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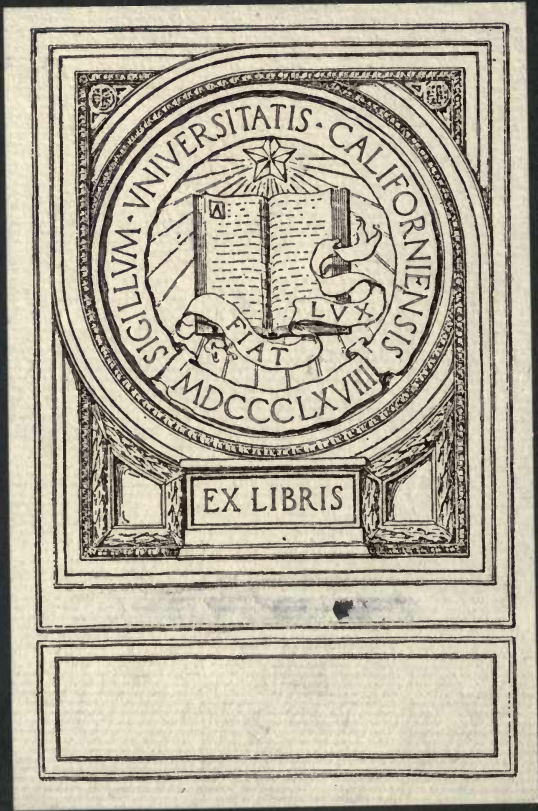
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PARKER QUALITY PRODUCTS



PARKER
ROTARIES
STANDARD
of
THE WORLD

Southern Well Works Co.
Chattanooga, Tennessee



EX LIBRIS

PARKER QUALITY PRODUCTS



PARKER
ROTARIES
STANDARD
of
THE WORLD

Cable Address
"PARKWELL"



Codes,
WESTERN UNION,
LIEBERS,

A. B. C. 5th. EDITION.

SOUTHERN WELL WORKS CO.
CHATTANOOGA, TENNESSEE

BEAUMONT, TEXAS
WICHITA FALLS, TEXAS

HOUSTON, TEXAS
SHREVEPORT, LA.

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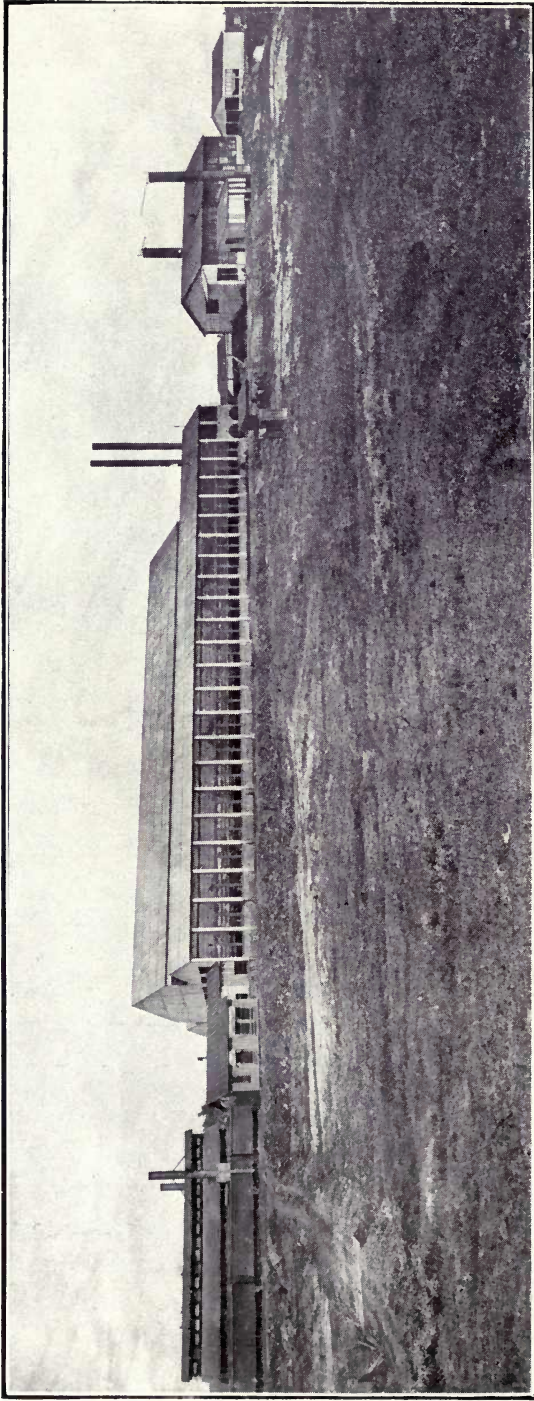
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Parker Quality Products

Parker Mogul Rotaries	Parker Regular Draw Works
Parker Mogul Jr. Rotaries	Parker Lucas Drilling Engines
Parker Special Rotaries	Parker Mogul Duplex Pumps
Parker Regular Rotaries	Parker Hydraulic Swivels
Parker Mogul Draw Works	Parker Superior Rig Irons
Parker Mogul Jr. Draw Works	Parker Travelling Blocks
Parker Special Draw Works	Parker Crown Blocks
Parker General Supplies	

"PARKER ROTARIES — STANDARD OF THE WORLD"

