New Bedford Textile School

CATALOGUE 1913 - - '14

Purchase Street

New Bedford, Massachusetts

CATALOGUE

New Bedford Textile School

NEW BEDFORD, MASS.

1913-1914

MACHINERY BUILDING

OFFICERS OF THE CORPORATION FOR THE YEAR 1913.

WILLIAM E. HATCH, President.
FREDERIC TABER, Treasurer.
JAMES O. THOMPSON, JR., Clerk.

TRUSTEES.

On Behalf of the Commonwealth of Massachusetts.

WILLIAM E. HATCH.
ABBOTT P. SMITH.
Director Butler, New Bedford Cotton, Quissett, Soule, and Taber Mills.

Ex-Officio on the part of the City of New Bedford.

Hon. CHAS. S. ASHLEY, Mayor.
ALLEN P. KEITH, Superintendent of Schools.

TRUSTEES AT LARGE.

LEWIS E. BENTLEY.
GEORGE E. BRIGGS, Director Whitman Mills.
CHARLES O. BRIGHTMAN.
HON. W. W. CRAPO, President Acushnet, Potomska and Wamsutta Mills, and Director Gosnold and Hathaway Mills.
WILLIAM O. DEVOLL, Treasurer Potomska Mills.
JOHN DUFF, Director Bristol and Soule Mills.
THOMAS F. GLENNON, Agent Quissett Mill.
JOHN HALLIWELL, Treasurer Mule Spinners' Union.
JOHN HOBIN, Secretary Loom Fixers' Union.
CHARLES M. HOLMES, Treasurer Holmes Mill.
NATHANIEL B. KERR, Treasurer Butler Mills and Director New Bedford Cotton and Soule Mills.
EDWARD O. KNOWLES.
JOHN NEILD, Agent Neild Mill.
HON. DAVID L. PARKER, Director Pierce and Potomska Mills.
SAMUEL ROSS, State Senator.
GEORGE R. STETSON, Director Soule Mill.
FREDERIC TABER, President Taber Mill, and Director City Mfg. Co., Neild, Quissett and Soule Mills.
JAMES O. THOMPSON, JR., Agent N. B. Cotton Mills.
WILLIAM A. TWISS, Supt. Hathaway Mfg. Co.

EXECUTIVE COMMITTEE.

WILLIAM E. HATCH, Chairman.

NATHANIEL B. KERR,	LEWIS E. BENTLEY,
CHARLES M. HOLMES,	ABBOTT P. SMITH,
JAMES O. THOMPSON, JR.,	FREDERIC TABER.

RECITATION BUILDING.

ADMINISTRATION AND INSTRUCTION.

ADMINISTRATION.

WILLIAM E. HATCH, A. M.,
President of the Corporation and Managing Director.

INSTRUCTION.

HENRY W. NICHOLS, A. B.,
Chief Instructor.

HEADS OF DEPARTMENTS.

WILLIAM SMITH,
Carding and Spinning.

THOMAS YATES,
Warp Preparation and Weaving.

SAMUEL HOLT,
Designing.

FRANK PAYTON,
Knitting.

EVERETT H. HINCKLEY, S. B.,
Chemistry and Dyeing.

SERENO G. MILLER, M. E.,
Mechanics.

THOMAS E. WHITFORD,
Instructor in Machine Shop Practice.

JOHN F. JUDGE,
Engineer.

MAIN STAIRWAY, MACHINERY BUILDING.

ASSISTANT EVENING INSTRUCTORS.

Carding and Spinning:

Edward W. Baylies,
Bruce Cary,
Stephen K. Dyer,
John F. Glennon,
Charles F. Heap,
Leonard H. Mellor,
Thomas B. O'Brien,
Harold A. Perkins,
John C. Shaw,
Joseph C. Walker,
William A. Young.

Warp Preparation and Wearing:

Robert Boardman,
Albert E. Dean,
Frederick Holt,
Peter J. Macy,
Patrick J. Mahoney,
Joseph Pedro,
John Reynolds.

Mill Calculations:

John J. W. Cooper.

Designing:

James Sutter,
Jean C. Uberti.

Mechanics:

Milton J. Bentley.

Chemistry:

E. P. Jack Auclair.

1913 CALENDAR 1914

JULY.

Su	Mo	Tu	W	Th	Fr	Sa
–	–	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31	–	–
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AUGUST.

Su	Mo	Tu	W	Th	Fr	Sa
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3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31	–	–	–	–	–	–

SEPTEMBER.

Su	Mo	Tu	W	Th	Fr	Sa
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7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	–	–	–	–
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OCTOBER.

Su	Mo	Tu	W	Th	Fr	Sa
–	–	–	1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	–
–	–	–	–	–	–	–

NOVEMBER.

Su	Mo	Tu	W	Th	Fr	Sa
–	–	–	–	–	–	1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	–	–	–	–	–	–

DECEMBER.

Su	Mo	Tu	W	Th	Fr	Sa
–	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31	–	–	–
–	–	–	–	–	–	–

JANUARY.

Su	Mo	Tu	W	Th	Fr	Sa
–	–	–	–	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31
–	–	–	–	–	–	–

FEBRUARY.

Su	Mo	Tu	W	Th	Fr	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
–	–	–	–	–	–	–
–	–	–	–	–	–	–

MARCH.

Su	Mo	Tu	W	Th	Fr	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31	–	–	–	–
–	–	–	–	–	–	–

APRIL.

Su	Mo	Tu	W	Th	Fr	Sa
–	–	–	1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	–	–
–	–	–	–	–	–	–

MAY.

Su	Mo	Tu	W	Th	Fr	Sa
–	–	–	–	–	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31	–	–	–	–	–	–

JUNE.

Su	Mo	Tu	W	Th	Fr	Sa
–	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	–	–	–	–
–	–	–	–	–	–	–

CALENDAR.

1913.

Friday, Sept. 12, at 9 a. m. Entrance Examinations for Day Students.

Monday, Sept. 15. Beginning of First Term for Day Students.

Monday, Sept. 29, and Tuesday, Sept. 30, from 7 to 9 p. m. Enrollment of Evening Students.

Thursday, Oct. 2, and Friday, Oct. 3, at 7:30 p. m. Examinations for Evening Students.

Monday, Oct. 6. Beginning of First Term for Evening Students.

Monday, Nov. 10, to Friday, Nov. 14, inclusive. Mid-Term Examinations for Day Students.

Friday, Dec. 19. End of First Term for Evening Students.

Saturday, Dec. 20, to Saturday, Dec. 27, inclusive. Christmas Recess.

Monday, Dec. 29. Beginning of Second Term for Evening Students.

1914.

Monday, Jan. 19, to Friday, Jan. 23, inclusive. Final Term Examinations for Day Students.

Friday, Jan. 23. End of First Term for Day Students.

Monday, Jan. 26. Beginning of Second Term for Day Students.

Friday, Feb. 27. End of Second Term for Evening Students.

Thursday, April 2, to Wednesday, April 8, inclusive. Mid-Term Examinations for Day Students.

Thursday, April 9, to Wednesday, April 15, inclusive. Easter Recess.

Monday, June 15, to Wednesday, June 17, inclusive. Final Examinations for Day Students.

Friday, June 19. End of School Year.

LECTURE HALL.

THE BUILDINGS.

The school is housed in two separate buildings connected by a tunnel in the basement and by covered bridges overhead. They are constructed of red brick with trimmings of Indiana sandstone. They are classified as the machinery building and the recitation building.

The first now comprises the original building, erected in 1898-9, and the first two additions, erected in the years 1901-2 and 1905 respectively. This building is 164 feet in length, with an average depth of 77.3 feet. It is three stories high with basement under most of it and contains a floor space of 46,600 square feet. In it are situated the administration offices, the power house, and all the departments comprised in a cotton yarn and cotton cloth mill as shown by the cuts distributed throughout this catalogue. In addition it has two large thoroughly equipped rooms for instruction in the art of knitting, both for hosiery and underwear, also shown in cuts.

The recitation building was completed and occupied in the fall of 1911. It consists of a main building 108 feet by 93 feet 6 inches, three stories high, with a deep well-lighted basement under the whole of it and contains 40,392 square feet of floor space. It also has an annex 68 feet 3 inches long by 19 feet 3 inches deep, one story high, with basement, and contains 2,634 square feet of floor space. This annex is used as an experimental laboratory and as a store room for chemical supplies.

The main building besides being equipped with recitation and lecture rooms of various sizes, has a thoroughly equipped chemical laboratory, a large dyeing and finishing room, an engineering laboratory, a commodious machine shop, a drafting room, a designing room especially fitted, an exhibition room, and an assembly hall that will seat four hundred persons.

ASSEMBLY ROOM

Both structures are of the slow burning mill construction type approved by the leading fire insurance associations and mill engineers, while the general equipment of the plant is also illustrative of the best methods of lighting, heating, ventilating, humidifying and fire-protecting mills. Great attention has been paid, in planning and arranging these buildings for the school, to make them most suitable for the purposes of imparting textile instruction and that the machinery building should give an object lesson in cotton mill engineering.

Power, heat and light are supplied the school from its own power plant. The fire protection was designed and installed by the General Fire Extinguisher Co. of Providence, R. I., the well-known Grinnell sprinkler being used. The American Moistening Co. installed a complete humidifying apparatus. The whole equipment is approved by the Massachusetts State Inspectors of public buildings.

THE SCHOOL AND ITS PURPOSE.

The Legislature of the Commonwealth of Massachusetts, in the Act under which the Trustees of the New Bedford Textile School were incorporated, gives as the purpose of the incorporation that of establishing and maintaining a textile school for instruction in the theory and practical art of textiles and kindred branches of industry.

As New Bedford is primarily a cotton-manufacturing city, this school confines itself principally to instruction in the cotton branch of the textile industry and seeks to perfect itself in this line. Its course of instruction is arranged to subserve the interests of two general classes of students: (1) day students, those who give their whole time for two or three years to acquiring the theory as well as the practice of cotton manufacturing in all its details, from the raw cotton to the finished fabric, and also have instruction in the scientific principles which underlie the construction of the machinery and its operation, and the

EXHIBITION ROOM, not yet completed

artistic principles which are involved in the production of desirable and ornamental fabrics; (2) evening students, those who are employed in the mills during the day and who, by attending the Textile School evenings, are able to learn other phases of the industry from that in which they are employed, or to perfect themselves in their special lines of work, and become more efficient workmen. The courses of instruction for these two classes of students are given fully on other pages of this catalogue.

The whole of the machinery in the school is absolutely modern, being constructed especially for the school. It is all high grade, has latest improvements, and is especially built to afford facilities for all kinds of experimental work, and represents all the leading types of machines from the best builders in the United States, and several English builders.

There is no mill in which there is so large a variety of machinery as in the New Bedford Textile School. This consequently affords the student a better opportunity to become acquainted with various machines and methods than could be found in any one manufacturing establishment.

Each instructor in the day school is a man who is thoroughly conversant with the work of the department under his charge by thorough training and long experience. Each one has charge of the work in his department at night also, assisted by experienced assistants from the mills, many of whom are graduates of this school.

The school went into operation in 1899 and the first class was graduated in 1900. The regular courses were at first one year in length. This continued for several years, but these were afterward lengthened and now the regular diploma courses are either two or three years long.

Since the school was opened, three thousand seven hundred seventy-eight different persons have attended the school and received instruction in courses of various length. Of these, one thousand six hundred sixty-six have been

awarded diplomas or certificates. Reports received from these show that the knowledge acquired in this school has proved of great benefit to them in securing more rapid advancement in the industry than would have been possible without such instruction. Employers and employees both unite in testimony as to the value of the textile schools in promoting the efficiency, broadening the scope of opportunity and securing advancement in the cotton mills and allied industries to those who have had the advantages offered by them.

THE LOCATION OF THE SCHOOL.

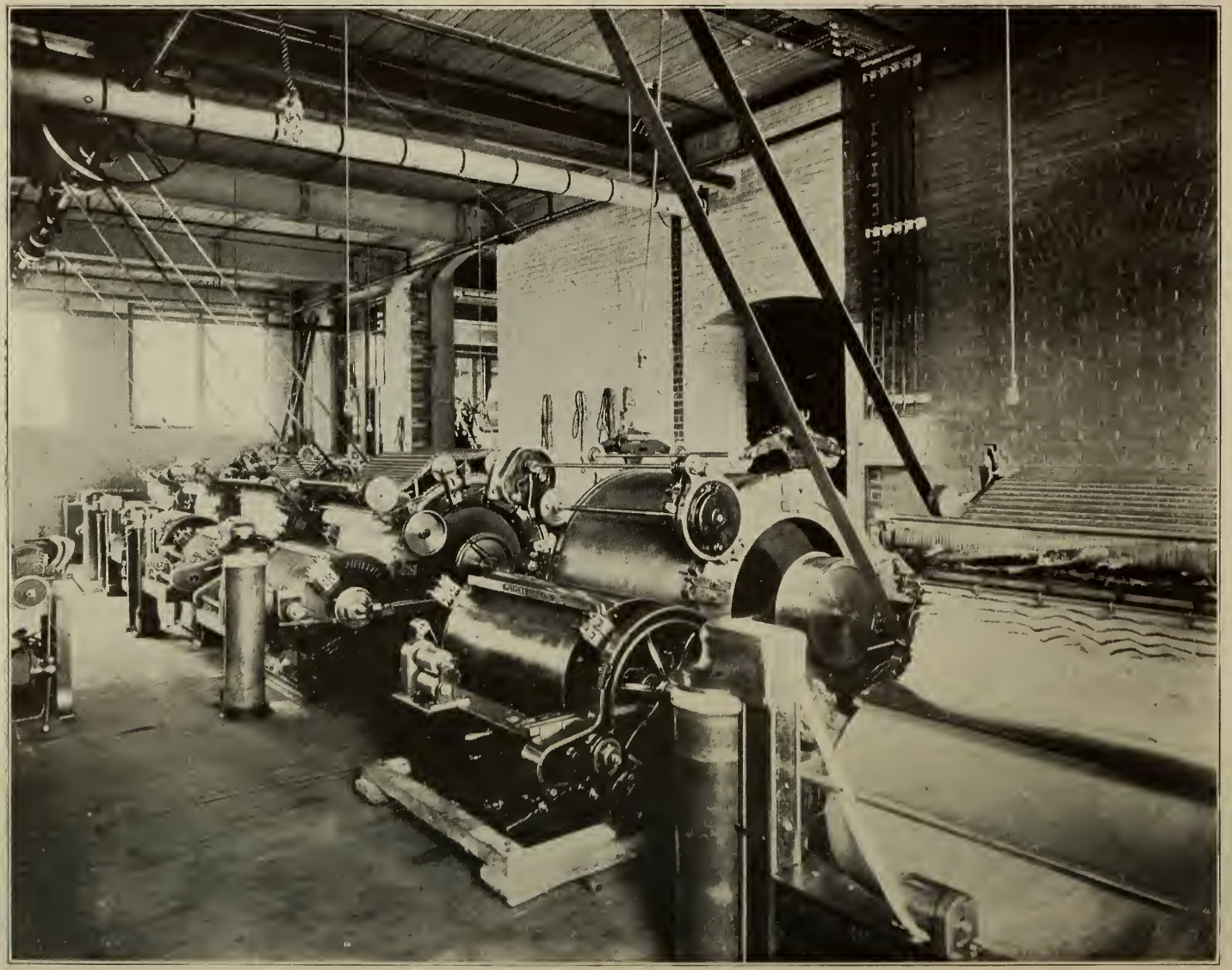
The school is situated in the centre of the city of New Bedford, Mass., on the main car line of the city which connects the mill districts and is readily accessible to mill operatives who attend the evening sessions of the school. It is near the residential part of the city and is therefore conveniently situated for non-resident pupils who take up a temporary residence in the city.

New Bedford is an especially suitable location for an institution of this character. It is the largest cotton manufacturing city of fine yarns and fancy woven fabrics and novelties in the country. Its spindles number 2,956,104 and looms 54,522. Capital invested $37,126,300, and employees 31,290.

High grade combed yarns are produced in New Bedford to a greater extent than in any other city, while the mills are engaged in the manufacture of fine shirtings, muslins, lawns, sateens, lenos, checks, piques, and other fancy fabrics to an extent unknown elsewhere. New Bedford's great advantage in this respect can be attributed principally to the fact that her mills are nearly all of recent construction with the most improved and up-to-date equipment. The environment of these mills is in itself a benefit to the students who select the New Bedford Textile School as the institution in which to learn the mill business, as they have opportunity to observe their construction and operation and to find employment in

them during the long summer vacations and upon finishing their course in the school.

New Bedford is within short distance of Providence, Pawtucket, Woonsocket, Taunton, Fall River, and other large cotton machinery centres. It is one of the healthiest of the manufacturing cities in the United States. Picturesquely situated on the extreme south shore of Massachusetts, it enjoys one of the mildest winter climates in New England and thus offers peculiar residential advantages for non-resident students.



CARDING AND SPINNING DEPT., showing Cards

DAY CLASSES.

Two classes of students are eligible to the day courses. The first consists of those who are to take the regular diploma day courses, or special certificate courses based on the regular courses. For these, the same age and requirements for admission will be demanded as heretofore.

The second class consists of those who have attained the age of fourteen years. All students of this class will be required to pursue the same work the first year. After that, each student may elect whether he will enter one of the regular courses or whether he will devote his second year to preparing himself for one definite branch of mill work. The work for the first year of all students entering at an earlier age than sixteen shall be divided into academic work and practice work on the machines, with emphasis on the first. Such students must be graduates of a grammar school or pass a satisfactory examination in arithmetic, English, and geography to be admitted.

The regular day courses of the school are as follows:

Cotton Manufacturing.
Chemistry and Dyeing.
Designing.
Seamless Hosiery Knitting.
Latch Needle Underwear Knitting.

All the above courses are diploma courses and are intended to qualify students to hold positions of responsibility in textile manufacturing and allied establishments.

The advantages of these courses to qualify men to hold responsible positions in cotton mills, dye houses, commission houses, etc., are many. These industries, as usually conducted, are not particularly adapted to give a young man a technical education. The opposite is the case where the primary object of the instruction is to impart knowledge and to train in the correct methods of doing things.

It is not expected that a young man, going from this school, will at once secure an executive position. It is expected, on the contrary, that he will begin in a more humble fashion and, with the knowledge acquired in the school and the experience gained in the mill itself, he will be qualified to hold higher positions and his advancement will be much more rapid and his knowledge broader than one who had not had the school instruction and training. That such is the case is shown already by the positions now held by the graduates of the school.

