	1,142,776		235,000		235,000	{ 1 24 1 52
454,118	7,585,903	1,175,200		32,000		32,000	{ 1 67 2 17
	3,178,460	418,806		47,800		47,800	1 85
200,870	3,499,650	252,510					{ 1 40 2 00
2,807,948	103,328,904	5,386,395	273,000	419,500		419,500	{ 2 50 1 25 1 62
929,657	6,289,942	529,010					3 00
772,269	12,108,904	2,285,060	45,000	135,500		135,000	{ 1 60 2 00
	2,096,587	97,963		10,000		10,000	{ 1 40 1 75
328,789	10,660,254	1,479,663	16,000	95,000		95,000	2 00
1,510,215	13,657,777	1,882,383		128,900		128,900	{ 3 25 1 50
	3,003,805	181,637					{ 1 31 1 64
37,209	1,137,276	54,800		5,000		5,000	1 50
1,609,494	18,016,456	2,138,110		128,000	5,120	133,120	1 31
510,731	11,765,301	1,408,705					1 64

Limits of incorporated cities or towns, such property being exempt from road tax.

VALUE OF PROPERTY

VALUES OF PROPERTY AND

COUNTIES.	Classification...	Value of Real Estate.	Value of Improvements on Real Estate.	Value of Personal Property.	Money and Solvent Credits.	Total Value of Property as Returned by Auditors.
Nevada.....	21	\$2,743,560	\$2,600,560	\$1,056,515	\$47,595	\$6,448,230
Orange.....	15	6,806,895	2,359,155	1,271,505	80,705	10,518,260
Placer.....	28	4,162,405	1,916,745	843,170	103,165	7,055,485
Plumas.....	50	1,235,685	\$49,215	358,179	3,600	2,046,679
Riverside.....	20	6,145,633	3,276,495	1,027,710	62,565	10,512,403
Sacramento.....	5	19,136,880	8,957,580	4,425,010	576,560	33,096,030
San Benito.....	43	4,095,760	955,085	739,985	37,335	5,828,165
San Bernardino.....	10	8,630,575	3,654,750	1,162,465	75,320	13,523,110
San Diego.....	9	11,576,509	4,142,928	2,370,922	151,261	18,241,620
San Francisco.....	1	192,447,170	97,234,922	85,638,501	37,779,400	413,099,993
San Joaquin.....	8	19,381,381	6,400,391	3,542,528	525,610	29,849,910
San Luis Obispo.....	25	8,098,064	1,589,731	1,527,446	178,100	11,393,341
San Mateo.....	32	8,553,555	3,444,480	1,996,400	157,355	14,151,790
Santa Barbara.....	17	8,907,497	2,601,810	1,625,290	89,050	13,223,647
Santa Clara.....	4	32,042,965	13,688,205	4,544,520	378,945	50,654,635
Santa Cruz.....	13	6,483,880	2,836,155	1,236,050	78,875	10,634,960
Shasta.....	22	4,257,684	1,786,207	1,779,393	99,581	7,922,865
Sierra.....	54	985,370	335,330	158,788	5,883	1,485,371
Siskiyou.....	24	4,497,258	1,572,526	1,263,284	200,036	7,533,104
Solano.....	12	10,934,513	3,691,076	1,982,964	119,060	16,727,613
Sonoma.....	6	14,924,935	5,960,280	2,896,014	354,305	24,135,594
Stanislaus.....	38	7,658,665	1,410,585	1,603,805	110,270	10,783,325
Sutter.....	46	4,279,917	841,156	744,834	36,429	5,902,336
Tehama.....	36	6,352,405	1,685,760	1,841,100	132,065	10,011,330
Trinity.....	52	784,495	461,995	283,719	37,789	1,567,998
Tulare.....	18	9,768,265	2,126,474	1,904,965	129,657	13,929,361
Tuolumne.....	34	3,542,590	1,910,890	779,490	28,290	6,261,260
Ventura.....	30	5,276,014	1,449,979	1,210,404	134,984	8,071,381
Yolo.....	31	10,940,581	2,362,151	1,570,218	210,532	15,083,482
Yuba.....	41	2,653,155	1,340,940	939,455	118,295	5,051,845
Totals.....		\$680,270,651	\$276,849,326	\$189,506,344	\$45,957,997	\$1,192,584,318

RATE OF TAXATION.

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RATE OF TAXATION—CONTINUED.