388775



MAIN PLANT, CHATTANOOGA, TENNESSEE
Twelve and Three-Quarter Acres

FOREWORD

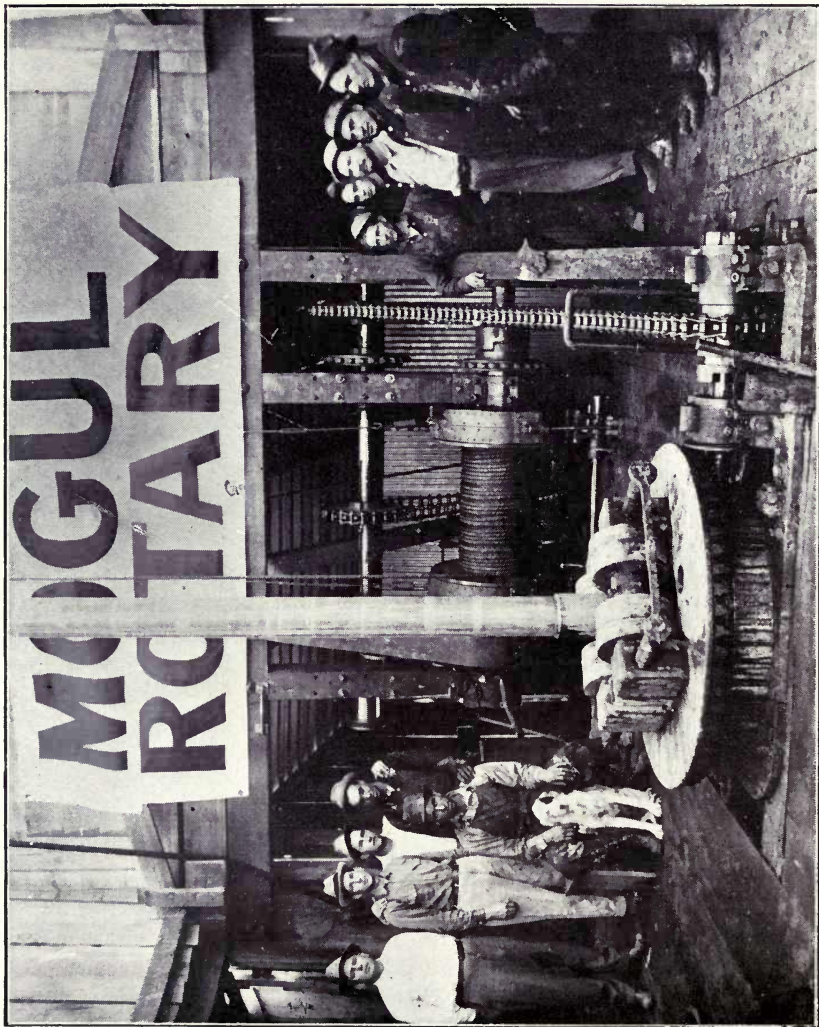


THIS CATALOGUE we aim to give prospective purchasers of Rotary well drilling tools, concise and reliable information, regarding the Improved Parker Rotaries and accessories, manufactured by the Southern Well Works Company, which, on account of their manifest superiority, have become the Standards by which all other similar machinery is compared. Though it must be manifest to all who read this catalogue that a complete showing of all our products is impossible, due to improvements constantly being made, we invite correspondence, and will be pleased to submit estimates and prices on equipment not shown, or to meet unusual conditions, and we cordially extend an invitation to all interested in the petroleum, gas or water well business to avail themselves of the services of our organization, composed of men with practical field experience, which, together with our corps of competent engineers, are able to give you the equipment best suited to your individual requirements.

All of our products are absolutely standardized, insuring perfect interchangeability; each part is carefully analyzed, both with regard to design and material, to insure the maximum of efficiency for the work to be performed, at a minimum cost. Perfect records are kept by our Engineering Department of all changes in design.

WE ARE SPECIALISTS IN THE ROTARY WELL-BORING BUSINESS. We have been manufacturing rotaries only, for the past twelve years, and during that time have watched the rotary process develop from an experiment in the famous Spindletop Field in Texas, to the present time, when PARKER ROTARIES are to be found wherever oil is drilled for. THE PARKER ROTARY HAS ALWAYS BEEN THE ADVANCE MACHINE AND WILL CONTINUE TO BE SO. It stands to reason that specialists in any line of business can manufacture a superior article. WE ARE STRICTLY SPECIALISTS IN ROTARY MANUFACTURE.

SOUTHERN WELL WORKS COMPANY.



THIS is the largest outfit operating in the world—on the property of the North American Oil Consolidated, near Fullerton, California. A 116-foot derrick—Mogul Rotary—on a 4000-foot hole. All the tools on the outfit are special.



Process of Rotary Drilling

Rotary drilling consists of rapidly rotating a column of pipe equipped at the lower end with a fish-tail or diamond point bit (see page 114), which is lowered as the hole is made.

Water and heavy mud is forced down through the pipe, by special PARKER Duplex Slush Pumps, keeping the cutting surface of the bit clean and bringing the cuttings from the bit to the surface.

The pipe is rotated by the rotating table, being held tightly by the grip rings (see page 25). These grip rings which revolve on the mandrel permit the raising and lowering the pipe without releasing the grip.

The pipe is suspended from the top of the derrick by a wire hoisting line which is controlled by the draw works (see page 43).

To permit the revolving of pipe and at the same time allow the water and heavy mud to be pumped down through the same, a swivel (see page 85) is attached to the top of the pipe. The swivel is connected to the stand pipe at the side of the derrick by a rubber hose, usually 2½" in diameter and 30 feet long, heavily re-enforced on the outside with wire to withstand the heavy pressure. The rubber hose being perfectly pliable permits the easy raising and lowering of the drill pipe.

The rotary is driven by a chain and sprockets from the line shaft (see page 52), the line shaft in turn being driven by chain from the engine which is located directly behind the draw works.

The line shaft also drives the hoisting drum, controlled by a clutch. To raise the pipe, the driller merely throws in the drum clutch.

The control of the pipe is absolutely in the driller's hands at all times, as the brake lever, drum clutch lever, and steam control are all in one position.

After the cutting bit has become dull, the entire drill stem is pulled out and a new bit inserted in the drill collar (see page 124) and the pipe again lowered in the hole and drilling resumed. The pipe is controlled by two wood lagged brake bands around the two 8" flanges on the hoisting drum. The PARKER Double Band Hoisting Drum with 1272 square inches of braking surface is the most successful drum used for this purpose.

For the quick pulling of pipe the PARKER Draw Works is equipped with a special quick hoist attachment operated by a clutch, which is controlled by the driller (see page 43).

The constant pumping of mud into and out of the hole, together with the rotating of the pipe operates much as a plasterer does in finishing a house. The walls of the hole become "mudded up" thus preventing caving of the sides of the hole, and permitting the well casing to be easily set.

When a strata of quicksand is encountered extra thick mud should be used and the rotary run at a moderate speed; the formation will then be walled up perfectly. THIS CANNOT BE DONE WITH CABLE TOOLS.

After the hole has been drilled to the depth required for the first string of well casing, the drill pipe is withdrawn from the hole and the casing set, after which drilling is resumed as outlined above.

The number of strings of well casing necessary depends on the size and depth of hole. For territories up to 2,000 feet two strings should be sufficient and in no case should exceed three. 8" being used up to 1,800 feet to cut off possible water and 6" for the balance. For territory up to 3,500 feet three strings should be sufficient, 10" being used up to 2,000 feet or 2,500 feet, 8 $\frac{1}{4}$ " being used up to 3,000 feet and 6" to 3,500 feet, in no case to exceed four strings.

In territory over 3,500 feet four strings of casing should be used, 12 $\frac{1}{2}$ " to 1,800 or 2,000 feet, 10" to 3,000 feet, 8 $\frac{1}{4}$ " to 3,500 feet and 6" for balance.

When surface formation is soft, 100 to 200 feet of conductor pipe should be used of 15" to 16" casing which can be pulled out after the second string is set. The same conductor pipe can be used on several wells.

Advantages of the Parker Rotary System

The main advantages of the PARKER ROTARY SYSTEM of drilling are many.

First—SPEED

The time necessary for drilling a well with the rotary is about ONE-HALF as compared with the standard tool or percussion method in the United States and Mexico, and about ONE-QUARTER as compared with the Galician and Canadian pole tool rigs as used in Europe, Asia and Africa.

Second—SAVING OF PIPE

The saving of pipe over the standard or percussion method is practically FIFTY PER CENT. In percussion drilling when sticky gumbo or quick-sand formation is encountered it is practically impossible to carry the well casing along with the tools without the same becoming fast or freezing. This necessitates another string of pipe.

Third—CONTROL

Absolute and direct control of pipe is obtained by the driller at all times. ALL CONTROL LEVERS ON OUR MACHINERY ARE IN ONE PLACE.

Fourth—GAS PRESSURE

The rotary method is the only practical and safe process for the absolute control of wells when heavy gas pressure is encountered. Heavy mud and water is pumped into the well, allowing the gas to escape gradually in the return of fluid on the outside of the drill pipe. The PARKER IMPROVED BLOW-OUT PREVENTER has saved hundreds of wells. (See page 110.)