Many of them are occupying positions of trust and responsibility in the textile and allied industries as manufacturers, treasurers, agents, superintendents, assistant superintendents, designers in mills and commission houses. overseers, chemists and dyers, etc. Some have been called to good positions as designers directly from the school and many who have attended the evening classes have so improved in skill and knowledge that they have advanced in position and earning power.

That the work of the school is recognized by textile manufacturers and those engaged in allied industries is attested by the fact that applications are constant for men of the school, more than can be supplied. One of the largest bleaching establishments in the country has assured us that it is ready to take all the men from the chemistry and dyeing department that we will recommend.

There is a homely adage which says that you cannot make a silk purse out of a sow's ear. Neither does this school agree to make a successful man out of a lazy, careless, and indifferent boy; nor does it care for such boys as students. But for one who wishes to learn, who is ready to work, who is willing to bide his time, it does offer an opportunity that will supply him with an honorable vocation with many opportunities for advancement in the world with good remuneration.

In case a prospective student feels that no one of the diploma courses, as outlined in the catalogue, meets his particular needs, he is requested to communicate with the management. Whenever possible, special courses will be given in the various departments for which certificates will be granted stating the subjects taken and the time given to them. The limitations of these special courses will be determined in every case by the management.

I. COTTON MANUFACTURING COURSE.

FIRST YEAR.

First Term.	Hours of Exercise per week
Weaving (111),	6 ¾
Designing (131),	1 ½
Hand Loom Practice (161-162),	1 ½
Cloth Analysis (151),	3 ¾
Principles of Mechanics (171),	¾
Mechanical Drawing (172),	3 ¾
Chemistry (251),	6
Yarn Calculations (121),	1 ½
Cotton Yarn Preparation (101),	5 ¼
Freehand Drawing,	3

Second Term.	Hours of Exercise per week
Weaving (112),	6 ¾
Designing (132),	1 ½
Hand Loom Practice (161-162),	1 ½
Cloth Analysis (152),	3 ¾
Mechanical Drawing (172),	1 ½
Elements of Mechanism (173),	½
Machine Shop Practice (174),	1 ¾
Chemistry (252),	5 ½
Warp Preparation (122),	2 ¾
Cotton Yarn Preparation (101),	5 ¼
Freehand Drawing,	3

SECOND YEAR.

First Term.	Hours of Exercise per week
Weaving (113),	4 ¾
Designing (133),	2
Cloth Analysis (153),	5 ¼
Dyeing (263),	5 ¾
Machine Shop Practice (174),	3 ¼
Machine Drawing (175),	2
Mechanical Engineering (176),	1
Cotton Yarn Preparation (102),	9 ¾

Second Term.	Hours of Exercise per week
Weaving (114),	3
Designing (134),	1 ¾
Cloth Analysis (154),	6 ¾
Machine Shop Practice (174),	3
Machine Drawing (175),	2
Mechanical Engineering (176),	1
Dyeing (264),	6 ½
Cotton Yarn Preparation (103),	7 ¾
Cotton Sampling (106),	2

THIRD YEAR.

First Term.	Hours of Exercise per week
Weaving (115),	6 ¾
Color (145),	2
Designing (135),	1 ¾
Analysis (155),	4 ¾
Machine Shop Practice (174),	3
Electrical Engineering (177),	2
Cotton Yarn Preparation (104),	13 ½

Second Term.	Hours of Exercise per week
Weaving (116),	6 ¾
Color (146),	2
Designing (136),	1 ¾
Analysis (156),	4 ¾
Machine Drawing (175),	2
Mill Engineering (178),	3
Cotton Yarn Preparation (105),	13 ½

The numbers following each subject refer to the numbered paragraphs, commencing on page 33. These paragraphs give in detail the topics taken up under each subject.

The course in cotton manufacturing is designed to give the student a thorough fundamental knowledge of the different processes entering into the construction of a piece of cloth from the raw staple to the finished product.

During the first year the student takes up the study of yarn preparation, weaving, designing, and cloth analysis. The study of mechanics, mechanical and free-hand drawing and chemistry is also pursued the first year, the work in these subjects being designed especially for men who are to take up the cotton mill work. Practical work in the machine shop is entered upon the second term. Instruction in yarn calculations, spooling, warping and slashing is also offered during the first year.

In the second and third years sufficient time is given to instruction in picking, carding and spinning, while the subjects of weaving, designing and analysis are continued.

Dyeing is taken up the second year, the work being such as is of especial interest to the student of cotton manufacturing. The student is also given instruction in steam engineering during the second year, while in the third year, work in electrical engineering and cotton mill construction is offered. The study of color is taken up during the third year.

The work in all subjects is so arranged that the student is taken gradually from the simpler to the more difficult problems. Much of the work in the last year is original, and the student is thrown on his own resources.

The work in chemistry, dyeing, mechanics and shop practice is all arranged with special reference to the student of cotton manufacturing.

This course is very thorough, and is always recommended to the student who is to make cotton cloth manufacturing his future work.

II.

DESIGNING COURSE.

FIRST YEAR.

First Term.	Hours of Exercise per week	Second Term.	Hours of Exercise per week
Weaving (111),	10½	Weaving (112),	10
Designing (131),	1½	Designing (132),	1½
Hand Loom Practice (161-162),	1½	Hand Loom Practice (161-162),	1½
Cloth Analysis (151),	11¼	Cloth Analysis (152),	10¾
Principles of Mechanics (171),	2	Mechanical Drawing (172),	2
Mechanical Drawing (172),	5½	Elements of Mechanism (173),	1
Yarn Calculations (121),	1½	Machine Shop Practice (174),	3
		Warp Preparation (122),	3

SECOND YEAR.

First Term.	Hours of Exercise per week	Second Term.	Hours of Exercise per week
Weaving (113), (114),	11½	Weaving (115), (116),	9
Designing (133), (135),	3¾	Designing (134), (136),	3¾
Cloth Analysis (153), (155),	10½	Cloth Analysis (154), (156),	11
Machine Shop Practice (174),	3	Machine Shop Practice (174),	3
Machine Drawing (175),	2	Machine Drawing (175),	2
Mechanical Engineering (176),	1	Mechanical Engineering (176),	1
Color (145),	2	Cotton Sampling (106),	2
		Color (146),	2

The course in Designing is offered for those students who are seeking a thorough knowledge of cloth construction and weaving, and who do not wish to pursue the subjects common to the carding and spinning branch of the industry. This course is very complete, and enables the student who does satisfactory work to perform satisfactorily the work of a designer in a mill or commission house.

Designing, cloth analysis, and weaving are the principal subjects taught, and extend through the two years. Instruction in yarn calculations, spooling, warping, slashing, cotton sampling, free-hand drawing, mechanics and steam engineering is also offered, the work being arranged to meet the special needs of the student following this course. For the student who wishes to perfect himself in the subject of designing, this course will be found very complete.

III.

CHEMISTRY AND DYEING COURSE.

FIRST YEAR.

First Term.	Hours of Exercise per week	Second Term.	Hours of Exercise per week
General Chemistry (181),	13	Quantitative Analysis (202),	13 ¼
Qualitative Analysis (191),	11 ¾	Organic Chemistry (212),	7 ¾
Yarn Calculations (121),	1 ½	Dyeing (222),	6 ¾
Principles of Mechanics (171),	2	Mechanical Drawing (172),	2
Mechanical Drawing (172),	5 ½	Elements of Mechanism (173),	1
		Machine Shop Practice (174),	3

SECOND YEAR.

First Term.	Hours of Exercise per week	Second Term.	Hours of Exercise per week
Organic Chemistry (213),	8 ½	Textile Chemistry (234),	7
Textile Chemistry (233),	10 ½	Dyeing (224),	6 ¾
Dyeing (223),	6 ¾	Color (146),	2
Color (145),	2	Machine Shop Practice (174),	3
Machine Shop Practice (174),	3	Machine Drawing (175),	2
Machine Drawing (175),	2	Mechanical Engineering (176),	1
Mechanical Engineering (176),	1	Thesis (244),	12

This course is designed to meet the needs of students who desire training in the principles of chemistry and its application to the various textile processes. To this end, during the first year, a broad course in general chemistry is given, followed by an application of its principles in the qualitative and quantitative analysis of the simpler inorganic chemicals used in the bleaching, dyeing, and finishing of the fibres of commerce. During the second term of the first year the study of organic chemistry is taken up to give the student a thorough training in the general principles of the subject. This is followed during the first term of the second year by an extended course in the chemical properties and preparation of dyestuffs.

During the last term of the first year and the first term of the second year a course in the conversion of the raw yarns and fabrics into the dyed and finished state is given. This is followed during the second term of the second year by a more extended study of the application of dyes to cotton fabrics and yarns. During the second year the analysis and detection of water, dyes, chemicals, soaps and fabrics is fully studied. Considerable time is spent in machine shop work and drawing to impart a general knowledge of machine design and construction.

The principles and application of the theory of color is studied during the second year.

The graduates of this course find employment with dyestuff makers and dealers, with manufacturers of chemicals used in dyeing, with bleacheries, dye houses, and finishing works.

Provided the student's previous efforts show his ability to cover the work outlined, arrangements will be made for a third year, the subjects given being those of the greatest personal interest to the student.

It is desirable that students entering this course shall have successfully completed a scientific course in High School, or its equivalent. Anyone, however, who can show, by examination, his ability to profit by the instruction given is admitted.

IV.

SEAMLESS HOSIERY KNITTING COURSE.

FIRST YEAR.

First Term.	Hours of Exercise per week	Second Term.	Hours of Exercise per week
Knitting (271),	18¾	Knitting (272),	21¾
Principles of Mechanics (171),	2	Mechanical Drawing (172),	2
Mechanical Drawing (172),	5½	Elements of Mechanism (173),	1
Chemistry (251),	6	Machine Shop Practice (174),	3
Yarn Calculations (121),	1½	Chemistry (252),	6

SECOND YEAR.

First Term.	Hours of Exercise per week	Second Term.	Hours of Exercise per week
Knitting (273),	21¾	Knitting (274),	19¾
Machine Shop Practice (174),	3	Machine Shop Practice (174),	3
Machine Drawing (175),	2	Machine Drawing (175),	2
Mechanical Engineering (176),	1	Mechanical Engineering (176),	1
Dyeing (263),	6	Dyeing (264),	6
		Cotton Sampling (106),	2

The course in seamless hosiery knitting is adapted to the needs of those students desiring a thorough knowledge of the machines entering into the manufacture of hosiery. The larger part of the student's time is devoted to the instruction work on the knitting machinery, eighteen and one-quarter hours a week being given up to this work during the first term of the first year, twenty-one and three-quarters hours a week during the second term of the first year, twenty-one and three-quarters hours a week during the first term of the second year, and nineteen and three-quarters hours a week during the second term of the second year.

Instruction is also given in yarn calculations, cotton sampling, mechanics, steam engineering, chemistry and dyeing, the work in these different subjects being arranged to meet the special needs of the student.

This course is recommended to those students who intend to become connected with a hosiery mill.

V.

LATCH NEEDLE UNDERWEAR KNITTING COURSE.

FIRST YEAR.

First Term.	Hours of Exercise per week	Second Term.	Hours of Exercise per week
Knitting (281),	18¾	Knitting (282),	21¾
Principles of Mechanics (171),	2	Mechanical Drawing (172),	2
Mechanical Drawing (172),	5½	Elements of Mechanism (173),	1
Chemistry (251),	6	Machine Shop Practice (174),	3
Yarn Calculations (121),	1½	Chemistry (252),	6

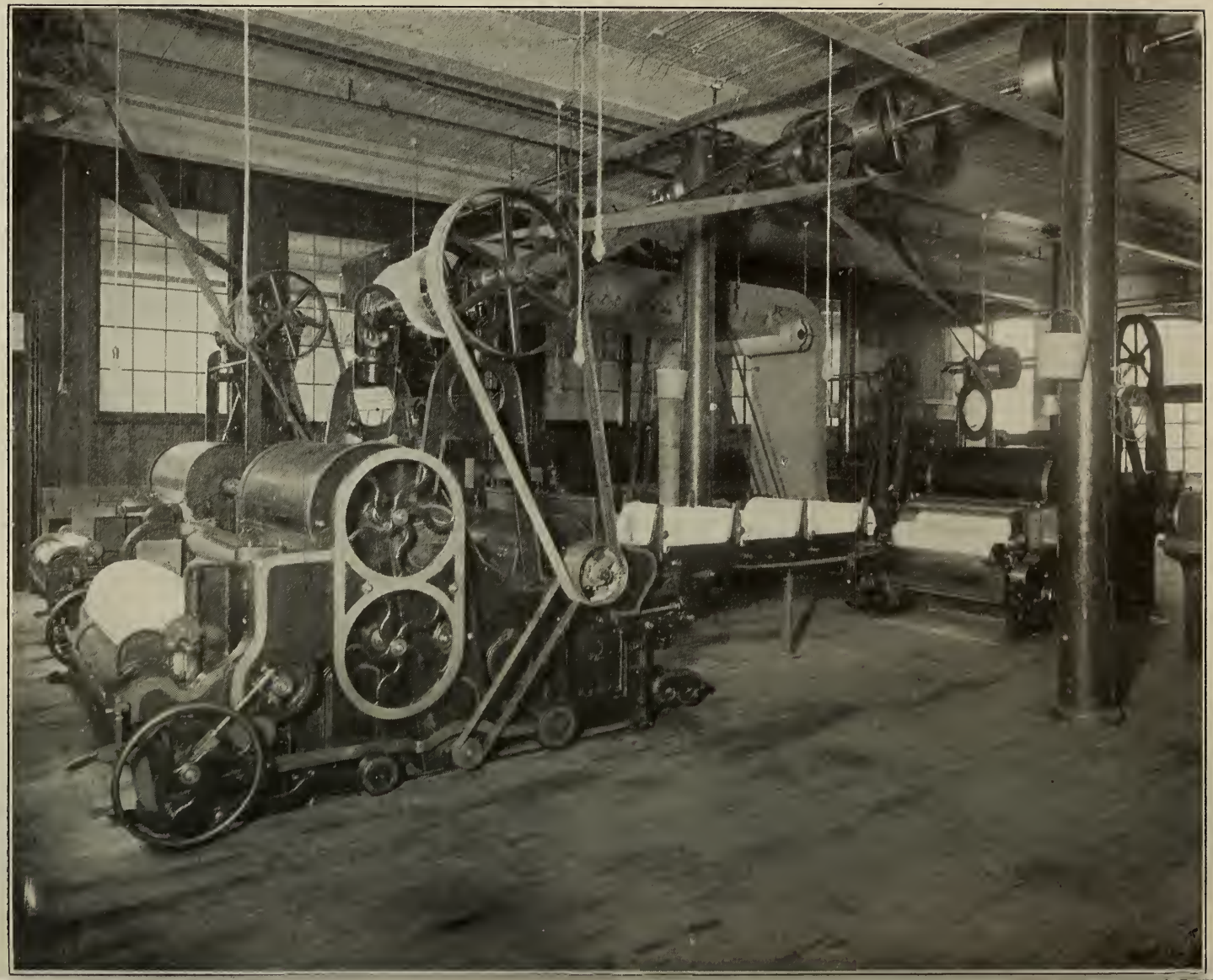
SECOND YEAR.

First Term.	Hours of Exercise per week	Second Term.	Hours of Exercise per week
Knitting (283),	21¾	Knitting (284),	19¾
Machine Shop Practice (174),	3	Machine Shop Practice (174),	3
Machine Drawing (175),	2	Machine Drawing (175),	2
Mechanical Engineering (176),	1	Mechanical Engineering (176),	1
Dyeing (263),	6	Dyeing (264),	6
		Cotton Sampling (106),	2

The course in latch needle underwear knitting is adapted to those students intending to become connected with this branch of the textile industry.

As in the case of the hosiery course the larger part of the student's time is devoted to instruction work on the knitting machines. Instruction is also given in yarn calculations, mechanics, steam engineering, cotton sampling, chemistry, and dyeing. As is the case with all other courses offered, instruction in these correlated subjects is arranged to best meet the needs of each individual course.

Both of the knitting courses are very thorough, and give the student a good working knowledge of the different processes and the machinery connected with the same. The knitting department of the New Bedford Textile School contains a larger variety of knitting machinery than is found in any similar school in the United States, and the courses offered in this department cannot fail to be of very great benefit to any one desiring knowledge along these lines.



101. Pickers, Cards, Railway Heads and Drawing Frames.

Cotton yarn mill machinery. Lists of processes in cotton mills for different numbers of yarn. Proper sequence of processes.

Objects of blending cotton. Methods of mixing same. Bale breakers.

Picker rooms. Automatic feeders. Construction of different varieties of feeders. Their capacity and suitability for the purpose intended.

The cotton opener, its use and object. Various styles of openers. Setting and adjustment of openers. Connection of feeders to openers. The various styles of trunks. Calculations in connection with openers. Breakers. Intermediate and finisher lappers. Different styles and makes of machines. Use and object of the lapper. Construction of aprons, beaters, bars, screens, fans, lap heads, evener and measuring motions, etc. The setting and adjustment of lappers. Calculations in connection with lappers.

The revolving flat card. Its principal parts described, including feed, licker, cylinder, doffer, coiler, screens and flats. Different setting arrangements. Speeds of different parts. Top flat cards, roller and clearer, and other cotton cards. Clothing, grinding, setting and stripping cards.

The railway head as used either independently or combined with sections of cards. Single and double railway heads. Eveners, draft calculations, metallic and other rolls.

Method of arranging and constructing drawing frames. The use and objects of the frame. Gearing, weighting, stop-motions, varieties of rolls, etc.

102. Roving Frames, Spinning Frames.

Slubbers. First and second intermediates. Roving or jack frames. The construction and use of the fly frame. Description and use of the different parts. Calculations in connection therewith. Changing and fixing frames, etc.

The spinning frame. Its construction and use. Its principal parts, such as creels, rolls, rings, travellers, speeds, builder motions, etc.

103. Doubling, Drafting and Twisting.

Figuring the number of doublings and drafts from picker to spinning frame or mule.

Calculations for schedules of machinery required for different counts and amounts. Cost and production of yarn.