Value of Railroads as Assessed by State Board of Equalization	Grand Total Value of all Property.	Original Assessed Value of Mortgages.	Assessed Value of University and other State Mortgages	Funded Debt.	Floating Debt with Estimated Interest.	Total County Indebtedness.	Total State and County Rate of Taxation on Each \$100.
\$628,110	\$7,076,340	\$420,320					\$2 25
727,284	11,245,544	287,605		\$95,000		\$95,000	2 65
2,042,172	9,097,657	1,002,420		56,000		56,000	1 40
46,325	2,093,004	168,384		35,100		35,100	1 80
1,736,306	12,248,709	700,089					1 60
1,249,987	34,346,017	1,947,710	\$30,000	404,500	\$18,395	422,895	1 95
190,575	6,018,740	1,810,110		18,000		18,000	1 80
2,893,039	16,416,149	1,001,485					1 90
1,720,339	19,961,959	1,858,762		151,000	5,000	156,000	1 60
288,427	413,388,420	48,077,827	443,850	250,000		250,000	2 00
2,173,462	32,023,372	4,760,348		126,000		126,000	1 65
920,643	12,313,984	1,958,298		76,000		76,000	1 75
333,167	14,484,957	1,373,050		48,000		48,000	1 50
746,221	13,969,868	2,245,257					1 85
1,266,328	51,920,963	8,672,980		70,000		70,000	1 27½
588,007	11,222,967	1,587,110		63,000		63,000	1 84
1,439,439	9,362,304	522,184		47,000		47,000	2 00
44,233	1,529,604	74,865		5,500		5,500	1 10
1,458,724	8,991,828	787,517		46,200		46,200	1 60
796,504	17,524,117	2,832,549					1 75
1,867,585	26,003,179	3,538,630		113,000		113,000	1 25
1,254,085	12,037,410	2,368,230			26,244	26,244	1 65
462,123	6,364,459	1,078,843		11,000		11,000	1 63
899,349	10,910,679	1,352,760	15,000	37,500		37,500	1 59
.....	1,567,998	104,032		21,000		21,000	1 85
1,864,946	15,794,307	1,931,166					2 90
163,410	6,424,670	406,095					1 19
586,862	8,658,243	1,182,212		2,000		2,000	1 20
950,864	16,034,346	2,128,480					1 60
412,589	5,464,434	747,960					1 50
							1 60
							2 00
							1 03
							1 35
							2 00
							2 30
\$49,121,485	\$1,241,705,803	\$149,341,064	\$1,605,980	\$3,224,400	\$108,823	\$3,333,223	

† Includes special school tax of 35 cents

STATIONERY ACCOUNT.

SAN FRANCISCO, August 19, 1901.

To the Honorable Jas. D. Phelan, Mayor
Of the City and County of San Francisco—

DEAR SIR: The following is a copy of the report filed with the Board of Supervisors, showing the amount of stationery, printing, books and stamps delivered to the various departments of the city government through the Stationery Department of the Board of Supervisors during the fiscal year 1900-1901.

Very respectfully,

JNO. A. RUSSELL, Clerk.

By JOHN F. FINN, Assistant Clerk,
Assigned to the Stationery Department.

DEPARTMENT.	TOTAL, PRINTING, BOOKS AND STATIONERY.	STAMPS AND POSTALS.
Almshouse.....	\$141 51	\$460 00
Assessor.....	3,331 00	476 00
Auditor ..	1,207 46	29 00
Department of Public Health.....	702 49	
Board of Public Works.....	1,489 59	232 50
City and County Hospital.....	410 48	6 00
City Attorney.....	106 00	14 00
Civil Service Commissioners.....	426 33	20 00
Board of Supervisors	1,750 13	180 00
Justices' Court.....	734 19	17 00
Coroner.....	144 03	
County Clerk.....	2,608 23	35 00
Department of Electricity	277 09	
District Attorney.....	377 59	23 00

STATIONERY ACCOUNT.

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BOOKS, STATIONERY, PRINTING, ETC.—CONTINUED.

DEPARTMENT.	TOTAL, PRINTING, BOOKS AND STATIONERY.	STAMPS AND POSTALS.
Emergency Hospital.....	\$124 77	
Fire Department	744 09	\$40 00
Law Library.....	144 23	
Police Department	2,528 00	
Recorder	1,885 49	50 00
Sheriff	704 57	64 00
Tax Collector.....	2,065 04	314 00
Delinquent Tax Collector	306 99	
Treasurer ..	293 16	27 00
Superior Courts, 12 Departments.....	587 08	111 50
Superior Court, Secretary	28 77	4 00
Grand Jury	22 86	13 00
Police Courts, 4 Departments.....	79 14	20 00
Fire Marshal.....	6 00	
Goods charged against Stationery Department without requisition.....	688 98	
Total.....	\$23,915 29	\$1,660 00

Amount of appropriation, 1900-01 \$24,000 00
 Amount of expenditures \$23,915 29
 Amount of money and stock on hand 84 71

24,000 00

Stamps and postals were paid out of the appropriation for urgent necessities.

JNO. A. RUSSELL, Clerk.

By JOHN F. FINN, Assistant Clerk,
Assigned to the Stationery Department.

Approved:

JAMES P. BOOTH,
JOHN CONNOR,
THOMAS JENNINGS,

Committee on Printing and Salaries.

2002

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