Fifth—SHIFTING FORMATION

Shifting sand and quick-sand are easily controlled by the rotary process by mudding up the walls of the holes as fast as drilled. THIS CANNOT BE DONE WITH STANDARD OR PERCUSSION TOOLS.

Sixth—HARD ROCK AND BOULDERS

Special rock bits and core barrels are now made for drilling in the hardest formation, solid rock, etc. Almost as good time can be made with these special bits as with the ordinary fish-tail or diamond point bits.

Seventh—VARIED SIZES OF DRILLING OUTFITS

You can secure a PARKER ROTARY DRILLING OUTFIT especially adapted to any territory, whether the same be shallow or extra deep. Our 20" PARKER MOGUL DRILLING OUTFIT (see page 10), is the largest manufactured in the world today, capable of drilling to any depth up to 5,000 feet. Our 20" MOGUL JR. DRILLING OUTFIT (see page 18) for territories up to 3,500 feet. Our 16" PARKER SPECIAL OUTFIT (see page 20) for territory up to 2,500 feet. Our 14" PARKER REGULAR OUTFIT (see page 20) for territory up to 1,500 feet.

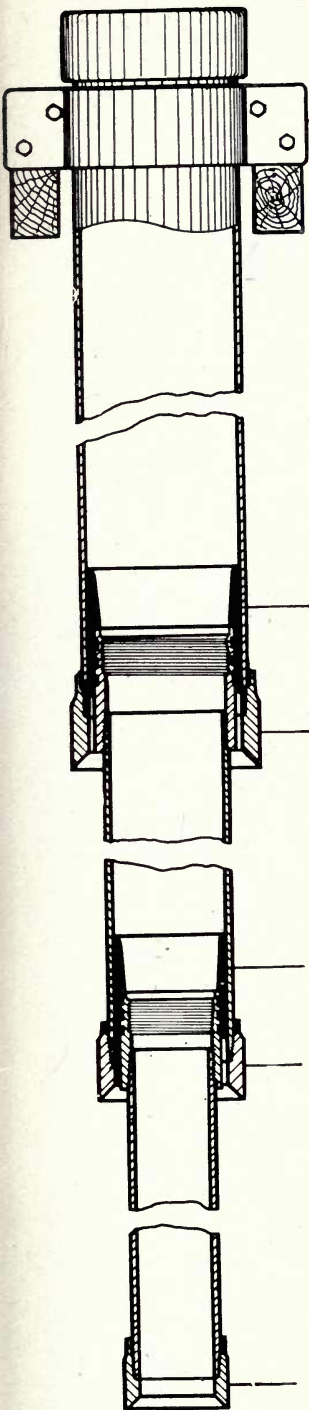
In other words, the operator can secure a PARKER ROTARY DRILLING OUTFIT for any territory, exactly suited to his requirements, ranging in depth from 500 to 5,000 feet.

Conclusion

The concensus of opinion among oil engineers is that the PARKER ROTARY SYSTEM IS THE OIL-BORING SYSTEM OF THE FUTURE. That it is a time-saver has been proven time and time again in the oil fields of the world. If six months is saved on a well, the production during that period will doubly repay the cost of the initial outfit and you still retain your drilling outfit. There are PARKER ROTARIES doing duty today that are four and five years old. (Complete records sent on request.) We have PARKER MOGUL ROTARIES in use in California today that are on their fourth and fifth hole with LESS THAN \$100.00 TOTAL UPKEEP EXPENSE.

We court investigation. Send us or our nearest representative a copy of the log of your last well, and a complete specification covering your requirements will be sent by return of post.

Saving of Pipe



CASING CLAMP

The illustrations on this page are shown for the purpose of bringing to the attention of producers the marked advantages obtainable in the use of the PARKER rotary system of boring, by reducing, in the method shown, the quantity of pipe required and used in most instances in other methods of drilling to finish a well.

Lead seals as illustrated and the tools for setting same makes a perfectly tight joint in every case and reduces the quantity to a minimum, possible only by using the rotary system of boring, which method does not require, except in rare instances,

LEAD SEAL

the setting of casing until the hole is nearly completed, but when it does require it, these

DRIVE SHOE

illustrations show the saving in pipe, by the rotary system.

The boring of a hole large enough to permit of rapid setting of casing without driving of pipe greatly reduces the weight and cost of pipe required in other methods of drilling, in

LEAD SEAL

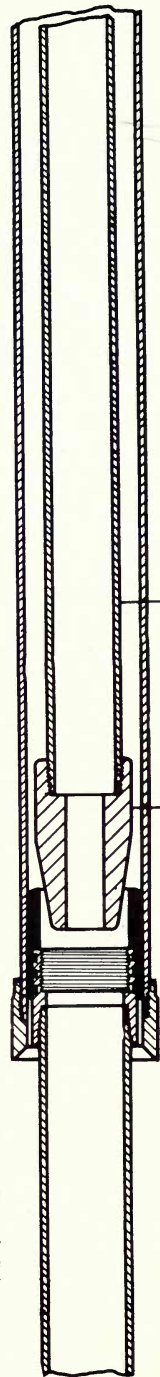
addition to the saving of time required in driving, under-

DRIVE SHOE

reaming and keeping the casing moving, so prevalent in the percussion method of drilling bore holes.

See pages 3 and 4 in regard to number of strings of pipe to be used. We do not recommend the use of lead seals in the manner shown where extremely heavy gas pressure prevails.

DRIVE SHOE



PIPE STEM

SWEDGE

Instructions for Ordering

Shipping

Always state number and size of machine when ordering either complete article or parts.

Always give complete shipping and billing instructions. If no routing is specified, we will ship by freight over the quickest route.

On export orders, positive and clear description of how goods are to be marked should accompany all orders, also state shipping agent, if any, and where invoice and shipping documents should be sent, also number of copies required.

In ordering slide tongs, pipe tongs, elevators, drive or rotary shoes and water head bushings, the various sizes and thread of pipe to be used should first be decided, and identical sizes in above material should be ordered, as they are absolutely necessary for the proper handling of pipe. Always state number of threads per inch.

In ordering rotary bits, for best results, three to four inches of clearance should be allowed for the conductor pipe. After conductor pipe is set two inch clearance is sufficient.

In estimating quantities of bits to be ordered, one bit to every 200 feet is sufficient, and if the formation is hard one bit to every 150 feet. No less than two bits of any size should be ordered to permit dressing and tempering without cessation of work. Bits should be ordered for every size pipe used.

Pipe

In ordering pipe to be set into the well, ten threads to the inch should be specified, as it has been proven in the various oil fields of the United States, especially in California and Mexico that this size thread makes the most satisfactory connection for pipe that is permanently set.

Rotary drill pipe should always be iron, with eight threads to the inch. This size thread is best adapted for the work, due to constant screwing and unscrewing of pipe.

Lists on pipe are not published in this catalogue, due to constant market fluctuations.

Recommendations

If territory is extra hard and deep our EXTRA HEAVY 20" PARKER MOGUL outfit is the best possible outfit to buy. Rock, packed sand, shell or conglomerate are nothing to be feared, as patent bits are now made to cut same almost as quickly as ordinary formation.