The objects of twisting. Wet and dry twisting. The direction and amount of twist in different ply and cord threads; different methods used in preparing yarn for twisting. Size of rings and travellers for different counts of yarn. Methods of winding. Speeds and production.

104. Combers and Mules.

The sliver and ribbon lap machines. Construction of American and English machines. Methods of operating same. Setting and adjusting same and calculations in connection therewith.

The cotton comber. The construction of the comber, its use and objects. Comber setting. Comber calculations. Operation and management of combers.

The spinning mule and its uses. The special features of the mule. Description of the head stock, the cam shaft, mule carriage and other parts. The construction and use of each part of the mule. Different movements in the mule and the timing of the same. The copping rail and the building of a cop. Faults in mule spinning and their correction.

105.

Original work in laying out processes for different counts of yarn and carrying the same through from raw cotton to finished yarn.

106. Raw Cotton.

Raw cotton. Its varieties. The cultivation of cotton. The preparation of cotton for the market. Cotton ginning. Cotton as an article of commerce. The selection of cotton, its suitability for different purposes.

111. Plain Looms.

The construction of the plain loom. The principal movements in weaving. Methods of shedding. Shedding motions. Shedding by cams. Auxiliary shafts. Varieties of cams. Construction of cams. Timing cams and effect on the cloth.

Picking motions. Different methods of picking. Shuttles. Shuttle boxes. Shuttle guards. Tight and loose reed looms. Protector motions. Reeds. Let-off motions. Take-up motions. Calculations in connection with take-up motions.

Filling-stop motions.

Temples. The various makes and their uses.

The Draper loom. Special features of its construction.

Automatic shuttle and bobbin changing looms.

Special features of various makes of looms, including

Crompton & Knowles, Kilburn & Lincoln, Whitin, Mason and Stafford looms.

The management, operation and fixing of looms. Putting in warps. Faults and remedies in weaving and fixing. Calculations directly connected with plain looms.

Looms adapted to weave twills and satins.

Electrical and mechanical warp stop-motions.

112. Fancies.

Looms adapted to weave fancy cloth with dobbies. Dobbies with single and double cylinders. Chain pegging for dobbies.

Tying in and starting up warps for which the student has worked out some design.

113. Box Looms.

Looms for the use of various colors of filling. Drop box motions. Box chain multipliers. Multiplier motions. Still box motion.

114, 115. Special Loom Attachments.

Dobby looms combined with other motions for special purposes, such as looms adapted to weave lenos, checks, blankets, handkerchiefs, towels and other goods. Electrical and mechanical warp stop motions.

116. Jacquards.

The principle of construction of jacquards. Single and double lift jacquards. Jacquard machines with one and two cylinders. Harness lines. Lingoes. Comber boards. Tying up jacquards. Cross border and other jacquard machines.

121. Yarn Calculations.

Definitions. Calculations for finding length, weight or counts of single yarns, whether cotton, woolen, worsted, silk, etc. Ply yarns.

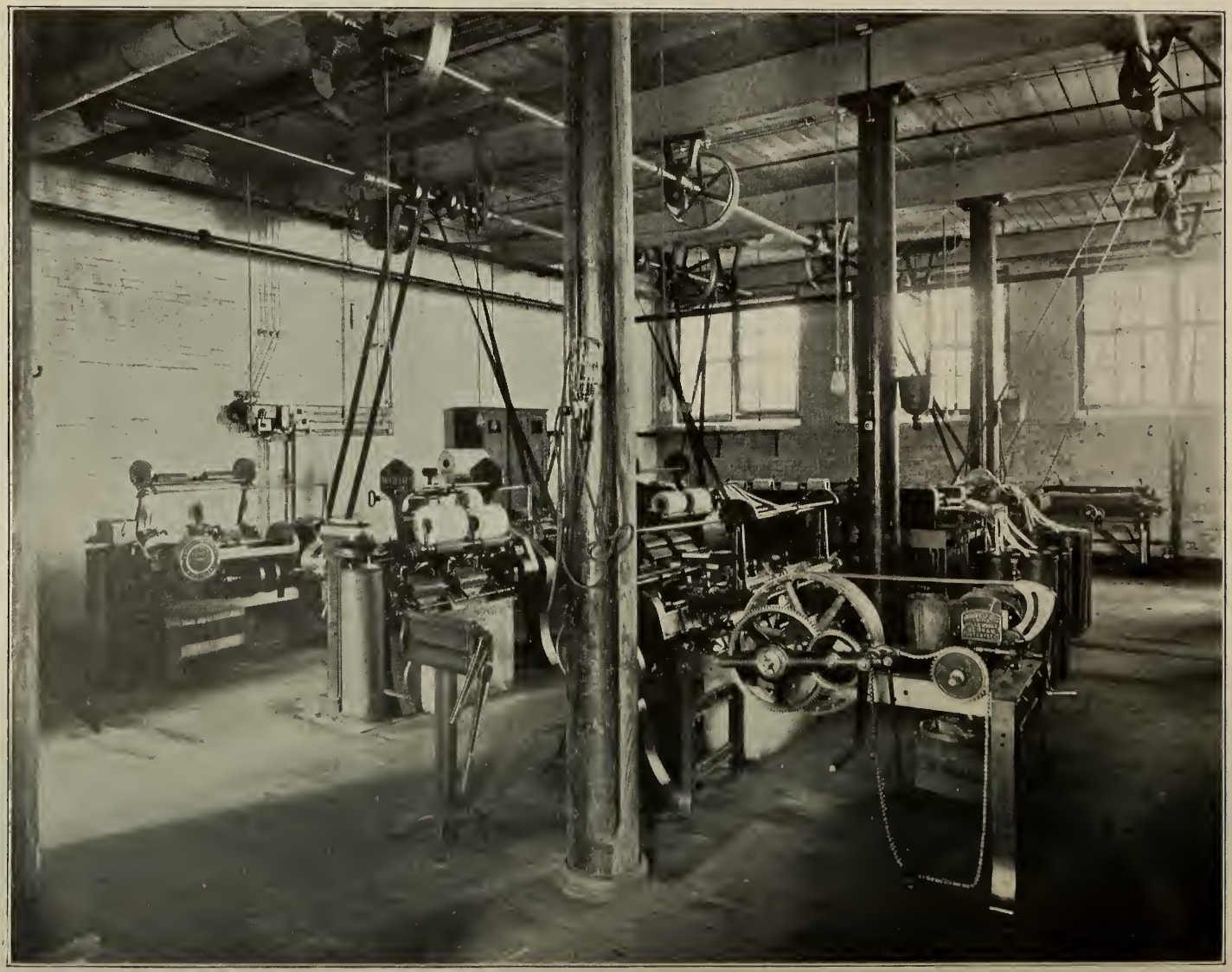
122. Spoolers, Warpers and Slashers.

Various methods of preparing cotton warps.

The spooler, its use and construction. Production per spindle. Spindle speeds. Builder motions. Thread guides. Different makes of spoolers.

The operation and setting of the spooler.

Warpers. The object of the warper. Its construction and operations. Speeds, settings, etc. Warpers with and without cone drive. Warper slow motions. Faults in warping and their correction.



The slasher. Its use. Construction of the different parts of the slasher.

Sizing or dressing yarns. Materials used. Methods of mixing same. Suitable materials for various purposes.

Preparing the warp for the loom. The construction of reeds and harnesses.

Variations from the above system for special purposes, such as used in gingham and other mills.

131. Designing.

Definitions of the words and terms used in designing and analysis. Characteristics of the various classes of fabrics. Design paper and its application to designing and analysis. Cloth structure with a study of the various sources from which the patterns of fabrics are obtained. Twills. Wave effects. Diamonds. Sateens. Granites. Checkerboards. Rearranged Twills. Figured Twills.

132. Designing.

Elongated Twills. Entwining Twills. Curved Twills. Shaded Weaves. Stripes. Checks derived from contrasting weaves. Figured imitation welts. Figured rib or cord weaves. Spot weaves, including various systems of arrangement and ground weaves. Honey-combs. Imitation lenos.

133. Designing.

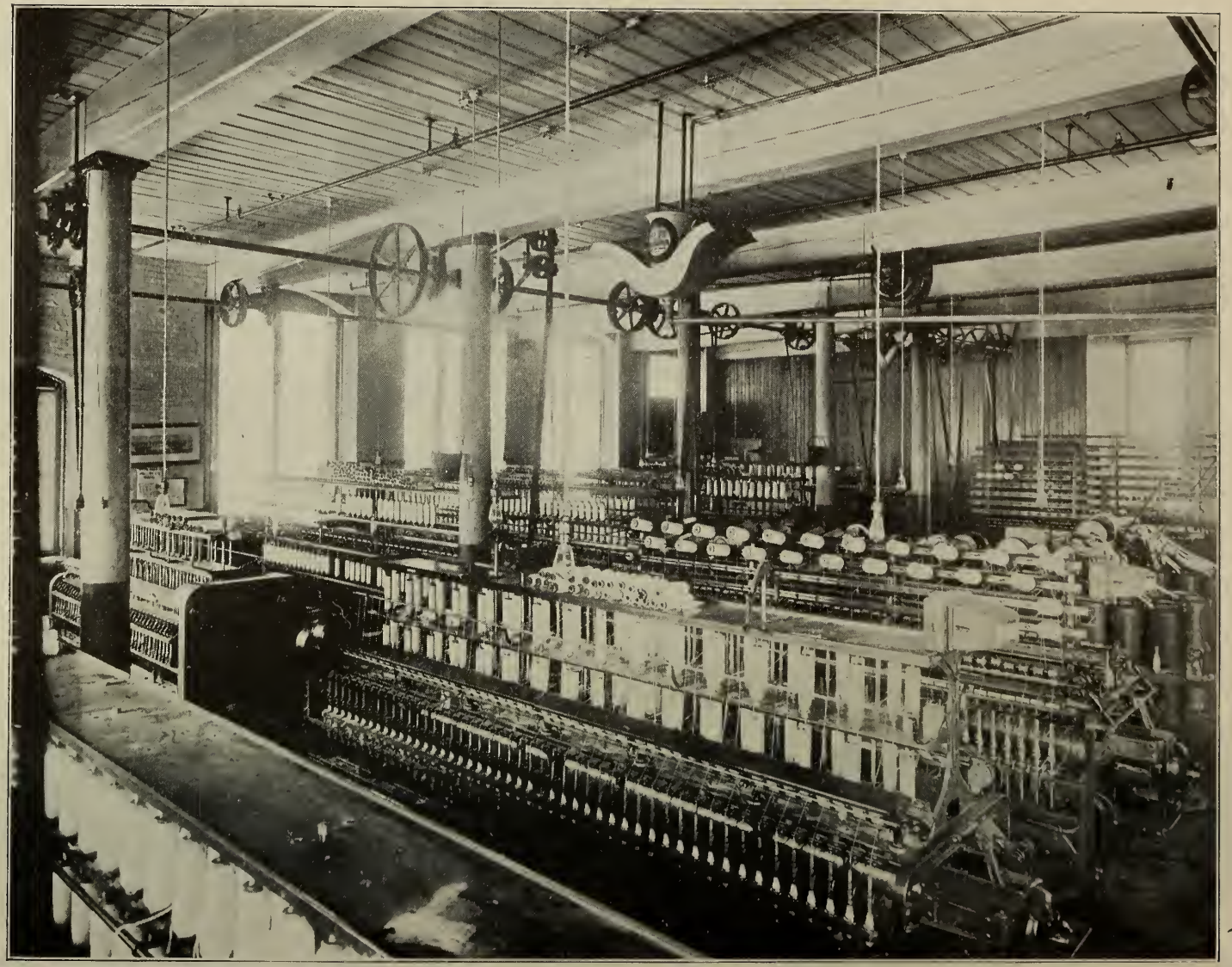
Filling backed weaves. Warp backed weaves. Double cloths. Figured double plain cloths. Ply fabrics. Embossed fabrics. Bedford cords. Box welts. Fancy piques. Figured Marseilles weaves. Figuring with extra filling. Figuring with extra warp. Reversible fabrics.

134. Designing.

Lenos. Methods of obtaining leno patterns. Mechanism and appliances necessary for the production of lenos on open shed dobbies. Yoke and Jumper motions. Weaving bottom doup patterns on top doups. Bottom and top doup lenos. Fancy one doup lenos.

Pile fabrics, such as corduroys, velvets, plush and terry towelings.

Description of lappet motions. Designing original lappet patterns. Reproducing patterns of woven lappet samples. Chain drafts for weaves and locking motions.



135. Jacquard Designing.

Calculations required in connection with jacquard designing. How to transfer design from cloth to design paper. How to weave patterns of different sleys. Casting out. Ground weaves and rules for ascertaining sley, pick, warp and filling required. Foundations upon which jacquard patterns are based.

136. Jacquard Designing.

Sketching of original designs by the different methods principally used. Development of jacquard designs on design paper. Card cutting. Card lacing. Weaving of at least one original design.

Harness tying. Various systems of tying. Lay over, centre, and compound ties. Changing sley of fabrics. Casting out, etc.

145. Color.

Theory of colors. Complimentary colors. Hue, value and chroma scales. Practical work in color scales.

146. Color.

Munsell system of coloring. Color harmony, color effects. Analyzing color effects. Practical work in making sequences and in producing colored designs.

151. Analysis.

Standard methods of representing harness and reed drafts. Methods of obtaining the best arrangement of yarns in harness drafting. Standard methods of representing chain drafts. Methods of obtaining chain drafts.

The student is required to analyze twelve samples.

152. Analysis.

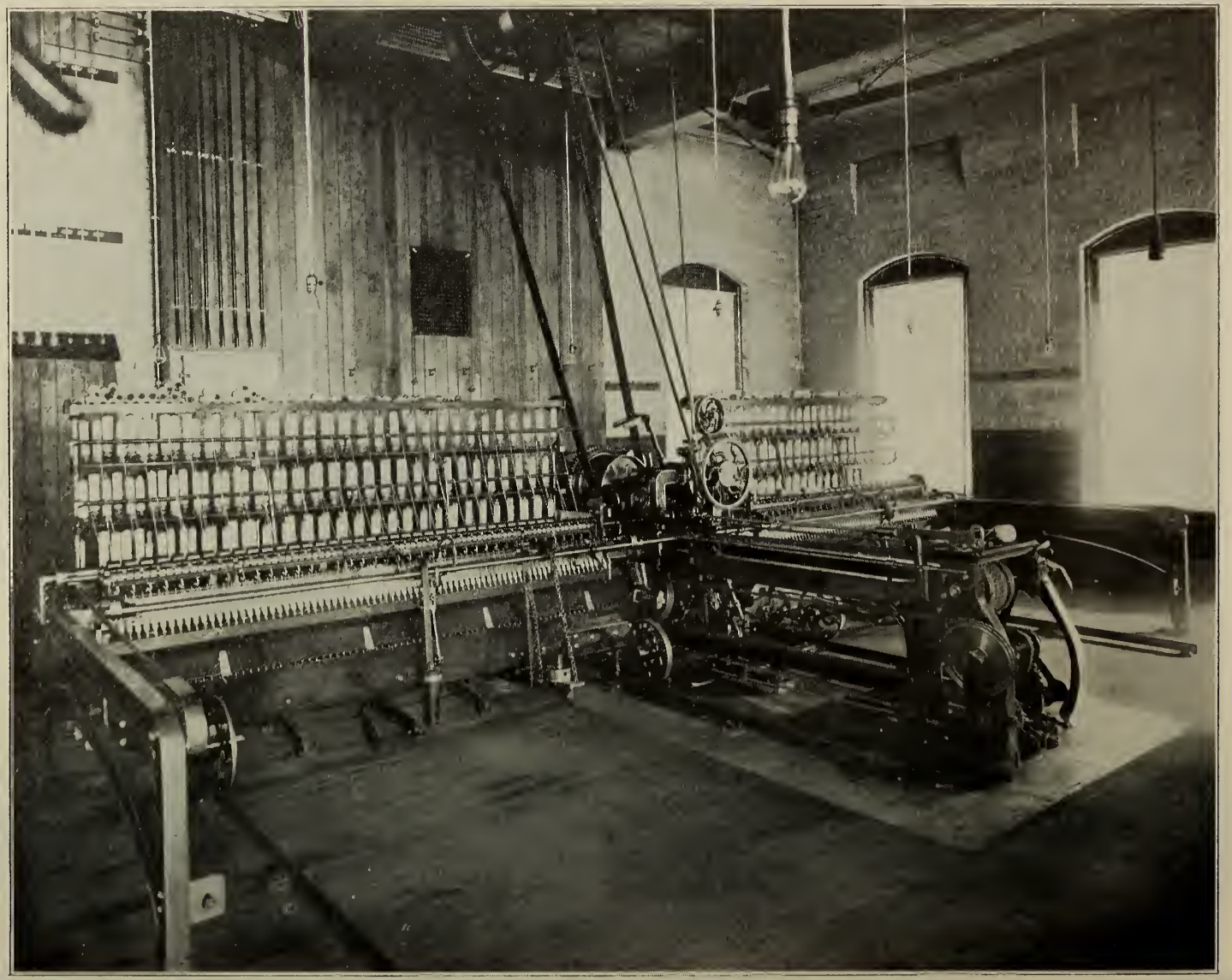
Twelve samples are given for analyzing and at least one original design must be worked out complete in every detail for the power loom.

153. Analysis.

Calculations necessary in finding production per loom per day, weavers wages, average numbers and percentages. Fourteen samples are required.

154. Analysis.

Particular features of construction in lappets and leños of all kinds. Fourteen samples are required.



155. Analysis.

Analysis of more difficult samples and original work. Fourteen samples are required.

156. Analysis.

Continuation of 155. Work on jacquard patterns. Eight samples required in addition to jacquard sample.

161-162. Hand Loom.

The hand loom, its construction and use. Harness drafts as affecting the weave. Building harness chains. Practice on the hand loom in weaving fabrics from original and other designs and putting into practice the designing lessons.

171. Mechanics.

The fundamental principles of mechanics and physics, with special reference to practical uses in textile machinery and to future application in the engineering courses, are given in a series of lectures. Practical problems illustrating these principles are worked out in the class-room. A study is also made of the strength and nature of the different materials used in machine construction.