Our 20" PARKER MOGUL ROTARY is the only machine to give absolute satisfaction in the oil fields of California where hard formation and deep wells prevail. This machine is guaranteed to drill a well to 5,000 feet.

For shallower territory, our 20" PARKER MOGUL JUNIOR ROTARY outfit is recommended. This is an exact duplicate of the MOGUL outfit, except that it is lighter.

We wish to impress on drilling operators the importance of buying their initial outfits complete, especially if drilling is in isolated localities, as a few extra parts are very cheap insurance, when the expense of a shut-down is considered.

Export

We recommend American drillers with all initial outfits. Capable and experienced drillers will be obtained for our patrons free of charge. Especial care is taken to secure steady and reliable men.

NOTE—We would kindly request operators to use part numbers as given herein when ordering repairs. This will absolutely insure your receiving the proper part.

20-inch Parker Mogul Extra Heavy Drilling Outfit

The material listed below is the LARGEST, STRONGEST and HEAVIEST ROTARY WELL-BORING OUTFIT MANUFACTURED IN THE WORLD. Will drill any size hole up to 20" in diameter, to any depth up to 5,000'. Smallest size pipe rotary will handle 2½", largest size 18". Largest bit through rotary 20". Total weight 65,000 pounds approximately.

Quantity	Part No.	Description	Weight
1	A 400	20" MOGUL Type, Cone Bearing PARKER Rotary with Screw Wrenches, four extra Spacing Washers and two Quick-opening Wrenches and Self-oiling Cones.	7,300
1	B 300	Heavy Hoisting Drum, PARKER MOGUL Type, 6" Shaft, including Clutch, Sprockets, Bearing Boxes, Set Collar, Brake Levers and Bolts, double 8" Brake Bands, wood lagged, with Quick-hoist Attachment.	6,000
1	C 300	3½ x 12' PARKER MOGUL Line Shaft complete, with Bearings, Set Collar, Sprockets, Cat Heads, Post Bolts and Keys and extra Quick-hoist Sprocket.	2,200
3	B 307	Oak Posts, framed, for setting up Drum and Line Shaft.	700
2	E 300	5" PARKER MOGUL Type, Loose Bail, Long Cone Hydraulic Swivels with Spanner Wrench.	1,450
2		Pieces 2½" x 6-Ply PARKER Rubber Rotary Drilling Hose, wire wrapped, length each 30 ft.	192
2		Sets 2½" PARKER Hose Couplings and Clamps.	34
1		Piece 1¼" x 4-Ply x 25', Long Rubber Hose (not wired), for washing Derrick Floor, including Nozzle and Clamps.	22
5	J 123	20" Diameter, Cast Iron Crown Block Pulleys, with Steel Shafts, tread of pulleys machined for Wire Rope.	700
1	J 101	10" Structural Steel Crown Block for Derrick Top, less pulleys.	900
1	K 400	PARKER MOGUL 44" 4-Sheave Extra Heavy Bronze Bushed, Self-oiling, Steel Frame Hoisting Block.	2,000
1		4" Round Iron Strapped "C" Hook.	150
1		6" Round Iron Double Swivel Drilling Hook.	425
1		15-pound S. R. Hook for Cat Line.	15
1	G 200	12 x 12 — 30 Horsepower PARKER MOGUL Standard Oil Country Drilling Engine (Stripped), fitted with Sprocket, instead of Belt Pulley.	3,400

20-inch Parker Mogul Extra Heavy Drilling Outfit
(Continued)

Quantity	Part No.	Description	Weight
1	X 100	Set of Irons, including Shaft, Bearing Boxes, Driving Sprocket, Set Collar and Blades for Mud Mixer	
1		(exclusive of wood box).	607
1		2½" Steel Slide Tong, extra heavy.	45
1		4" Steel Slide Tong, extra heavy.	105
1		6" Steel Slide Tong, extra heavy.	125
1		8" Steel Slide Tong, extra heavy.	143
1		10" Steel Slide Tong, extra heavy.	140
1		12" Steel Slide Tong, extra heavy.	158
		Depends on Pipe used. See instructions for ordering.	
1		Set (2) 4" FAIRS MANNINGTON Extra Heavy Elevators.	350
1		Set (2) 6" FAIRS MANNINGTON Extra Heavy Elevators.	600
1		Set (2) 8" FAIRS MANNINGTON Extra Heavy Elevators.	740
1		Set (2) 10" FAIRS MANNINGTON Extra Heavy Elevators.	850
1		Set (2) 12" FAIRS MANNINGTON Extra Heavy Elevators.	960
		Depends on Pipe used.	
1		No. 13 Vulcan Flat Type Chain Tongs.	16
2		No. 14 Vulcan Flat Type Chain Tongs.	58
2		No. 15 Vulcan Flat Type Chain Tongs.	98
2		No. 16 Vulcan Flat Type Chain Tongs.	260
1		Set GUIBERSON-MILLS Tongs complete, with handle;	
		Jaws for 4", 6", 8¼", 10" and 12½" Pipe.	625
		Jaws depend on Pipe used.	
2		6 x 4" Swivel Bushings, Forged Steel.	60
2		6 x 5" Swivel Bushings, Forged Steel.	70
2		6 x 8" Crucible Cast Steel Water Head Bushings.	86
2		6 x 10" Crucible Cast Steel Water Head Bushings.	104
2		6 x 12" Crucible Cast Steel Water Head Bushings.	150
		Depends on Pipe used. See instructions for ordering.	
		The Swivel Bushings are for connection to drill stem, the water heads for setting casing.	
1		4" Tool Steel Saw Tooth Rotary Shoe.	20
1		6" Tool Steel Saw Tooth Rotary Shoe.	27
1		8" Tool Steel Saw Tooth Rotary Shoe.	47
		These Shoes are for going over pipe when stuck, from a twist off, or when necessary to remove casing that cannot otherwise be pulled.	
1		4" Soft Steel Drive Shoe.	5
1		6" Soft Steel Drive Shoe.	18
1		8" Soft Steel Drive Shoe.	35
1		10" Soft Steel Drive Shoe.	91
1		12" Soft Steel Drive Shoe.	90
		Depends on Pipe used. See instructions for ordering.	
2		3⅞ x 2½" Shank, Tool Steel Fish-Tail Rotary Bit.	24
4		5⅞ x 4 " Shank, Tool Steel Fish-Tail Rotary Bit.	80

20-inch Parker Mogul Extra Heavy Drilling Outfit (Continued)