172. Mechanical Drawing.

The object of this course in mechanical drawing is to give the student a good foundation for reading drawings and for making such sketches and drawings as he will be likely to be called on to make in practice. Thoroughness, accuracy, and neatness are insisted upon throughout the course. The work in mechanical drawing begins with instruction in the use and care of drawing instruments. The following is a general outline of the work to be covered: Plain lettering, geometrical constructions, orthographic and isometric projection, inking and tracing, standards, conventions and tabulation as used in the modern drafting room. Simple working drawings are to be made to scale and the final work of the year consists of free-hand sketching of machine details from parts of textile machinery. This brings into use at one time all the work covered during the year and serves as a test of the student's grasp of the subject.

173. Mechanism.

In view of the large number of mechanisms used in textile machinery this course is a very important one. The subject

WARP PREPARATION DEPT., showing Warpers and Winders.

is given by means of lectures and recitations, the work in the drawing-room being closely related to the class-room instruction. This course includes studies and graphical solutions of cams, gears, etc.

174. Machine Shop.

Shopwork and drawing are organized as one department for the purpose of securing close correlation of the work. Many exercises are common to the drawing-room and the shop. In the machine shop an effort is made not only to train the student manually, but also to teach him correct shop methods and practice. Carefully graded exercises are arranged to teach him the use of measuring instruments, hand tools, and then machine tools. The different measuring tools and devices with advantages, methods of use and limits of accuracy of each are considered. Each cutting tool is taken up, its cutting angles and general adjustments are described, together with the "feeds" and cutting speeds suitable for each material worked and for each machine. The course includes instruction in centering, squaring, straight and taper turning and fitting, outside and inside screw cutting, chucking, reaming, finishing and polishing, drilling, tapping, grinding, boring, planing flat and V-surfaces, filing and gear cutting, including spur. bevel, rack and worm gears.

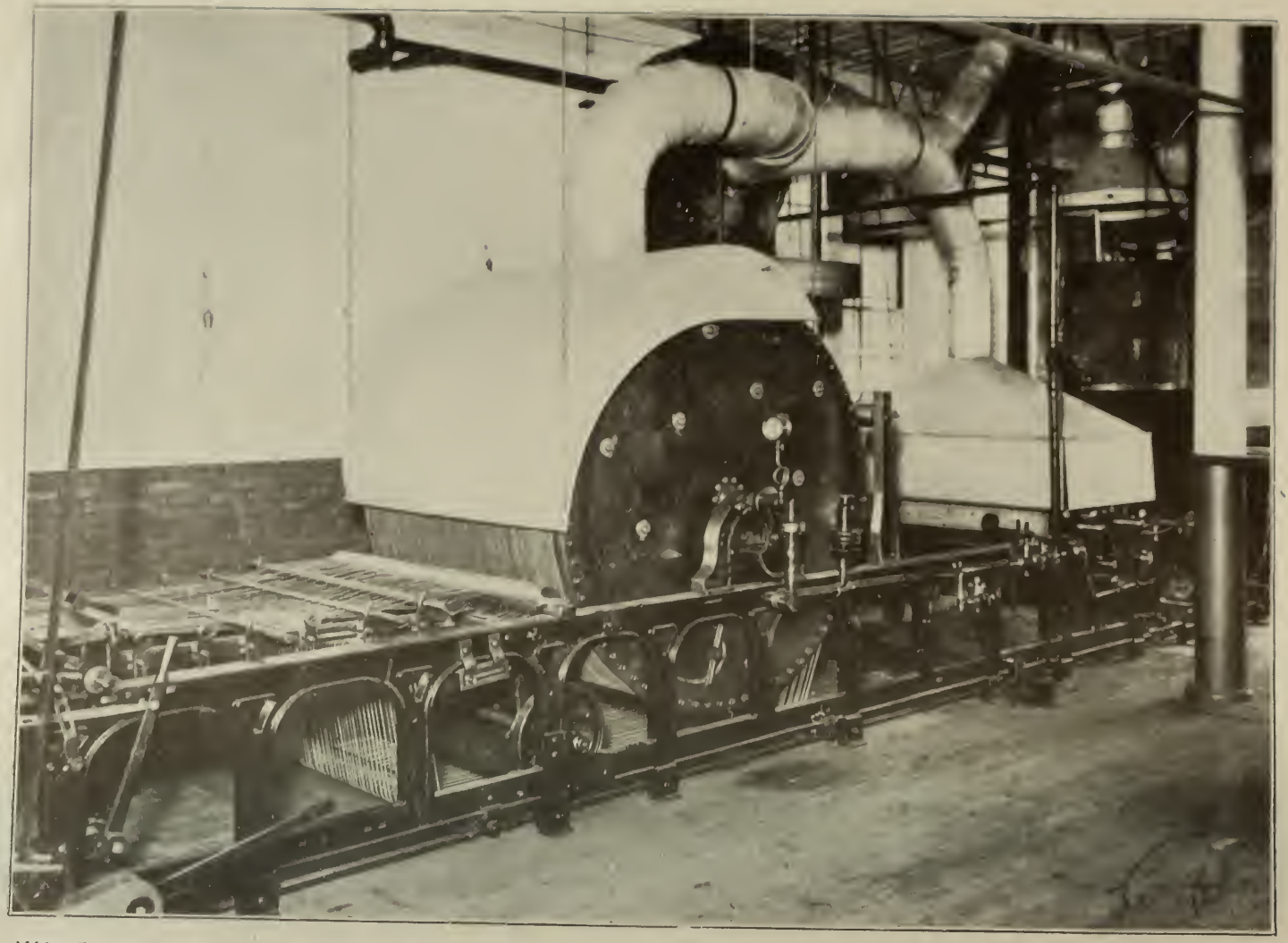
When the student becomes proficient in handling the tools and machines he is given work in fitting and assembling, and also repair work from the other departments.

175. Machine Drawing.

Machine drawing is a continuation of the mechanical drawing of the first year and the work is dependent upon a thorough knowledge of how to apply the conventions of drawing which custom has made standard as given during the first year. The work consists of proportioning of machine details as fixed by practice, making assembly drawing from detailed sketches, and also detailing parts from assembled machines.

176. Mechanical Engineering.

A typical power plant, including the boiler, steam engine, and all necessary auxiliary apparatus such as is found in a modern cotton mill is studied in detail. Prepared outlines are discussed in lecture periods and the details supplied by the student after reading assignments in standard text and reference books. Practice is given in handling engines, apparatus and equipment in the laboratory. Exercises consist in ad-



WARP PREPARATION DEPT., showing Slasher.

justing, starting and running engines, taking and working out indicator cards, prony brake tests, pump and injector tests, etc.

177. Electrical Engineering.

The elementary principles of magnetism and electricity are taken up in lecture and recitation and are supplemented by laboratory exercises. Emphasis is placed on the different wiring systems and electric drives as used in mills and factories. A general study is made of a typical electrical power plant, and of the apparatus required to generate and distribute electrical energy.

178. Mill Engineering.

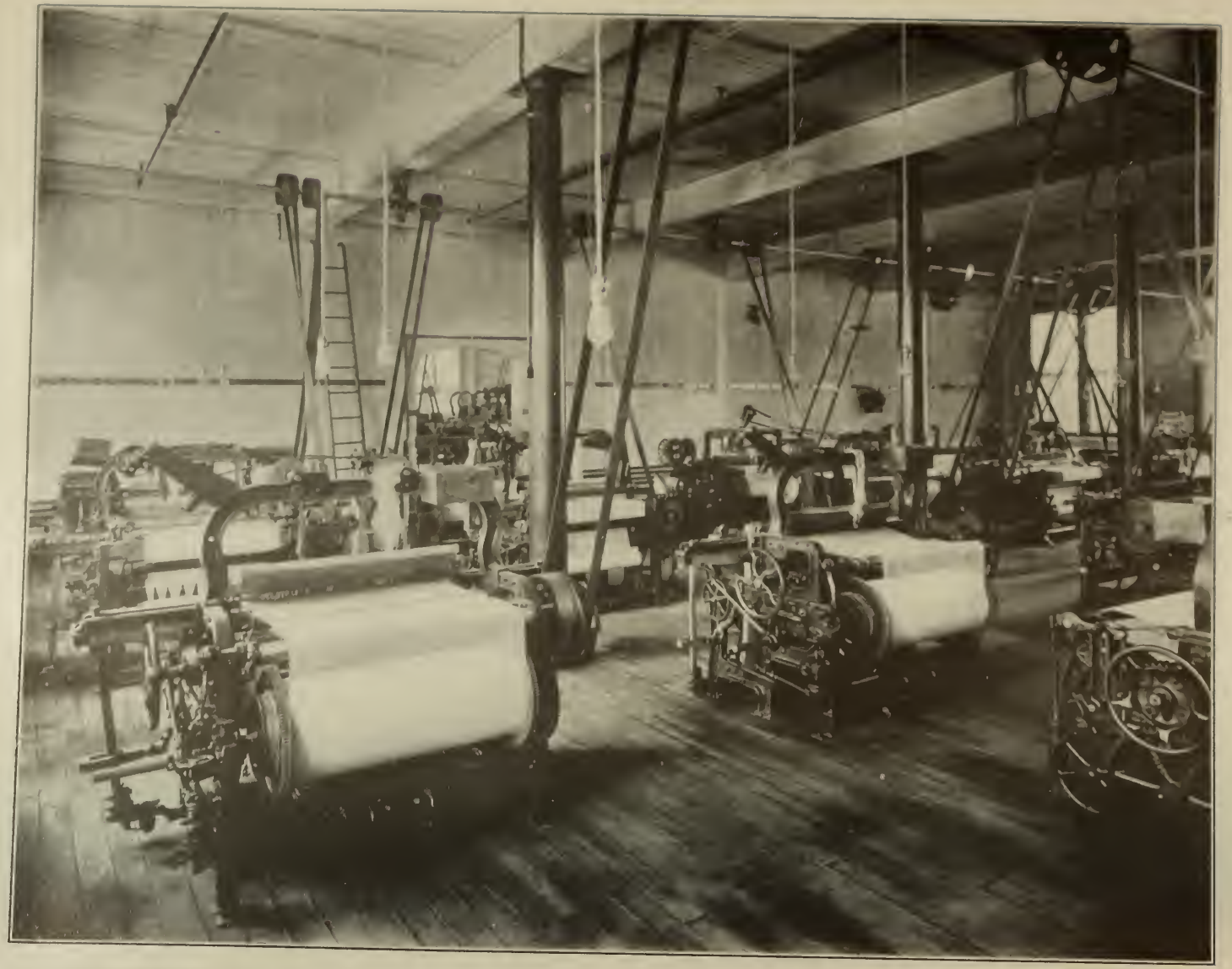
Proficiency in this course depends on the thoroughness with which the work of the previous courses was carried on. The course consists of lectures supplemented by work in the drafting room. Problems in design, construction and equipment of mills and factories are taken up. The subject includes foundations, walls, floors, roofs, and mill construction in general. The choice of location and the methods of transmitting power are discussed. The following outline shows the scope of the course: Principles underlying the design and construction of framed structures, involving the use of wood, steel, brick, stone, concrete and reinforced concrete, methods of lighting, ventilating and protecting from fire.

181. General Chemistry.

This course comprises two lectures of one hour each and eleven and three-quarters hours laboratory work per week during the first term of the first year. The lectures are designed to precede the laboratory work in which the student is expected to verify and illustrate the principles and facts discussed in the lecture room. Careful manipulation, thoroughness in observation, accuracy in arriving at conclusions, and neatness are required of each student. The fundamental principles of the science are taught in connection with the descriptive chemistry of the elements.

No previous study of chemistry is required for admission to this course, but the instruction is so arranged that students having already spent considerable time in chemistry in other schools are given advanced work in which the knowledge already acquired is utilized.

Text Book:—Morgan and Lyman's Chemistry.



WEAVING DEPT., showing Plain Weave Room.

191. Qualitative Analysis.

This course comprises one lecture and one recitation period of three-quarters of an hour each and ten hours laboratory work a week during the first term of the first year. The student is taught the principle of systematic qualitative analysis and the application of the principles to detect the base forming elements, the acid forming elements, and the various classes of compounds of the bases and the acids. Especial attention is paid to the inorganic materials ordinarily met with in the manufacture, dyeing, and finishing of cotton piece goods. The student is required to **correctly** analyze a sufficient number of unknown substances to demonstrate his ability to detect any of the elements ordinarily met with.

Text Book:—Noyes' "Qualitative Analysis."

202. Quantitative Analysis.

This course comprises one lecture and twelve and one-quarter hours laboratory work per week. The first part of the term is spent in simple gravimetric determination of chlorine, sulphuric, carbonic, and phosphoric acids, and iron, aluminum, calcium and magnesium. The last part of the term is devoted to volumetric determinations involving the use of acids, alkalis, oxidizing and reducing agents, and chlorimetry. Great stress is laid on the **accuracy** and **integrity** necessary for quantitative work. Each student is required, under supervision of the instructor, to adjust his own balances and calibrate all burrettes, flasks, and pipettes he uses that he may understand the nature and amount of error in his work, thus giving him confidence in his results. In connection with this course, a thorough training in the solution of chemical problems is given. The use of reference books is encouraged and each student is trained to consider each original analysis from the various points of view possible.

Text Book:—Talbot's "Quantitative Analysis."

212. Organic Chemistry.

This course is divided into two terms, the first term giving a general survey of the subject, a thorough training being given in the reactions and properties of the various compounds met with in textile industries. The two lower members of the paraffines and their derivatives are exhaustively treated. Then the study of the higher members is taken up, the unsaturated hydro-carbons and their derivatives, espe-

WEAVING DEPT., showing Fancy Weave Room.

cial attention being given to the members met with in the artificial dye-stuffs.

Text Book:—Remsen's "Organic Chemistry."

213. Organic Chemistry.

The work of the second term is devoted exclusively to the study of dye-stuffs and their preparation. The constitutions of various typical dye-stuffs are studied to determine their influence on coloring power, dyeing properties, and fastness to light, acids, alkalis, bleaching, etc. In the limited time afforded, the number of dye-stuffs studied is necessarily limited but the training is made so thorough that the student is enabled to take up further investigation intelligently should his future work demand it.

222. Dyeing.

This subject begins with a general study of the effect of various chemicals on the fibres of commerce. This is followed by a specific study of the action of the usual scouring agents and their value. The student is taught to bleach cotton, wool, and silk, by means of sulphur dioxide, bleaching powder, permanganate of potassium, and by sodium peroxide, particular attention being paid to the bleaching of cotton. The classification of dyes into five broad general groups, i. e., acid, basic, substantive, mordant, and pigment dyes, is next taken up. The application of acid dyes to cotton, wool, and silk, under best conditions, is followed by a study of the fastness of the dyed fibres to light, washing, milling, water, perspiration, carbonizing, cross dyeing, stoving, chloring and crooking. Basic dyes are then taken up with their application to cotton, wool, and silk. The various tests for fastness are then taken up and compared with the results obtained from the acid dyes. The dyeing of cotton with substantive dyes and the effect of aftertreating with chrome, bluestone, and shading with basic dyes is likewise followed by the comparison with acid, and basic dyes. The work of this term is completed by a study of the sulphur, developed, and mordant dyes. Parallel to this course of laboratory work runs a series of lectures treating on the bleaching, dyeing, and finishing of piece goods.

Text Book:—Matthews' "Manual of Dyeing."

223. Dyeing.

The work of this term is a continuation of that of the previous term and starts by treating of logwood, and then the

DESIGNING DEPT. showing Design Class Room

minor natural dyes. Indigo, which is now manufactured on a large scale by synthetic methods, and the various so-called vat dyes, as the indanthene, ciba, algol, thio-indigo, etc., are studied very fully and exhaustively. Having now covered the application of the dye-stuffs to the various fibres, the student takes up the method of testing the dye-stuff to determine its money value, whether simple dye or a mixture, whether acid or basic, adulteration present, and the identification of specific dye-stuffs by their various chemical reactions. Tests are applied to determine the amount of dye-stuff necessary for a full shade, the proper amount of mordant, and the degree of exhaustion of the bath. Matching to shade and the effect of the dichroic properties of various dye-stuffs on the shade produced is taken up. At this point a general review of the subject is taken up covering all the previous work done in the course. The term's work is completed by the study of the methods of determining the amount of cotton, wool, silk, linen, or artificial silk present in a fabric, and the methods used for the detection and determination of the various materials used for sizing and mordants on the fabric. Parallel to this course runs a series of lectures calling attention to the details of application of the various special methods of dyeing of cotton yarns and pieces on a large scale.

Text Book:—Matthews' "Manual of Dyeing."

224. Dyeing.

The laboratory work of this term is mainly devoted to the printing of textile fabrics, especial emphasis being laid on cotton. The theory and practice of the various styles such as the pigment style, the direct printing style, the steam style or metallic or tannin mordants, resist and discharge dye styles, the developed azo style, the printing of indigo and similar dye-stuffs and aniline black are studied. The student makes as many different prints as the time will allow. The course is concluded by experiments illustrating the practice of mercerizing cotton fabrics and a study of the various functions of the various stiffening and softening agents used to produce the various finishes required by the trade. The lecture course during this term covers practically the same ground as the laboratory work, especial emphasis being laid on the mercerizing and finishing of cotton yarns and cloth. During the entire course the student accumulates several thousand samples which he is required to mount in a specially designed sample book for his reference in the future. Special stress is laid on quality rather than quantity of work done. As often as time

DESIGNING DEPT. showing Hand Loom Room.

permits and circumstances demand it, lots of yarn, hosiery, etc., of commercial size, are dyed by the students for other departments.

233-234. Textile Chemistry.

This subject comprises thirteen and a half hours a week during the first term and ten hours during the second term of laboratory work with frequent personal conferences with the instructor. The students take up a detailed study of the various chemical and physical properties of the textile fibres and the various chemical compounds used in connection with them. This leads to the study of various processes and their application under varied circumstances.

244. Thesis.

Each student who is to graduate from the course in Chemistry and Dyeing must devote twelve hours per week during the last half of his second year to original work, and at least one week before graduation must submit to the Principal of the department a thesis of not less than two thousand words based upon the results of his own investigations.

251. General Chemistry.

The training afforded by a course in General Chemistry is considered of value to all the students of the school and also lays the foundation for the subsequent course in dyeing. Hence students taking courses in the cotton or knitting departments are required to take General Chemistry during the first year. This subject covers the same ground as subject 181, but in a briefer manner. Five hours per week are spent in the laboratory, and one hour in the lecture and recitation room. A few of the simpler organic compounds are also studied.

Text Book:—Morgan and Lyman's Chemistry.