Quantity	Part No.	Description	Weight
6		7 $\frac{7}{8}$ x 4" Shank, Tool Steel Fish-Tail Rotary Bit.	300
6		9 $\frac{7}{8}$ x 4" Shank, Tool Steel Fish-Tail Rotary Bit.	390
6		11 $\frac{7}{8}$ x 6" Shank, Tool Steel Fish-Tail Rotary Bit.	672
6		12 $\frac{3}{8}$ x 6" Shank, Tool Steel Fish-Tail Rotary Bit.	720
4		16 x 6", to Set 12 $\frac{1}{2}$ " Conductor Pipe.	560
4		17 x 6", to Set 13 $\frac{1}{2}$ " Conductor Pipe.	640
4		20 x 6", to Set 15 $\frac{1}{2}$ " Conductor Pipe.	800
		Size depends on Pipe to be set in well. See instructions for ordering.	
		In hard drilling, Bits, 11 $\frac{7}{8}$ " and larger, should have 6" shank. All Bits made $\frac{1}{8}$ " smaller than diameter of Pipe in which they are to run.	
2		4 x 4 x 18" Long Steel Drilling Collars for 4" Bit Shank, 4" Stem.	120
2		6 x 4 x 18" Long Steel Drilling Collars for 4" Bit Shank, 6" Stem.	210
2		6 x 6 x 18" Long Steel Drilling Collars for 6" Bit Shank, 6" Stem.	150
50		6" Tool Joints.	2,000
100		4" Tool Joints.	7,500
40		Ft. No. 103 Malleable Detachable Chain for Mud Mixer.	226
40		Ft. No. 525 Chabelco Steel Roller Chain, Line Shaft to Rotary and Quick Hoist.	400
40		Ft. No. 2061 Chabelco Steel Roller Chain, Engine to Line Shaft.	320
20		Ft. No. 2053 Chabelco Steel Roller Chain, Line Shaft to Drum.	440
300		Ft. 1 $\frac{1}{4}$ " Manila Rope for Cat Head Line.	150
1150		Ft. $\frac{7}{8}$ " x 19 Wire, Crucible Steel Rope for Hoisting Line.	1,400
3000		Ft. $\frac{9}{16}$ " x 7 Wire Crucible Steel Bailing Line. (Depends on ultimate depth of well.)	1,500
6		$\frac{7}{8}$ " Wire Rope Clips.	20
6		$\frac{9}{16}$ " Wire Rope Clips.	15
1	L100	4" PARKER Releasing Spear, with trip device.	105
1	L200	6" PARKER Releasing Spear, with trip device.	250
1		10" Overshot to catch 6" Pipe.	
2	H200	10" x 5 $\frac{3}{4}$ " x 12" PARKER MOGUL Duplex, 8 Valve Pumps, with improved extra heavy water ends. See Description page 73.	8,000
1		40 Horsepower Oil Country Type Boiler, Mounted, complete, with regular fixtures.	10,000
1		4 $\frac{1}{2}$ " x 2 $\frac{3}{4}$ " x 4" Duplex Pump for Boiler Feed or Gathering Water.	260
1		4" Top and Bottom Bailer.	50
1		6" Top and Bottom Bailer.	85

Fittings to Connect Up Pumps and Engines

Quantity	Part No.	Description	Weight
1	V100	PARKER VALVE TRAP, 2½" Hose.	185
2		PARKER 200-pound Pressure Gauges.	4
2		Plain Oil Country Pump Lubricators.	5
1	GA100	PARKER 2-Quart Oil Country Engine Lubricator.	50
2		2" Brass Washer Iron Plug Cocks.	24
2		3" I. B. Brass Mounted Gate Valves.	50
1		1" Brass Plug Cock for Derrick Hose Connection.	3
4		2" Extra Quality Flange Unions.	48
2		2½" Extra Quality Flange Unions.	20
6		1" x 4" Plain Nipples.	6
12		2" x 6" Plain Nipples.	21
6		2½" x 6" Plain Nipples, 8-Thd.	17
10		3" x 6" Plain Nipples, 8-Thd.	33
3		3" x 10" Plain Nipples, 8-Thd.	15
2		4" x 3" Swedge Nipples.	12
2		6" x 5" Swedge Nipples.	24
2		Pieces 2½" x 10' Exhaust Pipes.	100
2		Pieces 6" Pump Suction Pipe, 10' Long.	100
200		Ft. 2" Pipe for Steam Connections.	370
200		Ft. 1" Pipe.	
40		Ft. 2½" Pipe for Derrick Hose Standpipes.	220
12		2" Elbows, Cast Iron.	48
6		2½" Elbows, Cast Iron.	30
6		3" Elbows, Cast Iron.	40
2		6" Elbows, Cast Iron.	64
2		6" Foot Valves for Pump Suction.	90
2		2½" Iron Body Quick Opening Gate Valves.	78
6		2" Brass Globe Valves, Steam Connections.	40
12		2" Tees, Cast Iron.	60
12		2" Plugs, Cast Iron.	6
1	Z100	PARKER IMPROVED BLOW-OUT PREVENTER, COMPLETE with 4" and 6" Slips for Drill Stem and two sizes Pipe Flanges, 12½" and 10".	1,600
1		8" Extra Flange. For blowout preventer.	
1		6" Extra Flange. For blowout preventer.	
2		6" Iron Body Gate Valves, for closing overflow of Preventer.	250
2		Joints 6" Pipe, for overflow discharge of Preventer, 8 Threads.	740
2		6" Plain Nipples, 8 Threads.	10

Derrick Tools and Appliances

Quantity	Part No.	Description	Weight
2		15" Monkey Wrenches.	5
2		18" Stillson Wrenches.	8
2		24" Stillson Wrenches.	32
1		36" Stillson Wrenches.	20
1		8-pound Sledge and Handle.	10
4		Long Handle Round Point Shovels.	8
2		Special Mud Mixing Hoes.	
1		75' Chesterman Measuring Tape.	1
1		Derrick Telegraph Wheel.	12
1		Wire Telegraph Cord.	1
20		Ft. $\frac{3}{8}$ " Pipe for Engine Reverse Lever.	17
1		7 Point Hand Saw.	
1		24" Level.	13
1		24" Steel Square.	3
4		Hand Cold Chisels.	16
2		Cape Chisels.	4
1		Derrick Hatchet.	4
1		Single Blade Axe and Handle.	10
6		12" Half Round File.	2
6		12" Flat Bastard File.	2
4		2-pound Ball Pein Hammers.	8
4		Derrick Lamps (not necessary if electric lighted).	90
20		Pounds Derrick Lamp Wicking.	20
25		Pounds Graphite for Pipe Joints.	25
1		1" to 2" Ratchet Stock and Die.	30
1		2 $\frac{1}{2}$ " to 4" Ratchet Stock and Die.	100
1		No. 2 Barnes' 3-Wheel Pipe Cutter, Cuts $\frac{1}{2}$ " to 2" Pipe.	13
1		No. 3 Barnes' 3-Wheel Pipe Cutter, Cuts 1 $\frac{1}{2}$ " to 3" Pipe.	25
1		No. 3 Combination Bench and Pipe Vise (1" to 4").	100
1		10" Iron Snatch Block.	23
2		B. S. Fullers, top and bottom.	8
1		250-pound Anvil.	250
1		No. 4 Star Blower.	100
2		14 lb. Sledges and Handles.	28
1		Pr. S. L. B. S. Tongs.	4
1		Pr. C. L. B. S. Tongs.	4
1		Pr. Bit Tongs.	8
1		20-Ton Ratchet Jack.	125
1		B. S. Drill Press.	125
1		Set Drills, $\frac{1}{8}$ ", $\frac{1}{4}$ ", $\frac{3}{8}$ ", $\frac{1}{2}$ ", $\frac{5}{8}$ ", $\frac{3}{4}$ ", 1".	10