252. Qualitative and Quantitative Analysis.

In this course one hour per week is devoted to lecture and recitations, and five hours to laboratory work on qualitative and quantitative analysis. As far as possible compounds actually used in the manufacture of yarns and cloth are used for analysis. The quantitative work is entirely confined to volumetric processes. The methods of testing flue gases, lubricating oils and coals are also discussed and students showing sufficient ability are allowed to make the usual tests.

Text Book:—Newth's "A Smaller Chemical Analysis," and original typewritten notes.

CHEMISTRY AND DYEING DEPT. showing Main Chemical

263-264. Dyeing.

This course covers in a briefer manner the same ground as subjects 222 and 223; the matter of secondary interest to the cotton manufacturer being omitted. The course comprises one hour lecture and five hours' laboratory work per week during one year.

Text Book—Matthews' "Manual of Dyeing."

271. Winding and Rib Top Knitting.

Winding and preparation of cotton, lisle, wool, worsted and silk yarns for running on rib top, rib leg and hosiery knitting machines.

Construction of circular rib top knitting machines, principle of circular latch needle knitting, setting and adjusting of different makes of machines.

Rib top knitting on twelve, eighteen, twenty-four, thirty, thirty-six and forty-two gauge needle machines, with cotton, lisle, wool, worsted and silk yarn.

272. Rib Leg Knitting.

Rib leg machines, with knee and ankle splicer, chain and chainless measuring devices.

Rib leg knitting. Different classes of ribs, lace effects, spliced knee and ankle, for children's, boys' and misses' stockings.

Plaiting. Silk yarn on cotton and worsted yarn; also worsted on cotton yarn, for rib tops and rib legs.

273. Hosiery Knitting.

Principle of latch needle seamless hosiery knitting. Construction, setting and adjusting of three-quarter, seven-eighth and full automatic hosiery machines.

Knitting on three-quarter automatic hosiery machines, cotton and wool stockings, fine split sole, hose and half hose.

Seven-eighth automatic hosiery machine, medium and fine gauge hose and half hose.

Knitting men's half hose, ladies' hose; footing children's, boys, and misses' rib legs. White feet and black legs ladies' stockings, double sole, reinforced heel and toe; plaited hose and half hose with white heel and toe, fancy lace effects, on full automatic hosiery machines.

CHEMISTRY AND DYEING DEPT., showing Experimental Chemical Laboratory.

274. Hosiery Finishing.

Hemming and embroidering stockings. Looping, mending and singeing. Boarding, drying and pressing. Inspecting, pairing, stamping, folding and boxing, keeping stock and handling boxed goods.

Method of handling and keeping track of goods through the mill.

Cost of manufacturing different classes of seamless hosiery from yarn to box.

281. Winding and Knitting Cuffs and Sleeves.

Winding and preparation of the different classes of yarns used in the knitting of underwear.

Construction of circular latch needle rib cuff machines, two feed automatic tuck and plain sleevers, with slack course and welt attachments; the principle of plain and tuck stitch knitting.

282. Underwear Knitting.

Knit to shape ladies' underwear on latch needle circular rib body machines, different principles of this class of knitting. Construction and adjustment of the machines to knit cotton, lisle, worsted and silk yarns; different methods of plaiting on these machines.

283. Underwear Knitting.

Knitting plain 1 & 1 cloth for cut to shape union suits and fancy rib cloth for ladies' underwear on plain latch needle body machine.

Latch needle, balbriggan, plain web knitting for plain and fancy stripes, in light weight underwear.

Rib cuff and shirt borders knitting on circular latch needle rib border and cuff machinery.

Spring needle circular rib knitting. A new principle of knitting extra fine cloth for underwear.

284. Underwear Finishing.

Cutting men's shirts and drawers, ladies' vests, infants' wrappers, children's, boys' and misses' vests and union suits.

Looping, seaming and finishing of underwear in detail.

Fixing and adjusting of the principal styles and makes of sewing machines used in the manufacture of underwear.

Method of handling the goods in process of manufacture from yarn to box.

CHEMISTRY AND DYEING DEPT.- showing Dyeing and Finishing Room. (Not yet equipped.)

293. Miscellaneous Knitting.

Knitting fine French balbriggan cloth, worsted and merino cloth, single and double plush cloth, for fleeced lined underwear, made on spring needle frame.

Sweater Knitting, with racked rib and cuffs, pineapple stitch and fancy colored effects on circular rib machines.

Full fashion sweater knitting on the Lamb full fashion hand power machine.

Knitting golf gloves on the Lamb hand power machine.

Different processes of finishing balbriggan, worsted, merino and fleeced cloth, into underwear ready for market.

KNITTING DEPT., showing Underwear and Finishing Machines.

EVENING CLASSES.

Evening instruction, similar to the day, on the same machinery and by the heads of the day departments assisted by practical skilled men from the mills, is given for the benefit of workers in local mills and machine shops. The instruction in the evening classes is divided into sections so as to give the greatest possible facilities to the students in these classes.

Certificates are granted to all students in the evening classes who have successfully completed the equivalent to two years' work, two evenings a week. The certificate states the subjects that the student has passed in and the length of time he has devoted to the work.

Evening students are enrolled at the commencement of both the fall and spring terms, the work being so arranged that a student enrolling at the opening of the spring term for a one-year course will complete his work at the end of the following fall term. The subjects taken up in the different evening courses follow the detailed topics as specified on pages 33-59.

Students enrolling in the chemistry or dyeing courses are required to make a deposit of $2.50 for breakage. In case the breakage caused by any student does not equal the amount of his deposit, the balance is returned to him at the end of the school year.

The school is in session four evenings a week for twenty weeks,—Monday, Tuesday, Thursday, and Friday, from 7.30 to 9.15.

For terms of admission see page 73 of this catalogue.

KNITTING DEPT., showing Hosiery Machines.

COURSES OF INSTRUCTION, EVENING CLASSES.

Carding and Spinning Department.

Picking and Carding—one year, two evenings a week.

Combing—one year, two evenings a week.

Drawing and Roving Frames—one year, two evenings a week.

Ring Spinning and Twisting—one year, two evenings a week.

Mule Spinning—one year, two evenings a week.

Cotton sampling—one term, two evenings a week.

Advanced Calculations in Carding and Spinning—one year, one evening a week.

Weaving and Warp Preparation Departments.

Spooling, Warping and Slashing—one term, two evenings a week.

Plain Weaving and Fixing—one year, two evenings a week.

Fancy Weaving and Fixing—one year, two evenings a week.

Weaving and Fixing, (French Class)—one year, two evenings a week.

Weaving and Fixing, (Portuguese Class)—one year, two evenings a week.

Advanced Calculations in Weaving—one year, one evening a week.

Designing Department.

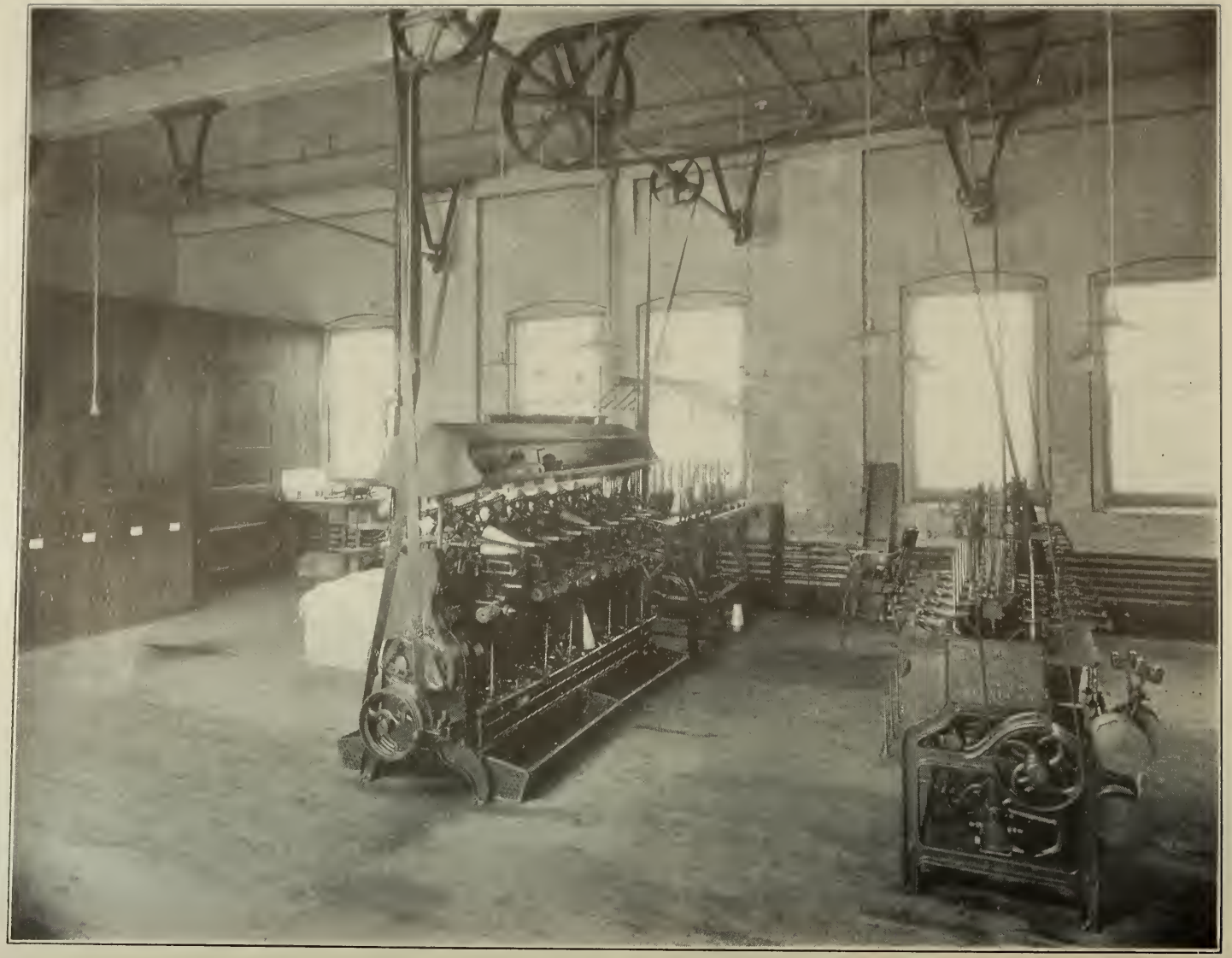
Elementary Designing and Cloth Construction—one year, three evenings a week.

Advanced Designing and Cloth Construction—one year, three evenings a week.

Jacquard Designing—one year, two evenings a week.

Knitting Department.

Special Knitting—one year, two evenings a week.



KNITTING DEPT., showing Winders.

Mechanical Department.

Mechanical Drawing—one year, two evenings a week.
Advanced Drawing—one year, two evenings a week.
Machine Shop Practice—one year, two evenings a week.
Advanced Shop Work—one year, two evenings a week.
Mechanical Engineering—one year, two evenings a week.

Chemistry Department.

General Chemistry—one year, two evenings a week.
Qualitative Analysis—one year, two evenings a week.
Quantitative Analysis—one year, two evenings a week.
Organic Chemistry—one year, two evenings a week.
Textile Chemistry I—one year, two evenings a week.
Textile Chemistry II—one year, two evenings a week.
Dyeing I—one year, two evenings a week.
Dyeing II—one year, two evenings a week.
Dyeing III—one year, two evenings a week.

Mathematics.

Mill Calculations—one year, two evenings a week.

The school diploma will be granted to those students of the evening classes who successfully complete the work specified under the following courses:

I. Carding and Spinning:

Picking and Carding, Drawing and Roving Frames, Combing, Ring Spinning and Twisting, Mule Spinning, Cotton Sampling, Advanced Calculations in Carding and Spinning, Mechanical Drawing, Advanced Drawing.

MECHANICAL DEPT., showing Mechanical Drafting Room.

II. Weaving and Designing:

Spooling, Warping and Slashing, Plain Weaving and Fixing, Fancy Weaving and Fixing, Elementary Designing and Cloth Construction, Advanced Designing and Cloth Construction, Jacquard Designing, Cotton Sampling, Mechanical Drawing, Advanced Drawing.

III. Chemistry and Dyeing:

General Chemistry, Qualitative Analysis, Quantitative Analysis, Organic Chemistry, Textile Chemistry I, Textile Chemistry II, Dyeing I, Dyeing II, Dyeing III, Mechanical Drawing, Advanced Drawing.

Women.

The designing of textile fabrics is an occupation that offers many inducements to women and is also one that is constantly widening. The designing courses offered by the New Bedford Textile School are open to all women and the same advantage extended as in the case of men.

MECHANICAL DEPT., showing Section of Machine Shop.

GENERAL INFORMATION.

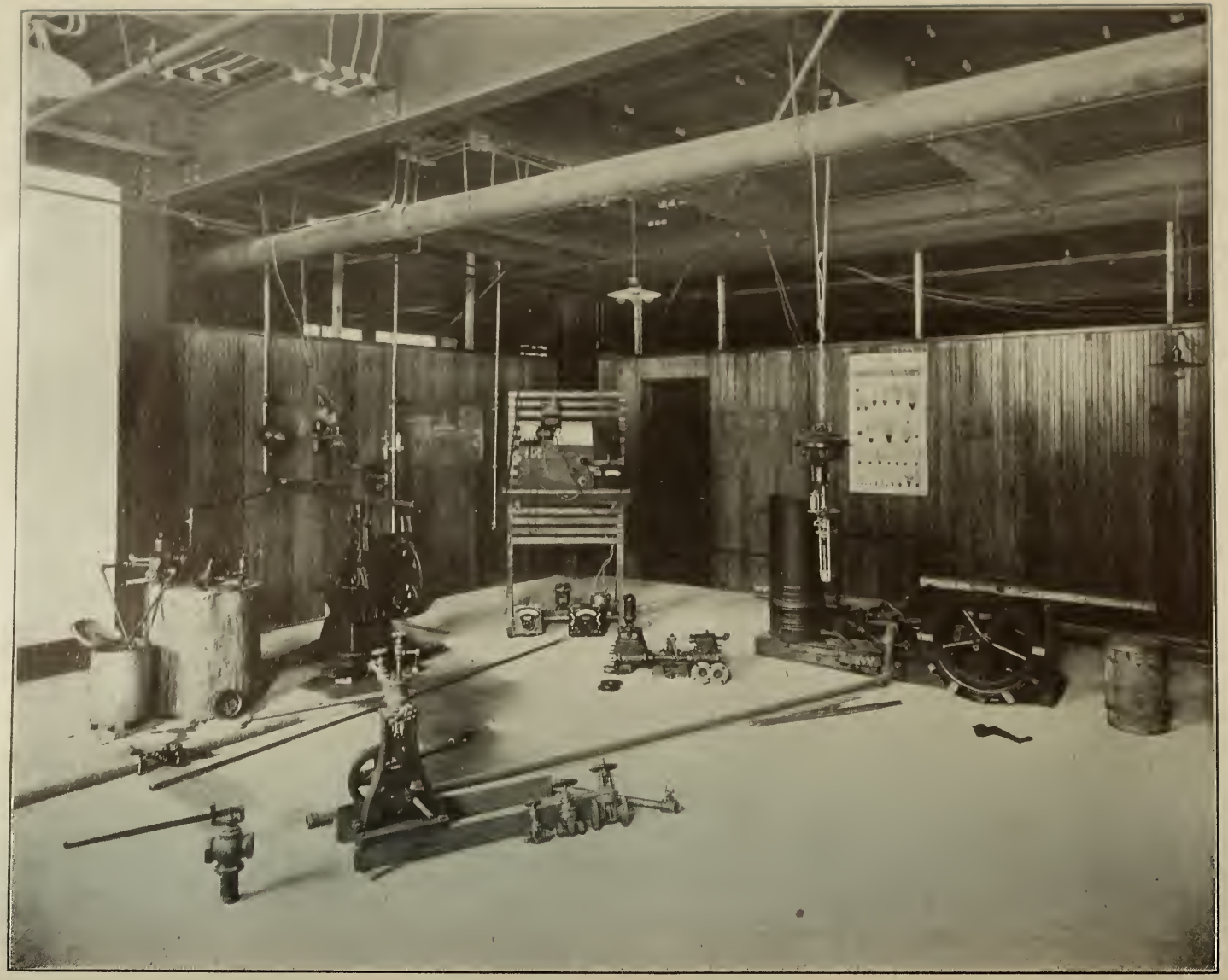
CONDITIONS OF ADMISSION TO DAY CLASSES.

Candidates for admission to the regular day courses must be at least *sixteen* years of age. Those who have been students of other technical institutions, colleges, or universities are required to furnish a certificate of honorable dismissal from those institutions. Candidates having a graduate's certificate from a high school or other educational institution of equal standing are admitted without examination. Other applicants for admission to these courses are required to undergo examinations in arithmetic, English and commercial geography.

Candidates for admission to the elementary courses designated on page 18 of this catalogue as *two-year* and *four-year* classes must be at least *fourteen* years old. If such candidates are graduates of a grammar school, they will be admitted without examination; otherwise they will be required to undergo examinations in arithmetic, English and geography.

All candidates, whether desiring to be enrolled on certificate or by passing the entrance examination must fill out an application blank, which should be delivered at the school as early as possible before the opening of the fall term.

Applicants desiring to take up special studies in the school may be admitted provided their applications are approved by the President and Manager. Such students shall be known as specials and, upon satisfactory completion of their work in the school, shall be given certificates stating the work they have covered and the time they have been in attendance.



MECHANICAL DEPT., showing Engineering Laboratory. (Not fully equipped.)

No applicant is admitted to the regular courses of the school after the first four weeks unless he has already covered the work of the school for the time preceding the date of his application; nor shall any change in any student's course be made after the first four weeks of the fall term except by permission of the President and Manager.

The examinations for those desiring to enter the school at the opening of the fall term of 1913 will be held at the school only, Friday, Sept. 12, at 9 a. m.

The detailed topics dealt with in the entrance examinations are as follows:

ARITHMETIC.

Definitions, addition, subtraction, multiplication, division, factors, multiples, cancellation, fractions, decimals, percentage, interest, ratio and proportion, square root, compound quantities, mensuration, metric system.