Extra 10" x 5 $\frac{3}{4}$ " x 12" Mogul Pump Parts

It is desirable to order the extra parts listed herewith when drilling is contemplated in isolated localities. If not, the same can be secured from nearest agency. We recommend the following quantities on initial export orders:

Quantity	Part No.	Description	Weight
200		Pounds $\frac{1}{2}$ " Square, Special Hydraulic Pump Piston Packing.	200
25		Pounds $\frac{3}{8}$ " Square Flax Packing.	25
25		Pounds Loose Hemp Packing.	25
2 $\frac{1}{2}$	H 107	Pounds Assorted Cut to Size Gaskets, Steam End.	2 $\frac{1}{2}$
12		Assorted Stud Bolts.	6
2	H 119	Steam Chest Glands.	12
2	H 138	Piston Rod Stuffing Boxes.	8
4	H 147	Cross Heads.	40
4	H 148	Jam Nuts for Piston Rod Crossheads.	3
2	H 150	Steam Inlet Flange.	12
2	H 159	Steam Exhaust Flange.	8
2	H 171	Steam Valve Stem Forks.	2
2	H 172	Steam Valve Stem Bolts.	1
2	H 174	Steam Valve Stem Links.	6
4	H 191	Upper Rocker Shafts.	32
4	H 192	Long Rocker Arms.	48
4	H 193	Rocker Shaft Keys.	2
4	H 194	Lower Rocker Shafts.	32
4	H 195	Short Rocker Arms.	36
6	H2205	5 $\frac{3}{4}$ " Removable Water Cylinder Liners.	300
5	H2210	Pounds Assorted Cut to Size Gaskets, Water End.	5
6	H2219	5 $\frac{3}{4}$ " Water Piston Heads.	60
6	H2220	5 $\frac{3}{4}$ " Water Piston Supporting Packing Rings.	12
6	H2221	Half Type Steel Piston Rods.	90
12	H2222	Brass Nuts for Piston Rod.	6
6	H2224	5 $\frac{3}{4}$ " Water Piston Followers.	33
4	H2231	Piston Rod Glands.	20
2	H2250	Side Pot Valve Top Covers.	16
24	H2265	Brass Valve Seats.	35
100	H2266	Rubber Valves.	100
16	H2267	Valve Plate.	3
24	H2268	Brass Valve Springs.	2
24	H2271	Ductile Steel Valve Stems.	24
4	H2277	Crowfeet.	48
2	H2278	Water Cylinder Heads.	60
2	H2280	Suction Flange.	24
2	H2281	Discharge Flange.	28

Extra 20" Parker Mogul Rotary Parts

Quantity	Part No.	Description	Weight
2	A 437	Rotary Screws. (With Center Nuts welded on.)	85
2	A 438	Adjusting Screw Nut (right-hand.)	80
2	A 439	Adjusting Screw Nut (left-hand.)	80
1	A 443	Set of (4) Tool Steel Grip Rings.	400
1	A 465	Rotary Pinion.	115
1	A 479	Rotary Clutch.	65
1	A 493	Rotary Clutch Sprocket.	125

Extra 3 $\frac{5}{8}$ " Parker Mogul Line Shaft Parts

Quantity	Part No.	Description	Weight
1	C 305	Thirty-Tooth 103 Sprocket.	330
6	C 306	Extra Keys.	6
1	C 308	Twenty-four-Tooth 1030 Sprocket.	225
1	C 314	Eleven-Tooth 1240 Sprocket.	110
1	C 327	Twelve-Tooth 103 Mud Mixer Drive Sprocket.	69
1	G1271	Fifteen-Tooth Sprocket for Engine.	102

Extra Chain and Chain Tong Parts

Quantity		Description	Weight
40	Ft. No. 525	Chabelco Steel Roller Chain, Rotary Drive.	400
20	Ft. No. 103	Ductile Steel Bolted Chain.	110
40	Ft. No. 2061	Chabelco Steel Roller Chain, Engine Drive.	320
20	Ft. No. 2053	Chabelco Steel Roller Chain for Drum.	440
2	No. 13	Flat Chains for Vulcan Tongs.	10
2	No. 14	Flat Chains for Vulcan Tongs.	14
2	No. 15	Flat Chains for Vulcan Tongs.	26
2	No. 16	Flat Chains for Vulcan Tongs.	78
2	Set (2) each No. 13	Vulcan Chain Tong Jaws.	5
2	Set (2) each No. 14	Vulcan Chain Tong Jaws.	6
2	Set (2) each No. 15	Vulcan Chain Tong Jaws.	8
2	Set (2) each No. 16	Vulcan Chain Tong Jaws.	10

Extra Parts for Parker Spears

Quantity	Part No.	Description	Weight
1	L 107	4" Slips for Spear.	2
1	L 207	6" Slips for Spear.	3

Extra Rubber Hose

Quantity	Description	Weight
2	Pieces 2½" x 6-Ply x 30' PARKER Wire Wrapped Hose	192
2	Pieces 2½" Hose Clamps.	12
2	Pieces 2½" Hose Stems.	8
1	Pieces without couplings 1¼" x 25' 4-Ply Plain Derrick Hose.	18

Extra 5" Parker Mogul Swivel Parts

Quantity	Part No.	Description	Weight
1	E 306	Set (2) Alloy Steel, Ground Swivel Cone Plates.	50
1	E 307	Set (12) Alloy Steel Ground Swivel Cones.	12
1	E 314	Bottom Hose Stem Glands (Brass).	4
1	E 319	Set Outer Ball Races for Hose Stem.	2
1	E 321	Set of Hose Stem Balls (36 to set)	1
1	E 322S	Hose Stem with Center Ball Race.	47
1	E 327	Gooseneck Complete.	32
2		Bottom Swivel Bushing for 4" Drill Stem.	40
2		Bottom Swivel Bushing for 6" Drill Stem.	60

Extra Blow-Out Preventer Parts

Quantity	Part No.	Description	Weight
1	Z 114	Set Rubber Packing, 4" Slips.	10
1	Z 114	Set Rubber Packing, 6" Slips.	10

NOTE: When tool joints are used, one 5¾" and one 7¾" jaw for Guiberson-Mills Casing tongs should be ordered for the 4" and 6" sizes.

20-inch Mogul Jr. Drilling Outfit

There is very little difference between the Mogul and Mogul Jr. outfits, except as listed below, the only changes being in the rotary, drum, hoisting block, "C" hook, D. S. drilling hook and engine. This outfit will drill any size hole up to 20" in diameter up to 3,500 feet. Smallest size pipe rotary will handle 2½", largest, 18" O. D. Largest bit through rotary 20". Total shipping weight 55,000 pounds approximately.