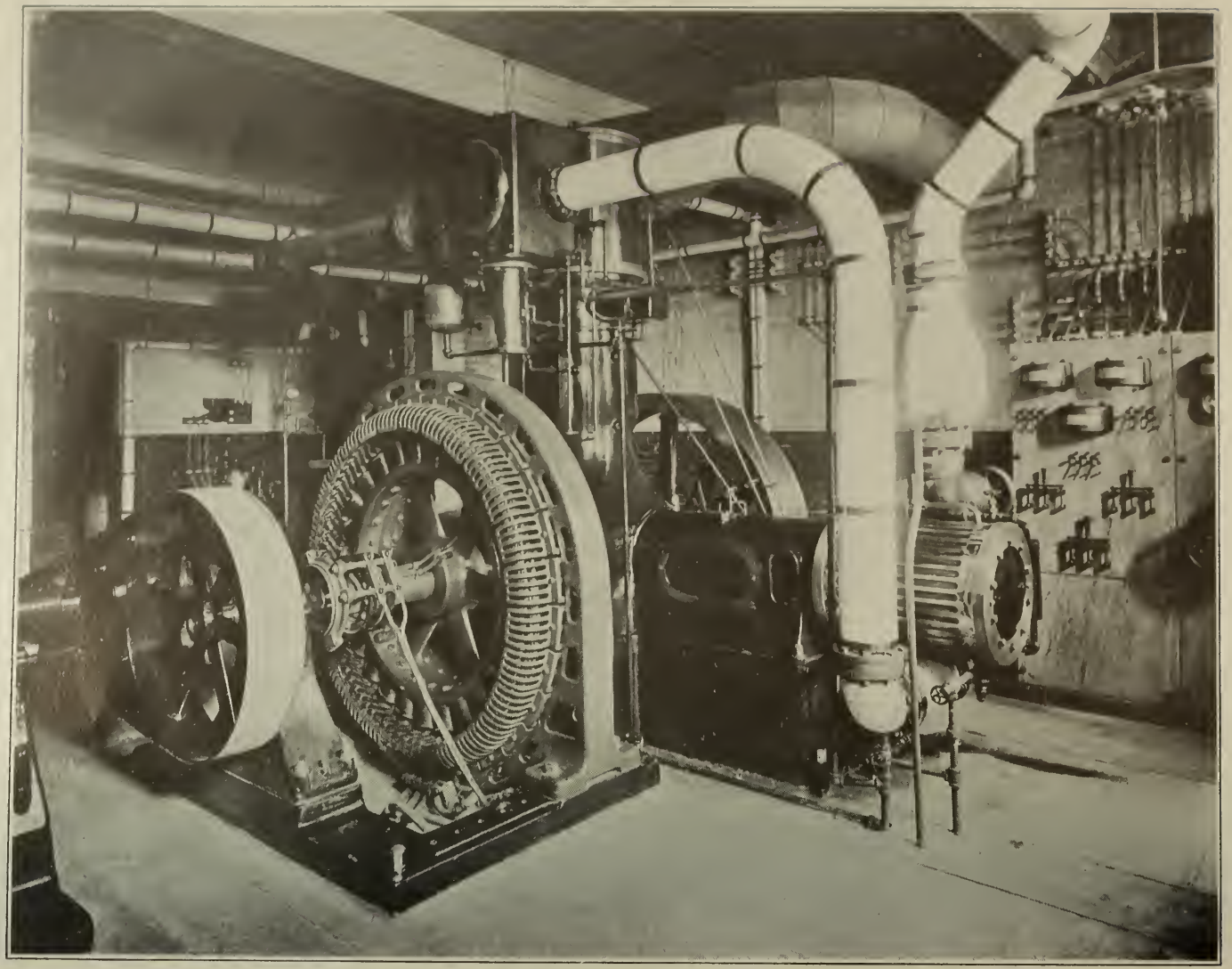
ENGLISH.

The candidate will be required to show his ability to spell, capitalize, and punctuate correctly; to show a practical knowledge of the essentials of English grammar, a good training in the construction of the sentence, and familiarity with the simple principles of paragraph division and structure.

He will be required to write a business letter, and one or more short articles on subjects assigned from which he may select. Ability to express himself clearly and accurately will be considered of prime importance.

COMMERCIAL GEOGRAPHY.

Farm products of the United States, where raised; our mines, and where located; our manufactures, and where established; our exports, and to what countries; our imports, and from what countries; our transportation facilities.



ENGINE ROOM,
Showing 100 K. W. G. E. Generator, direct connected to a 160 H. P. American Ball Engine.

CONDITIONS OF ADMISSION TO EVENING CLASSES.

Candidates for admission to the evening classes must be at least fourteen years of age and must satisfy the head of the department which they desire to enter that they have sufficient knowledge to be benefited by the instruction offered.

FEES.

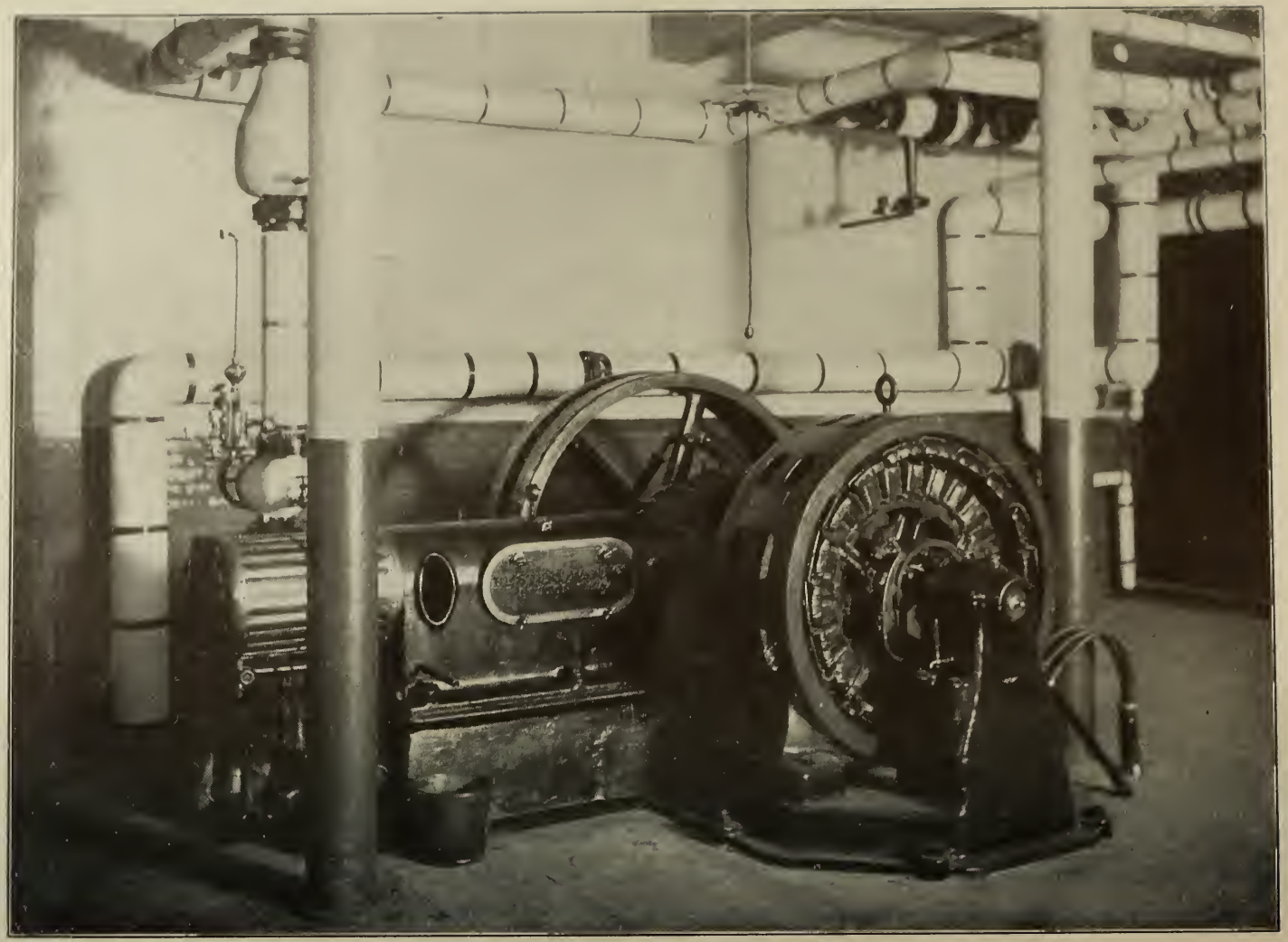
Day Students: No tuition fee is charged day students who are residents of New Bedford. For other students from Massachusetts the fee is $50.00 a year, payable in advance in two equal installments in September and February. For students who come from outside the State of Massachusetts the fee is $150.00 a year, payable in advance in two equal installments in September and February. No fees are refunded except by special action of the Executive Committee of the Board of Directors.

The above fee includes admission to any of the evening classes in which there is accommodation and which the day students may desire to attend.

A deposit of $5.00 is required of all day students taking work in the chemistry department. This deposit covers cost of any breakage that may occur. Any unexpended balance is returned at the end of the year. To students coming from outside the State of Massachusetts, a further charge of $10.00 for chemicals is made.

Students are required to supply themselves with such books, tools and materials as are recommended by the school, and pay for any breakage or damage that they may cause in addition to the above named fee.

Evening Students: No tuition fee is charged evening students. Students enrolled in the chemistry or dyeing courses are required to make a deposit of $2.50 for breakage. In case the breakage caused by any student does not equal the amount of his deposit, the balance is returned to him at the close of the school year. Evening students are required to supply themselves with such books and ma-



ENGINE ROOM,
Showing 50 K. W. Westinghouse Generator direct connected to a 70 H. P. Sturtevant Engine.

terials as are recommended by the school, but this charge is small.

SCHOOL HOURS.

The school hours are from 8.30 to 12 each morning excepting Saturdays with afternoon sessions from 1.30 to 4.30 except Saturdays.

EXAMINATIONS, CERTIFICATES AND DIPLOMAS.

Examinations are held as tests of the student's work at the mid-fall term, end of fall term, and mid-spring term.

The final examination is held at the end of the spring term. Results of these examinations, together with the student's marks recorded from recitations, practical demonstrations, and student's books are taken into account in ranking students at the end of each year, and for graduation. Unsatisfactory progress necessitates the student repeating his studies.

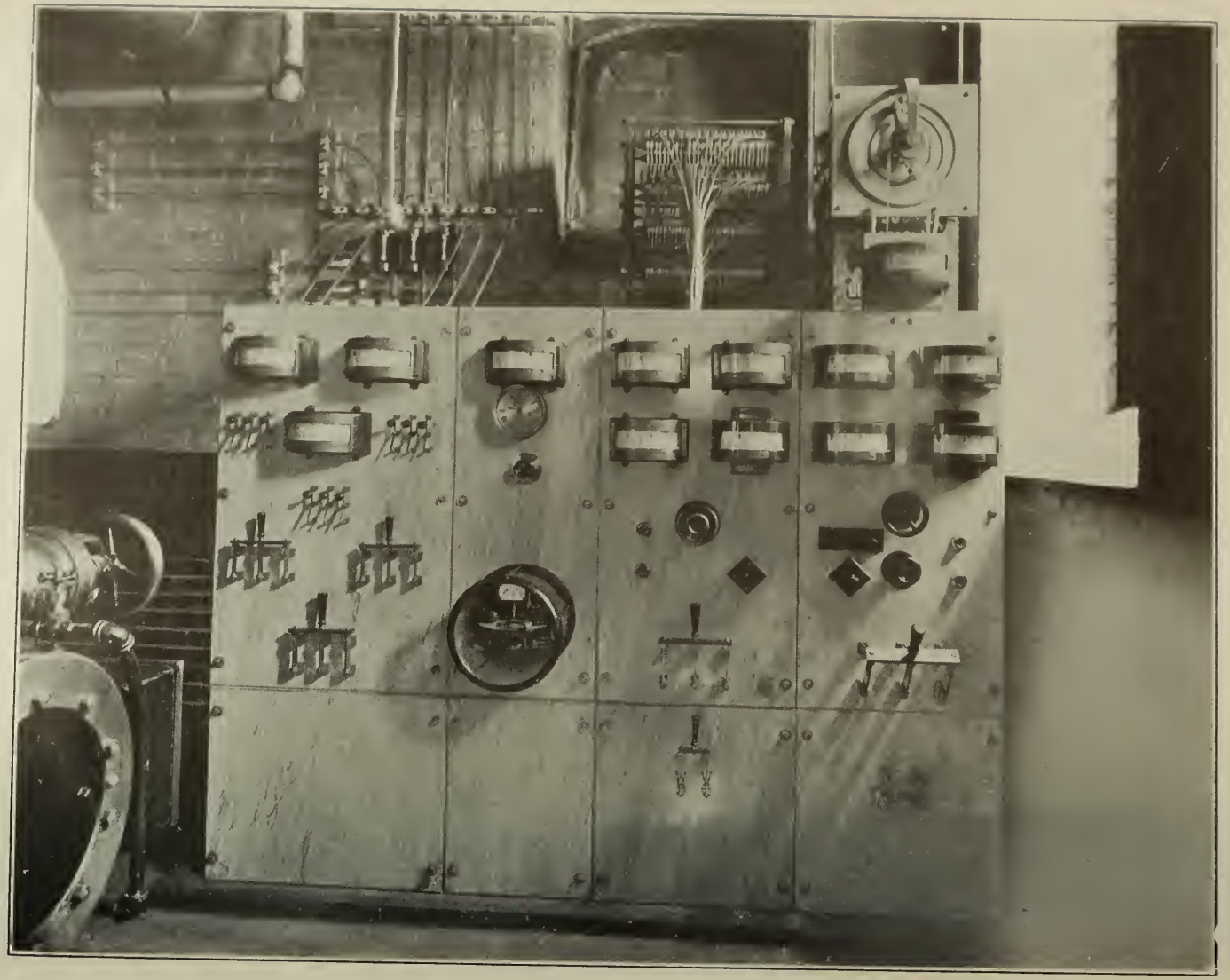
Diplomas are given on the satisfactory completion of a course of study extending over a period named in connection with each course, if the student's record is otherwise satisfactory.

Students taking special courses, in most cases, are entitled to a certificate if they honorably and satisfactorily complete the course of instruction scheduled.

Day students are required to spend as much time daily out of school hours in study, such as recording lectures and other notes, as may be necessary to maintain proper standing. The students' books are examined by the instructors periodically, and the care and accuracy with which they are kept is considered in ranking students.

CONDUCT.

Both day and evening students are required to conduct themselves in an orderly and gentlemanly manner while in attendance at the school. When the conduct of any student is considered by the Manager of the school detrimental to its best interests, he will be suspended by the Manager and the case reported to the Executive Committee for action.



ENGINE ROOM, showing Switchboard.

Any student who presents at any time work as his own which he has not performed, or tries to pass an examination by dishonorable means, shall be regarded as having committed a serious offence.

Students shall exercise due care in the use of the school apparatus and machinery. All breakages and accidents must be reported at once to the instructor in charge and the student will be held liable for any wilful damage or the result of gross carelessness.

ATTENDANCE.

Day students taking the regular courses are required to attend every exercise of the school; special students, every exercise called for by their schedules. For every case of absence or tardiness, students must present an excuse to the registrar. A certain number of unsatisfactory excuses will render the student liable to suspension and further action if cause is sufficient.

When the attendance of an evening student is unsatisfactory, he will render himself liable to be dropped from the school.

BOARD AND ROOMS.

New Bedford is unusually desirable as a residential city, and students will find numerous houses of private families and boarding houses, where they may obtain room and board.

No requirements are made as to residence of out of town students, although facilities are given by having addresses of suitable houses on file at the school.

No definite estimate can be made of the cost, as this depends entirely on the tastes of the student, but board and room may be obtained for from $6.00 per week upwards.

TOOLS AND MATERIALS.

Students are required to purchase such materials, text books, tools and apparatus as may be required from time to time by the school authorities or make deposits on such

as are loaned to them. The supplies required vary with the courses for which the students enter, the cost being from $8 to $15 per year.

LIBRARY.

The school maintains a library that contains all the best works on carding and spinning, weaving, designing, knitting, dyeing, and mechanics, also a consulting encyclopedia and an international dictionary. Catalogues and pamphlets dealing with machinery or processes related to textile work are also on file, as are all the leading textile journals and trade papers. The students have access to the library during school hours.

ATHLETICS.

The school has an athletic association and the students participate actively in various sports and games. Although the school has no gymnasium attached to it as yet, the high school authorities of the city have permitted the use of its large and finely equipped gymnasium, in which the students have indoor practice and games. There are also several athletic fields open to the students for their out-of-door sports. A large room has been fitted up in the school for the use of the association, and the management of the school will give all reasonable encouragement and support to the furtherance of healthful recreation and manly sports for its students.

THE WILLIAM FIRTH SCHOLARSHIP AT THE NEW BEDFORD TEXTILE SCHOOL.

The donation of William Firth, Esq., has established a scholarship at the New Bedford Textile School, primarily for the benefit of a son of a member or of a deceased member of the National Association of Cotton Manufacturers, furnishing to the recipient of such scholarship tuition for the course. Candidates for this scholarship must apply by letter only, addressed to the National Association of Cotton Manufacturers, P. O. Box 3672, Boston. Mass. The candidates must be at least sixteen years of age and furnish certificates of good moral character, and those who have been students of other technical institutions, colleges or other universities are required to furnish certificates of honorable dismissal from such institutions. Those applicants conforming to the above conditions are nominated by the Board of Government to the New Bedford Textile School, and the selection of the candidate for the scholarship is made as the result of an examination held at New Bedford, Mass. Every candidate, previous to the examination, must file an application at the school for admission, agreeing to observe the rules and regulations of the school. Candidates are eligible for any of the courses included in the curriculum of the school.

In case the son of a member or of a deceased member of the National Association of Cotton Manufacturers does not apply for the scholarship, any person eligible for entrance to the school may make application.

This scholarship will be available for the school year commencing the fall of 1915.

THE NATIONAL ASSOCIATION OF COTTON MANUFACTURERS' MEDAL.

The National Association of Cotton Manufacturers offers a medal to be awarded each year to the student in the graduating class who shows the greatest proficiency in scholarship. This is determined by an examination of the records of the students' progress throughout their studies, which are recorded and reported upon by the instructors and kept permanently on file.