Quantity	Part No.	Description	Weight
1	A500	20" MOGUL JR. Type, Cone Bearing PARKER Rotary with Screw Wrench, four Extra Spacing Washers and two Quick-opening Wrenches.	6,000
1	B400	MOGUL JR. Heavy Hoisting Drum, 5" Shaft, including Clutch, Sprockets, Bearing Boxes, Set Collar, Brake Lever and Bolts, double 8" wood lagged Brake Bands and Quick-hoist Attachment.	5,500
1	C300	3½" x 12' PARKER ROTARY LINE SHAFT, with Bearings, Set Collar, Sprockets, Cat Heads, Post Bolts and Keys (same as on MOGUL Outfit).	2,200
3	B407	Oak Post, framed, for setting up Drum and Line Shaft.	700
2	E300	5" PARKER MOGUL Type, Loose Bail, Long Cone Hydraulic Swivels, with Spanner Wrench.	1,450
2		Pieces 2½" x 6-Ply PARKER Rubber Rotary Drilling Hose, Wire Wrapped, length each, 30 ft.	192
2		Sets 2½" Hose Couplings and Clamps.	34
1		Pieces 1¼" x 4-Ply x 25 ft. Long, Rubber Hose (not wired), for washing Derrick Floor, including Nozzle and Clamps.	22
5	J123	20" Diameter, Cast Iron Crown Block Pulleys, with Steel Shafts, tread of pulleys machined for Wire Rope.	700
1	J101	10" Structural Steel Crown Block for Derrick Top, less pulleys.	900
1	K300	36" Sheave, Extra Heavy, Bronze Brushed Self-oiling, Steel Frame Hoisting Block.	1,700
1		3½" Round "C" Hook.	125
1		5" Round Iron Double Swivel Hook.	350
1		15-pound S. R. Hook for Cat Line.	15

20-inch Mogul Jr. Drilling Outfit—Continued

Quantity	Part No.	Description	Weight
1	G100	10½" x 12"—23 Horsepower Lucas Standard Oil Country Drilling Engine (Stripped), fitted with Sprocket, instead of Belt Pulley.	3,200
1	X100	Set of Irons, including Shaft, Bearing Boxes, Driving Sprocket, Set Collar and Blades for Mud Mixer (exclusive of wood box).	607

The balance of the 20" MOGUL JR. Outfit is identically the same as the MOGUL Outfit with the exception of the extra parts for the Rotary and Drum. The same quantity of extra parts for the MOGUL JR. Rotary and 5" MOGUL JR. Drum should be ordered, however, using MOGUL JR. part numbers.

This Outfit is recommended especially to contractors and oil operators who have hard formation to contend with and where transportation is a problem. While this outfit is lighter in weight than our MOGUL outfit, it is considerably stronger than the largest makes of other manufacturers. The weight is where it should be.

Parker Special Light Drilling Outfits

We list below our lightest outfits for shallow oil territory and water wells. The 16" Parker Special Rotary will accommodate pipe from 2½" to 12½" O. D. Largest bit 16". The 14" Parker Regular Rotary will accommodate pipe from 2½" up to 10" O. D. Largest bit 14". We show the various sizes of drums that can be used with either rotary. We recommend the 3⁷/₈" x 11' Parker Special line shaft with either rotary. The outfit shown below is generally used in the Texas and Louisiana fields.

Quantity	Part No.	Description	Weight
1	A100	14" Regular Type, Cone Bearing PARKER Rotary with Screw Wrenches, four extra Spacing Washers and two Quick-opening Wrenches. Self-Oiling.	2,500
OR			
1	A200	16" PARKER SPECIAL, Cone Bearing Rotary with Screw Wrench, four extra Spacing Washers and two Quick-opening Wrenches. Self-Oiling. NOTE: We recommend the 16" PARKER Special Rotary for all shallow drilling in oil territory up to 2,500 ft. and 14" PARKER Regular Rotary for water wells up to 1,500 ft.	3,500
1	B100	PARKER Regular Hoisting Drum, 3 ¹¹ / ₁₆ " shaft including Clutch, Sprockets, Bearing Boxes, Set Collar, Brake Levers and Bolts, single 6" Steel Brake Band.	2,500
OR			
1	B200	PARKER Special Hoisting Drum, 4 ³ / ₁₆ " Shaft, including Clutch, Sprockets, Bearing Boxes, Set Collars, Brake Levers and Bolts, single 8" Steel Brake Band.	3,500
OR			
1	B500	PARKER California Special Hoisting Drum 5" Shaft, including Clutch, Sprockets, Bearing Boxes, Set Collar, Brake Levers and Bolts with single 8" Steel Brake Band. NOTE: For territory 1,500 ft., to 2,500 ft., we recommend either the 4 ³ / ₁₆ " or 5" Shaft Drum. For territories up to 1,500 ft., we recommend 3 ¹¹ / ₁₆ " Shaft Drum. The 4 ³ / ₁₆ " and 5" Shaft Drums have No. 1240, twenty-seven-Tooth Clutch Sprocket. The 3 ¹¹ / ₁₆ " Shaft Drum has No. 1030, twenty-four-Tooth Clutch Sprocket. A No. 1240 twenty-four-Tooth Clutch Sprocket will be sent in place of No. 1030 upon request for 3 ¹¹ / ₁₆ " Drum. Bear the number of Sprocket in mind when ordering Drum Chain.	5,000