The competition for this medal is open to all day students who graduate in the Complete Cotton Manufacturing Course, or to evening students who have completed studies comprised in that course and graduated therein. The association offering the medal has made it a condition of the award that at least four members of the graduating class be eligible to the competition.

EQUIPMENT.

COTTON CARDING AND SPINNING DEPARTMENT.

This department occupies nearly the entire first floor of the machinery building, and has approximately 9,000 square feet of floor surface. The equipment is large and diversified, enabling the students to become acquainted with practically all the leading makes of machines found in the carding or spinning departments of a cotton mill.

A special feature of the equipment is the large number of models of the principal parts of the different machines in this department. These models are so mounted that the different settings and adjustments can be made equally as well as on the machine itself, and thus enable the student to more readily grasp the essential points, since the parts are much more readily accessible.

The department is humidified by the system of the American Moistening Company.

Picker Room.

1 Carver cotton gin.
1 Kitson roving waste machine.
1 Kitson automatic feeder.
1 Kitson porcupine opener with cleaning trunk.
1 Kitson breaker lapper with condenser and guage box.
1 Atherton intermediate lapper.
1 Howard & Bullough finisher lapper.
1 Potter & Johnston finisher lapper.

Carding and Spinning Room.

1 Mason card.
1 Howard & Bullough card.

1 Saco & Pettee card.
1 Hetherington card.
1 Potter & Johnston card.
1 Whitin card.
1 Whitin sliver lap machine.
1 Hetherington sliver lap machine.
2 Whitin combers.
1 Hetherington comber.
1 Nasmith comber.
1 Montfort comber.
1 Mason railway head.
1 Saco & Pettee improved railway head.
1 Saco & Pettee draw frame.
1 Howard & Bullough draw frame.
1 Woonsocket draw frame.
1 Whitin draw frame.
1 Woonsocket slubber.
1 Woonsocket second intermediate.
1 Providence first intermediate.
1 Howard & Bullough second intermediate.
1 Dobson & Barlow fine roving frame.
1 Saco & Pettee fine roving frame.
1 Whitin spinning frame.
1 Howard & Bullough spinning frame.
1 Saco & Pettee spinning frame.
1 Fales & Jenks spinning frame. (Motor driven.)
1 Mason mule.
1 Hetherington mule.
2 Draper twisters.
1 Draper banding machine.
1 Fales & Jenks twister. (Motor driven.)
1 Dronsfield card flat grinding and testing machine.
1 Dronsfield card clothing machine.

TESTING MACHINES.

1 Moscrop single thread tester.
2 Goodbrand thread testers.

1 Goodbrand conditioning and testing machine.
1 Goodbrand inspecting machine.
2 Goodbrand yarn reels.
1 Knowles yarn balance.
1 Brown & Sharp yarn scale.
1 Goodbrand roving reel.
1 Brown & Sharp roving reel.
1 Percentage scale.
1 Goodbrand picker lap scale.

MODELS.

1 case English spinning and twisting spindles.
1 case American spinning and twisting spindles.
2 Howard differential motions.
1 Dobson & Barlow differential motion.
1 Woonsocket differential motion.
1 Asa Lees differential motion.
1 Howard & Bullough roving frame builder motion.
1 Woonsocket roving frame builder motion.
1 Whitin spinning frame builder motion.
1 Draper twister builder motion.
1 Nasmith nipper frame.
1 Nasmith cylinder.
1 Providence roving frame swing motion.

WEAVING AND WARP PREPARATION DEPARTMENT.

This department occupies all of the second floor of the machinery building and contains about 9,500 square feet of floor area. The equipment is very complete and includes sufficient machinery to enable each student to obtain all the practical experience required in connection with his studies. All of the latest machinery is represented in this equipment, and as the machinery is made especially for use in the school it fully meets the needs of the students.

The list of machines is as follows:

1 Crompton & Knowles Providence plain cam loom.

1 Crompton & Knowles Providence plain and 3 harness cam loom.
1 Crompton & Knowles Providence plain and 4 harness cam loom.
1 Crompton & Knowles Providence plain and 5 harness cam loom with mechanical warp-stop motion.
2 Kilburn & Lincoln plain cam looms.
1 Lowell plain cam loom.
1 Lowell plain and 5 harness cam loom.
1 Whitin plain and 3 harness cam loom.
1 Whitin plain and 4 harness cam loom.
2 Whitin plain and 5 harness cam looms.
1 Stafford (Readville) automatic shuttle changing loom.
4 Draper automatic bobbin changing looms.
1 Mason standard print cloth loom.
1 Mason plain and 5 harness cam loom.
2 Whitin 25 harness dobby looms with leno and 2x1 box motions.
3 Whitin 25 harness dobby looms with leno motion.
1 Whitin 20 harness dobby loom.
2 Crompton & Knowles (Worcester) 2 bar lappet looms.
1 Crompton & Knowles (Worcester) gingham loom 4x1 box.
1 Crompton & Knowles (Worcester) gingham loom 6x1 box.
1 Crompton & Knowles (Worcester) 25 harness dobby loom.
1 Crompton & Knowles (Worcester) 20 harness dobby loom with 4x1 box motion.
1 Crompton & Knowles (Worcester) 12 harness dobby towel loom with 3x1 box motion.
1 Stafford (Providence) 20 harness dobby loom with leno motion.
1 Stafford (Providence) 25 harness dobby loom with leno motion.

1 Crompton & Knowles (Providence) 20 harness dobby loom.
1 Crompton & Knowles (Providence) 20 harness double cylinder dobby loom.
1 Crompton & Knowles (Providence) 20 harness dobby loom with multiplier.
2 Crompton & Knowles (Providence) 25 harness dobby looms with leno motions.
3 Crompton & Knowles (Providence) 25 harness dobby looms with leno and 2x1 box motions.
1 Crompton & Knowles (Providence) rise and drop jacquard loom with 200 hooks.
1 Crompton & Knowles (Providence) single lift jacquard loom with 300 hooks.
1 Crompton & Knowles (Providence) double lift jacquard loom with 400 hooks.
3 Kilburn & Lincoln 25 harness dobby looms.
1 Stafford (Readville) 25 harness dobby loom.
1 John Royle & Sons card cutting machine.

There are also models for demonstrating leno motions, box motions, warp-stop motions, etc.

1 Draper spooler.
1 Easton & Burnham spooler.
1 Entwistle warper.
2 Draper warpers.
1 Whitin reel.
1 Universal bobbin winder.
1 Howard & Bullough slasher.

DESIGNING DEPARTMENT.

The design class room is located on the third floor of the recitation building, and is a large well lighted room containing all the appliances necessary for instruction in this important subject. Special attention has been given to the method of lighting this room to give the best results, and the desks are made with special reference to the needs of the student of designing.

The hand loom work is located in a large room on the third floor of the machinery building. This room contains twenty-eight hand looms adapted to the use of students in experimental work, and in putting into practice the theory of designing, and also to enable them to produce certain of the designs that they are taught in the designing class. The room is well lighted by a saw-tooth roof.

MECHANICAL DEPARTMENT.

Instruction in the Mechanical Department is carried on in five different rooms located in various parts of the new building. These rooms are arranged and fitted out with apparatus to meet the needs of the students following this course. The department is subdivided into the following sections: Mechanical Drawing, Mechanical Engineering, and Machine Shop Work.

Mechanical Drawing.

The drafting room is located on the second floor of the new building and is well lighted by northern and western exposures. It is equipped with independent drawing tables and lockers for the drawing boards and materials. For the students' use in connection with their drafting instruction there is a collection of models, mechanical apparatus and machine parts. On the third floor there is a swinging blue print frame mounted on a track, and a large dark room fitted with modern conveniences for blue printing.

Mechanical Engineering.

Instruction in steam and electrical engineering is given both in theory and practice. The theoretical part of the course is carried on in a large recitation room on the second floor, while the practical side is studied in the engineering laboratory in the basement of the new building. The laboratory is supplied with steam direct from the boiler room and also has gas and water connections. For the study of electricity there is provided a source of alternating current at 110 volts and 220 volts pressure.

The laboratory equipment consists of the following apparatus:

1 Cahall 30-horse power water tubular boiler.
1 Buffalo 40-horse power horizontal high speed steam engine.
1 Jacobs boiler feed water heater.
1 Cockrane oil separator.
1 Buffalo 3″ x 2″ x 3½″ duplex feed pump.
1 Knowles 4½″ x 2¾″ x 4″ feed pump and receiver.
1 Four-horse power gas engine.
1 Sturtevant 5½-horse power vertical steam engine.
1 Small model steam power plant.
1 Crosby gauge tester.
2 Crosby steam engine indicators.
1 Portable watt meter.
1 Portable voltmeter.
1 Portable ammeter.
1 Tachometer.
1 Peabody calorimeter.
1 Amsler polar planimeter.
1 Type N Metropolitan injector.
1 Portable switchboard.
1 Current transformer.
1 Resistance frame.
1 Arc light.
1 Prony brake.

The equipment includes several steam gauges and a number of the various types of stop and check valves in part section to show the working mechanism. The school power plant is available for use in studying steam and electrical devices found in the modern power plant.

Machine Shop.

This department of the school occupies about 2800 square feet of floor surface on the first floor of the new building. The department is electrically driven and the equipment, all of which is modern, is as follows:

1 Reed 18″ x 8′ engine lathe.
1 Reed 12″ x 6′ engine lathe.
2 Reed 12″ x 5′ engine lathes.
1 Hendey 14″ x 6′ engine lathe.
1 Whitcomb and Blaisdell 13″ x 5′ engine lathe.
1 Seneca Falls 11″ x 5′ star lathe.
1 Reed 11″ x 5′ speed lathe.
1 Prentice 20″ drill.
1 Diamond 20″ x 2½″ water tool grinder.
1 Builders' Iron Foundry 12″ x 2″ emery grinder.
1 Morse No. 1 plain grinder.
1 Perkins 8″ x 20″ mitre trimmer.
1 Potter & Johnston 15″ Universal shaping machine.
1 Cincinnati 16″ shaper.
1 Brown & Sharpe No. 2 Universal milling machine.
1 W. & B. Douglas grindstone.
1 Star power hack saw.
1 Beach scroll saw.
1 gas forge.
1 Morse cutter and twist drill grinder.
1 Eagle anvil, 100 pounds.
1 Peerless portable electric hand drill.
1 Peerless portable electric tool post grinder.
1 Machinists' work bench equipped with vises.
1 Tool cabinet containing small tools.
1 Jackson belt lacer.

CHEMISTRY AND DYEING DEPARTMENT.

This department occupies about 12,000 square feet, situated on the first and basement floors of the recitation building. This space is divided into five laboratories, a reading room and office for the principal of the department, and store room. The general chemistry and dyeing laboratory is a large well lighted room 63′ 6″ x 20′ on the first floor, and is especially designed to meet the needs of the students in the general courses. This laboratory is equipped with forty-two double desks in rows of three

desks each. At the end of each row is situated the sink and dye bath. Along the wall, on the opposite end, are the hoods. For the students taking the special course in chemistry, two special laboratories are provided. These two laboratories occupy a space 40′ x 17′, the main part of which is devoted to the chemical laboratory. On the northern exposure is a small laboratory for photometric, microscopic and gravimetric work. In the main special laboratory, each student has desk space 2′ x 8′ and his own desk, dye bath and draught hood. Conveniently located is a large drying oven, four ten-gallon dye kettles, and one twenty-gallon dye kettle. This laboratory is equipped at each desk with gas, water, steam, blast, and suction in order that the students' work may be carried on with the utmost celerity conducive to the best results.

The following pieces of special apparatus are at the disposal of the student, as his work may require:

4 Gas heated dye kettles, ten gallons capacity.
1 Gas heated dye kettle, twenty gallons capacity.
1 Wooden dye beck, twenty gallons capacity, steam heated.
1 Wooden dye kettle, twelve gallons capacity, steam heated.
1 Steaming chest.
1 Experimental Printing Machine.
1 Hydro extractor.
1 Copper color kettle.
6 Twenty-eight hole experimental dye baths.
14 Twelve hole experimental dye baths.
1 Autoclave.
1 Oil tester.
1 Orsat gas apparatus.
1 Hempel gas apparatus (complete set).
1 Westphal balance.
3 Analytical balances.
1 Munsell photometer.
1 Emerson calorimeter.

1 Spectroscope.
3 Microscopes.
3 Drying ovens.
1 Motor.
1 Power air blast.
1 Water heater.
1 Jewell water still.
2 Combustion furnaces.

KNITTING DEPARTMENT.

The knitting department occupies two large connecting rooms on the top floor of the machinery building and contains about 6,600 square feet of floor area. The equipment is very complete, there being a greater number of machines and a larger variety than can be found in any similar school in the world. The work that has been produced by the students of this department has received high praise from some of the leading experts in the knitting trade, the hosiery and underwear taking especially high rank.

The list of machines in this department is as follows:

1 Excelsior cloth dryer.
1 Ballard electric cloth cutter.
1 Beattie 16 point two thread looper.
1 Beattie 22 point two thread looper.
1 Koehler 20 point looper.
1 Brinton 4″ 84 and 160 needle rib top machine.
1 Brinton 3¾″ 108 and 188 needle rib leg machine.
1 Brinton 4″ ¾ automatic hosiery machine.
1 Brinton 16″ automatic body machine.
1 Brinton 4½″ 320 needle welter and automatic knee and ankle splicing rib leg machine, with Wildman stop-motion.
1 Brinton 3½″ 160 needle full automatic footer.
1 Crane 36 guage spring needle machine.
1 Crane 15″ spring needle rib body machine.
1 Crane 19″ body machine.

1 Crawford 12 end stop-motion.
1 Hemphill 3¾″ 200 needle automatic hosiery machine.
1 Hemphill Mfg. Co. 3½″ 188 needle full automatic hosiery machine.
2 Huse winders.
4 Jenckes full automatic hosiery machines.
1 Jones hosiery and underwear brusher.
1 Kennedy automatic band folding and cutting machine.
1 Lamb sweater machine.
1 Lamb glove machine.
1 March & Crawford two end stop-motion.
1 March & Crawford four end stop-motion.
1 March & Crawford sixteen end stop-motion.
1 Mayo 3½″ 200 needle full automatic footer with high splice and double sole attachment.
1 Mayo full automatic hosiery machine with yarn changer.
1 Mayo 3½″ striper.
2 Mayo Machine & Needle Co.'s full automatic hosiery machines.
1 Merrow, Style 60D, two thread trimming and over-seaming machine.
1 Merrow, Style 60D, three thread trimming and over-seaming machine.
1 Merrow, Style 60H, two thread trimming, over-seaming and hemming machine.
1 Merrow, Style 60ED, three thread overedging machine.
1 Merrow, Style 15A, two thread plain crochet machine.
1 Merrow, Style 35B, shell stitch crochet machine.
1 Metropolitan Sewing Machine Company's machine for sewing on lace.
1 Metropolitan, Style 30 T. C., toggle trimmer.
1 Payne winder.

20 doz. Pearson hosiery boards.
1 Hurricane stocking and underwear dryer.
1 Scott & Williams 3¾″ welter 176 and 200 needle rib top machine.
1 Scott & Williams 3¾″ striper 176 and 180 needle rib top machine.
1 Scott & Williams 4″ 220 needle full automatic half hose machine.
1 Scott & Williams 4¼″ welter 180 needle rib leg machine.
1 Scott & Williams 4¼″ welter 216 needle rib leg machine.
1 Scott & Williams 4¼″ welter 276 needle rib leg machine.
1 Scott & Williams 4¼″ welter 300 needle rib leg machine, with Crawford stop-motion.
1 Scott & Williams 3¾″ two feed sleever 220 needle machine, with Crawford stop-motion.
1 Scott & Williams 4¼″ two feed sleever 264 needle machine.
1 Scott & Williams 10″ four feed automatic body machine, 8 x 10 cut.
1 Scott & Williams 13″ eight feed automatic body machine, 10 cut.
1 Scott & Williams 20″ Swiss rib machine, cut 12 to inch, with Crawford stop-motion.
1 Scott & Williams 20″ balbriggan machine, cut 16 to inch.
1 Scott & Williams 20″ rib border machine, cut 14 to inch.
1 Scott & Williams 3½″ 160 needle ⅞ automatic footer.
1 Scott & Williams bar stitch machine.
1 Scott & Williams chain machine.
1 Scott & Williams 12 point looper.
1 Singer No. 44 lock stitch finishing machine.
1 Singer No. 24 chain stitch finishing machine.

1 Singer twin needle taping machine.
1 Singer No. 32-29 eyeletting machine.
1 Singer No. 68-7 button sewer.
1 Singer No. 79-1 drawer strapper.
1 Stafford & Holt 14″ fancy sweater machine.
1 Standard Sewing Machine Co.'s button hole machine.
1 Tompkins knitting table, 22 and 36 gauge.
1 Union Special Machine Co. flat bed twin needle machine.
1 Union Special Machine Co. collarette machine.
1 Union Special Machine Co. button facing machine.
1 Union Special Machine Co. seaming machine with Dewees trimmer.
1 Union Special Machine Co. toggle grinder.
2 Union Special Machine Co. twin needle covering machines.
1 Union Special Machine Co. drawer finishing machine.
1 Union Special Machine Co. hemming and seaming machine.
1 United Shoe Machinery Co. eyeletting machine.
1 Wildman 3¾″ two feed striper and fancy pattern machine.
1 Wildman 3½″ ribber with selvage welt and striper.
1 Wildman 3½″ selvage welt machine.
1 Wildman 13″ automatic 8 and 12 cut body machine.
1 Wildman 4¼″ sleever.
1 Wildman 18″ Swiss rib machine.
1 Wildman 4¼″, 216 needle rib leg machine.
1 Wildman 4¼″, 272 needle rib leg machine with lace attachment. (Wildman machines equipped with Wildman stop-motions.)
3 Crawford stop-motions.

POWER, HEAT AND LIGHT PLANT.

1 Stirling 105 horse power water tubular boiler.
1 B. & W. 155 horse power water tubular boiler.
1 Foster shaking grate.
1 Dillon shaking grate.
1 Deane 4¾″ x 2¾″ x 4″ duplex double outside packed plunger steam pump, connected to a receiver tank.
1 Deane 4¾″x 3″x 5″ single steam pump.
1 National 100 horse power feed water heater.
1 Atwood and Morrill damper regulator.
1 Sturtevant 75 horse power horizontal center crank engine.
1 American Ball 160 horse power engine.
1 Westinghouse 50 KW, 220 volt, 3 phase, alternating current generator, direct connected.
1 Westinghouse 4 KW, 125 volt, direct current generator.
1 G. E. 100 KW, 220 volt, 3 phase, alternating current generator, direct connected.
1 G. E. 9½ KW. 125 volt, direct current generator.
1 W. S. Hill four panel switchboard equipped with 9 Wagner indicating ammeters, 2 Wagner indicating voltmeters, 1 Thomson 50 KW three phase integrating Wattmeter, 2 direct reading KW meters, 14 Wagner current transformers, 1 Westinghouse combination rheostat, 1 G. E. combination rheostat, 2 Condit Electrical Mfg. Co.'s 250 V circuit breakers, all necessary switches, bus bars, etc.
2 Turbine fans.
1 Cockrane oil separator.
2 Steam separators, 1 reducing valve, 1 back pressure valve, 1 oil filter, 1 blow-off tank.
2 Anderson No. 3 high pressure steam traps.
5 Nason low pressure steam traps.
3 Sterling low pressure steam traps.

1 Reliable electric vacuum pump.
1 Ash elevator.
1 Sturtevant heating and ventilating outfit.
1 American moistening outfit.
9 General Electric induction motors, equipped with oil starting switches.
2 Westinghouse motors.

GRADUATES, 1912.

DAY DIPLOMA COURSES.

General Cotton Manufacturing:
Edward E. Judge, Chen Ting-fang.

Chemistry and Dyeing:
Frank E. Hinckley.

Latch Needle Underwear Knitting:
Francis J. Fagan.

Seamless Hosiery Knitting:
Morton T. French, Luis C. Visbal.

Designing:
Ernest A. Scholze.

DAY CERTIFICATE COURSES.

Carding and Spinning and Chemistry:
Justo D. de la Espriella.

POST GRADUATE COURSE.

Carding and Spinning:
Thomas B. O'Brien.

EVENING CLASSES—DIPLOMA COURSE.

Chemistry and Dyeing:
Hughes L. Siever.

EVENING CLASSES—CERTIFICATE COURSES.

Benjamin Addy,
Frank S. Akin,
John W. Allen,
Ward S. Allen
Herbert Anderson,
Alfred O. Arvisais,
Ralph L. Bailey,
John W. Baldwin,
Albert Barber,
Harry Barker,
Elliott H. Barnwell,
James Bolton,
Wright Bolton, Jr.
William Bombard,
Robert O. BonDurant,
Joseph Booth,
Marshall E. Briggs,
Frank Buckley,
Donald Brightman,
Nathaniel Burt,
Joseph S. Cabral,
Alfred Carter,
William J. Carter,
John H. Clarke.
Richard Cocking,
John H. Counsell,
John M. Cowan,
John C. Dantsizen,

Henry Davis.
Moses Dewhurst,
Milton Duxbury,
Thomas F. Eccleston,
William Edmundson,
George H. Edwards,
Thomas Egan,
James A. Fanning, Jr.
Samuel Fine,
Albert Forrest,
Manuel C. Frias,
James Galloway,
William H. Gamble,
Hervy Geary,
Dana H. Gillingham,
Joseph Goulding,
James Griffin,
John Hagan,
Robert H. Hamilton,
Harold Hamlet,
Walter Hampson,
William H. Harrop,
Samuel Harwood,
William E. Heaton,
Frederick Higgins,
George Higginson,
Anton Hirschlag,
Alexander Holden,
Frank Holden,
George Hussey,
John Houghton,
Jeremiah Irvin,
Samuel Jackson,
William J. Jackson,
Elmer H. Jamieson,
Lawrence M. Jamieson,
Frank Jepson,
William Kenworthy,
Walter Key,
John Krauss,
Adelard J. LaChapelle,
Joseph E. Leake,
Joseph Lord,
David J. Macfarlane,
John McClement,
George T. McDonough,
Manuel Medeiros,
Thomas McNair,
John A. Mellor,
William Mitchell,
Luke Murphy,
Norbet Nemec,
Yarry Nosek,
Arthur Owen,
John M. Palmer,
Herbert Parker,
William E. Parker,
Daniel Pearson,
John Pearson,
Edward T. Pierce,
Guy J. Porter,
George Powell,
George A. Ramsden,
Charles P. Rose,
Albert Rushworth,
Albert Salter,
Walter H. Seddon,
Robert Sibor,
Jose G. da Silveira,
Peter F. Slater,
William Simmons,
Harold D. Slocum,
Antone B. Souza,
James A. Sullivan,
James Sutter,
Thomas Talbot,
Walter Thomas,
Walter Thornly,
Wilbraham Thornley,
William Trimble,
William H. Vaughan,
Walter Walsh,
Frederic D. Walton,
Francis Warrington,
David Watson,
John L. Whitehead,
Albert Whiteley,
John Withmell,
Charles T. Wood,
Schofield Wood,

REGISTER OF DAY GRADUATES.

1900

Name	Course	Occupation
Wade Hampton Hadley,	Carding and Spinning.	Sec'y and Treasurer Gregson & Dorsett, Siler City, N. C.
Henry Wyman Nichols,	Weaving.	Chief Instructor, New Bedford Textile School.
Thomas Galloway Williamson,	Carding and Spinning.	No record.

1901

Name	Course	Occupation
Charles Edward Buckley,	Weaving.	Designer, Gosnold Mills, New Bedford, Mass.
Arthur Roy Dickinson,	General.	Ass't Superintendent, Burgess Mill, Pawtucket, R. I.
Thomas Thompson Gifford,	General.	No record.
Thomas Julius McNeeley,	Weaving.	Superintendent Twine Mills Corp., Roanoke, Va.
Milo Louis Moss,	Carding and Spinning.	In business, New Bedford, Mass.
Richard Riding,	Special.	No record.
Guy Palmer Stubbs,	Partial.	Planter, Monroe, La.
*Nelson Allen Wood,	General.	

*Deceased.

1902

Name	Course	Occupation
Andrew Currie, Jr.,	General.	Real Estate, Shreveport, La.
Myron Charles Fish,	Carding and Spinning.	Sec'y American Supply Co., Providence, R. I.
Esley Hope Forbes,	General.	No record.
Lester Evans Hawes,	Weaving; also Carding and Spinning.	Repair man, S. C. Lowe Supply Co., New Bedford, Mass.
John Joseph Hutchinson,	General.	No record.
Alberto Madero,	General.	Mgr. Intestado Carlos Zuloaga estates, Chihuahua, Mexico.
John William Osborn.	General.	Overseer, Ring and Mule Spinning and Warp Preparation, Evansville Cotton Mfg. Co., Evansville, Ind.
Benjamin Richards,	Carding and Spinning.	Ass't Manager, Underwriters' Bureau of New England, 141 Milk St., Boston, Mass.

1903

Name	Course	Occupation
Archie McKay Bethea,	General.	Cotton Planter, Dillon, S. C.
Bennett D. Nelme,	Weaving.	Farmer, Wadesboro, N. C.
Walter Turnbull.	General.	General Agent, Life Insurance Co., Richmond, Va.
Theodore Wood,	General.	Overseer, Carding, Dartmouth Mfg. Co., New Bedford, Mass.

1904.

Name	Course	Occupation
Morton LeBaron Church,	Partial.	Secretary-treasurer, Capitola Mfg. Co., Marshall, N. C.
Edward P. Doherty,	Designing.	Police Sergeant, New Bedford, Mass.
Beirne Gordon, Jr.,	General.	With Sanquoit Spinning Co., Utica, N. Y.
Henry Joseph O. Goulet,	General.	Designer, Waypoyset Mfg. Co., Central Falls, R. I.
George Paton Kean,	Weaving.	Overseer Carding, Lawton Mills Corp., Plainfield, Conn.
Chu Kinhow,	Carding and Spinning	No record.
John Burton Burns LaFleur,	Knitting.	Supt. Malden Knitting Mills, Malden, Mass.
Ricardo J. Rivero,	Carding and Spinning.	Asst. Mgr. Fabrica de Hilados y Tejidos "El Powenir y Anexos" S. A., El Cercade, N. L., Mexico.
William Arnold Spencer,	Carding and Spinning.	Overseer, Carding, Paul Whitin Mfg. Co., Northridge, Mass.
Charles Knox Taylor,	Carding and Spinning.	No record.
Fred Taylor,	General.	Cotton Technologist, Agriculture Bureau, Washington, D. C.
Clifford Barker Terry,	Carding and Spinning.	Foreman for Whitin Machine Works, Whitinsville, Mass.
Frederick James Young,	Carding and Spinning.	Supt., Jackson Fibre Co., Bemis, Tenn.
Andrew Ybarra,	Carding and Spinning.	No record.

1905

Name	Course	Occupation
Fred Loren Baldwin,	Latch Needle Underwear Knitting.	Inspector, Seamless Hosiery Dept., Sulloway Mills, Franklin Falls, N. H.
James O'Hara Cazenove,	General.	No record.
John J. W. Cooper,	General.	Asst. Supt., N. B. Cotton Mills, New Bedford, Mass.
Sidney Winfield Corson,	General.	Overseer Carding, Acushnet Mill, New Bedford, Mass.
William Bogle MacColl,	Designing.	Supt., Lorraine Mfg. Co., Pawtucket, R. I.
Otis Prentice Mills, Jr.,	General.	Greenville, S. C.
Clifford H. Tripp,	General.	With Pierce Mfg. Co., New Bedford.
Rex Gould Witherbee,	General.	Asst. Supt., Utica Steam & Mohawk Valley Cotton Mills, Utica, N. Y.

1906

Name	Course	Occupation
Richard Stowe DeMartin,	Carding and Spinning.	Second Hand, Carding, Lorraine Mfg. Co., Pawtucket, R. I.
Elmer Leslie Freeman,	Latch Needle Underwear Knitting.	Detroit, Mich.
Walton Hall, Jr.,	Carding and Spinning.	Supt., Chace Mills, also Williams Mills, Moodus, Conn.

Name	Course	Occupation
John J. O'Neil,	Latch Needle Underwear Knitting.	389 Main St., Springfield, Mass.
Thomas Wilson Williamson,	General.	With the New Bedford Gas & Edison Light Co.

1907

Name	Course	Occupation
Lloyd Sanford Delano,	General.	Third Hand, Weave Room.
John Henry Grady,	Chemistry and Dyeing.	Dyer and Salesman, Franklin Process Co., Providence, R. I.
S. Eugene Jackson,	Carding and Spinning.	Yarn Salesman, Wm. Whitman & Co , Boston, Mass.
William Augustus Lee,	General.	No record.
Li Kung,	General.	No record.
Lo Ting-yu,	General.	No record.
John Alexander McKenzie,	Chemistry and Dyeing.	Second Hand Dye House, Nonotuck Silk Co., Florence, Mass.
Andrew Warren Macy,	General.	Asst. Supt., Soule Mill, New Bedford, Mass.
Frank Pieraccini, Jr.,	Designing.	Designer, Soule Mill, New Bedford, Mass.
Ellis Haynes Thayer,	Latch Needle Underwear Knitting.	Knitting Machine Fixer, Lamb Knitting Co., Pawtucket, R. I.
Yiu Sun Tsang,	General.	Associate Engineer, Tsang Bros. & Co., Canton, China.
Frederick J. Vera,	General.	Farmer, Mattapoisett, Mass.

Name	Course	Occupation
Harold James Walters,	Seamless Hosiery Knitting.	Assistant Manager, Wilton, Brussels Carpet Co., A and Indiana Ave., Philadelphia, Pa.
Waldo Leland Whitmarsh,	General.	Advertising and Technical Writer, with Brown & Sharpe Mfg. Co., Providence, R. I.
Wong Ka Luen,	General.	No record.
George Worden,	Designing.	Designer, Wauregan Co., Wauregan, Conn.

1908

Name	Course	Occupation
William Gardiner Blair, Jr.,	General.	Overseer Carding, Dexter Yarn Co., Pawtucket, R. I.
Wm. Booth,	Carding and Spinning.	Ass't Superintendent, Booth Mill, New Bedford, Mass.
John Gordon Brown,	Partial.	Treasurer Glencairn Mfg. Co., Pawtucket, R. I.
Chih Yeh Chang,	General.	No record.
Harvey Anderson Ellis,	Partial.	Salesman, Holyoke Belting Co., Holyoke, Mass.
John V. Gallagher,	Seamless Hosiery Knitting.	No record.
Lester Davenport Patt,	Designing.	Asst. Designer and Overseer of Pattern Room, Acushnet Mills, New Bedford, Mass.

Name	Course	Occupation
Ernst Clarner Sherman,	Partial.	Supt. Dexter Yarn Co., Pawtucket, R. I.
Chee Lee Tsu,	General.	No record.
John Walter Wilde,	Knitting.	Asst. Manager, Wilde & Co.'s Knitting Mill, Hazleton, Pa.

1909.

Name	Course	Occupation
Frederick John Bister,	General.	With John Bister, 100 Grand St., New York, N. Y.
William James Blades,	Carding and Spinning.	Comber Fixer, Lorraine Mfg. Co., Pawtucket, R. I.
Alton Winfield Chase,	Designing.	Boss Comber, Quissett Mill, New Bedford, Mass.
Milton Chase Devoll,	Designing.	Asst. Designer, Potomska Mills, New Bedford, Mass.
Max Alexander Freschl,	Seamless Hosiery Knitting.	Supt. Holeproof Hosiery Co., Milwaukee, Wis.
Philip Cushion Gilkey,	Seamless Hosiery Knitting.	With Worcester Hosiery Co., Worcester, Mass.
Albert George Neel,	Latch Needle Underwear Knitting, also Carding and Spinning.	Manager, Supreme Underwear Mills, Utica, N. Y.
Charles Pittle,	Seamless Hosiery Knitting.	Proprietor, Mishaum Knitting Mill, New Bedford Mass.
Arthur Eugene Snyder,	Latch Needle Underwear Knitting, also Carding and Spinning.	President, Supreme Underwear Mills, Utica, N. Y.

Name	Course	Occupation
Arthur Fuller Spare,	General.	With J. V. Spare Co., New Bedford, Mass.
George Campbell Urquhart,	Chemistry and Dyeing.	With Pacific Mills, Lawrence, Mass.
Clifford Linnell White,	Designing.	Third Hand, Card Room, Potomska Mills, New Bedford, Mass.

1910

Name	Course	Occupation
Raymond Howland Chase,	General.	Third Hand, Card Room, Pierce Mfg. Co., New Bedford, Mass.
Paul Franklin Gay,	General.	Third Hand, Nonquitt Mill, New Bedford, Mass.
Roger Merril Hobbs Wilcox,	Partial.	With William Firth Co., Boston, Mass.
Lewis Grey Manning,	Latch Needle Underwear Knitting, also Carding and Spinning.	Salesman for Scott & Williams, 2079 E. Cumberland St., Philadelphia, Pa.
Dana Humphrey Gillingham.	Chemistry and Dyeing.	Assistant Chemist, Fortuna, Porto Rico.

1911

Name	Course	Occupation
E. P. Jack Auclair,	Chemistry and Dyeing,	Consulting and Analytical Chemist, New Bedford, Mass.
Milton J. Bentley,	General.	Second Hand, Carding, Booth Mill, New Bedford, Mass.
James P. Brown,	Carding and Spinning.	With Waypoyset Mfg. Co., Central Falls, R. I.

Name	Course	Occupation
Kenyon H. Clark,	Latch Needle Underwear Knitting.	Asst. to the Superintendent, Mill No. 1, Utica Knitting Co., Utica, N. Y
Harold C. Cornell,	General.	Third Hand, Dartmouth Mills, New Bedford, Mass.
Edward W. Dewey,	Latch Needle Underwear Knitting.	Spare Hand in Card Room, Bennington Vt.
Earl W. Dunmore,	Latch Needle Underwear Knitting.	Knitter, Augusta Knitting Co., Utica, N. Y.
Albert W. Goodwin,	Designing.	Designer, Whitman Mill, New Bedford, Mass.
Carleton LeB. Hamlen,	Chemistry and Dyeing.	Chemist, Fortuna, Porto Rico.
Caleb A. Hayward, Jr.,	Latch Needle Underwear Knitting.	With Wm. Carter Co., Needham Heights, Mass.
Warren E. Holland,	Designing and Carding and Spinning.	Assistant to the Superintendent, Ponemah Mills, Taftville, Conn.
Robert R. Jenks,	Carding and Spinning.	Manufacturer, Pawtucket, R. I.
Frank Kallish,	General.	Designer, Beacon Mfg. Corp., New Bedford, Mass.
Henry C. Labrode,	General.	Assistant in Design Dept., Beacon Mill, New Bedford.
Benjamin Livesey, Jr.,	Chemistry and Dyeing.	Dyer, W. Aronstein & Bros., 3 Bush Terminal, Brooklyn, N. Y.
Augustus C. Macomber,	General.	Designer, Beacon Mfg. Co., New Bedford, Mass.

Name	Course	Occupation
Thomas B. O'Brien,	Carding and Spinning.	Third Hand, Spinning, Nashawena Mills, New Bedford.
Edward A. Robenolt,	Designing and Carding and Spinning.	In Comber Room, Grinnell Mill, New Bedford, Mass.
Alfred Scheid,	Carding and Spinning.	With Bennett Mill, New Bedford, Mass.
Carlton W. Smith,	Chemistry and Dyeing.	Chemist, New Bedford Gas & Edison Light Co.
Perry Vincent,	General.	77 North St., New Bedford, Mass.

1912

Name	Course	Occupation
Chen Ting-Fang,	General.	Post graduate work, N. B. Textile School.
Francis J. Fagan,	Latch Needle Underwear Knitting.	In charge of Winding Room, Utica Knitting Co., No. 4, Utica, N. Y.
Morton T. French,	Seamless Hosiery Knitting.	Second Hand, Blackstone Stocking Co., Central Falls, R. I.
Frank E. Hinckley,	Chemistry and Dyeing.	Assistant Chemist, Samuel Cabot,. Inc,, Boston, Mass.
Edward E. Judge,	General.	Assistant Designer, Gosnold Mills, New Bedford, Mass.
Ernest A. Scholze,	Designing.	Assistant Designer, Paul Whitin Mfg. Co., Northbridge, Mass.
Luis C. Visbal,	Seamless Hosiery Knitting.	In charge of Knitting Mill, Cartagena, Colombia, S. A.