Parker Special Light Drilling Outfits—Continued

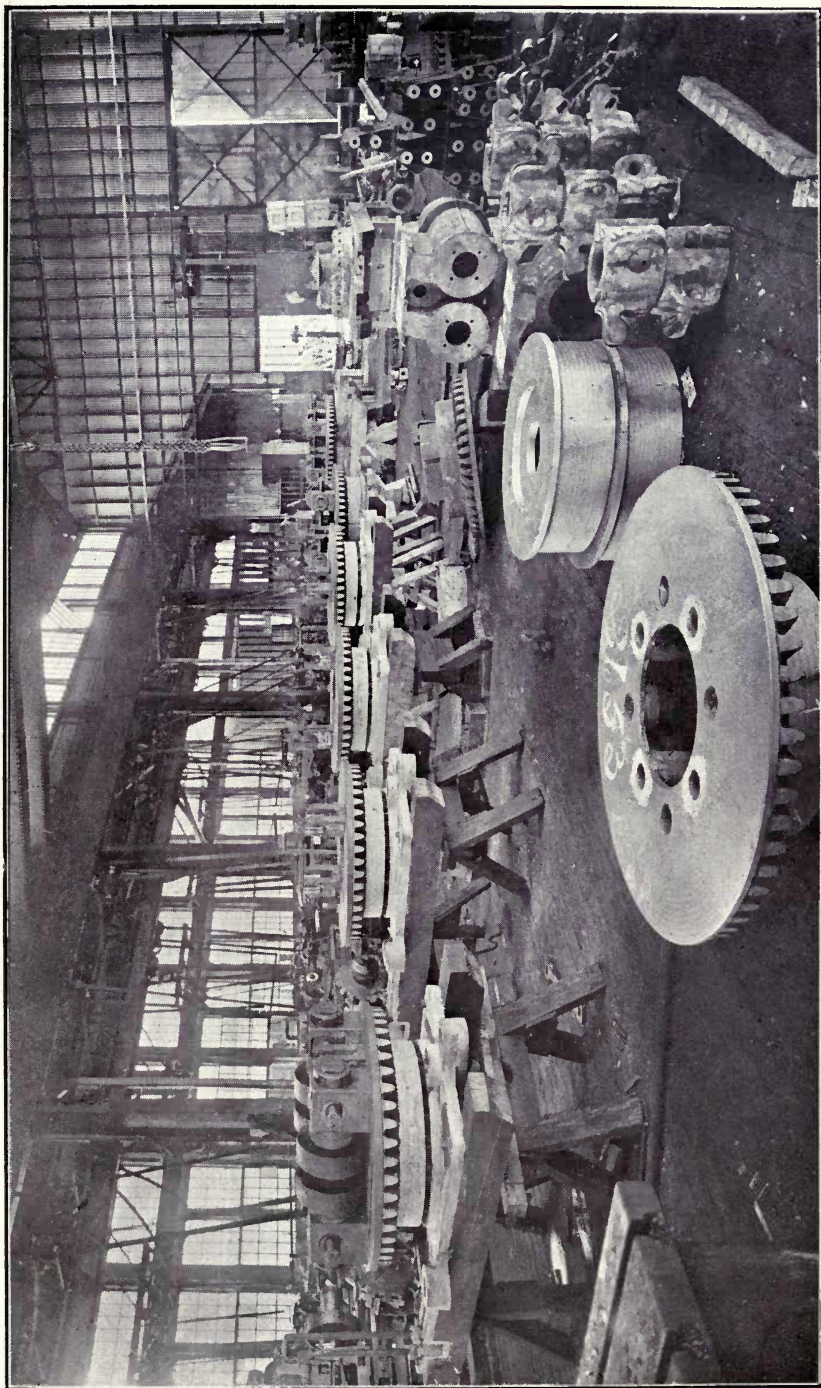
Quantity	Part No.	Description	Weight
1	C200	PARKER Special Rotary Line Shaft, $3\frac{7}{16}$ " x 11', with Bearings, Set Collars, Sprockets, Cat Heads, Post Bolts and Keys.	1,500
3	B510	Oak Posts, framed, for setting up Drum and Line Shaft.	1,000
2	E100	3" PARKER Regular Loose Bail Type, Long Cone Hydraulic Swivels, with Spanner Wrench.	750
2		Pieces 2" x 6-Ply, PARKER Rubber Rotary Drilling Hose, Wire Wrapped, Length each, 30 ft.	140
2		Sets 2" Hose Couplings and Clamps.	25
1		Pieces $1\frac{1}{4}$ " x 4-Ply x 25 ft., Rubber Hose (not wired), for washing Derrick Floor including Nozzle and Clamps.	25
5	J223	20" Diameter, Cast Iron Crown Block Pulleys, with Steel Shafts, tread of pulleys machined for Wire Rope.	700
1	J201	8" Structural Steel Crown Block for Derrick Top.	700
1	K300	36" 4-Sheave, Extra Heavy, Bronze Bushed Self-oiling Steel Frame Hoisting Block.	1,700
		OR	
1	K100	36" 3-Sheave, Extra Heavy, Bronze Bushed Self-oiling, Steel Frame Hoisting Block.	1,100
		NOTE: For Shallow Drilling up to 1,500 ft., we recommend the 3-Sheave Block. For territories 1500 to 2,500 ft., the 4-Sheave.	
1		3" Round Iron "C" Hook.	100
1		4" Round Iron Double Swivel Drilling Hook.	200
1		10-pound S. R. Hook for Cat Line.	10
1	G100	$10\frac{1}{2}$ " x 12"—23 Horsepower Lucas Standard Oil Country Drilling Engine (Stripped), fitted with Sprocket instead of Belt Pulley.	3,200
1	X100	Set of Irons including Shaft, Bearing Boxes, Driving Sprockets, Set Collars and Blades for Mud Mixer (exclusive of wood box).	600
2		4" x 3" Lower Swivel Bushing, Forged Steel.	30
2		6" x 4" Lower Swivel Bushing, Forged Steel.	40
40		Ft., No. 103 Malleable Detachable Chain.	175
40		Ft., No. 103 Ductile Steel Bolted Chain.	200
40		No. 1030 Malleable Bolted Chain.	325
20		No. 1240 Malleable Bolted Chain.	500

Extra 16" and 14" Parker Special and Regular Rotary Parts

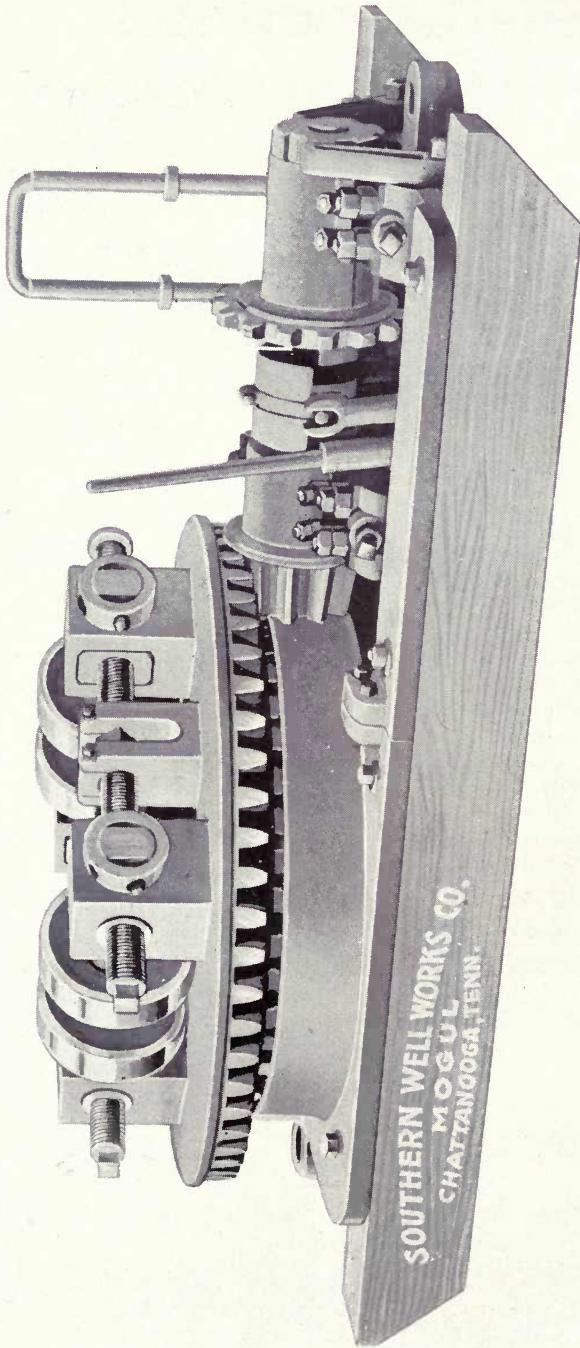
Quantity	Part No.		Description	Weight
	14"	16"		
2	A125	A225	Rotary Screws (with Center Nut Welded on).	70
2	A126	A226	Screw Adjusting Nuts (right-hand).	35
2	A127	A227	Screw Adjusting Nuts (left-hand).	35
1	A133	A233	Set of (4) Tool Steel Grip Rings.	250
1	A143	A243	Rotary Pinion.	85
1	A156	A256	Rotary Clutch.	65
1	A175	A275	Rotary Clutch Sprocket.	80

Extra 3 $\frac{7}{16}$ " Line Shaft Parts

Quantity	Part No.	Description	Weight
1	C205	Thirty-Tooth No. 103 Sprocket.	240
6	C206	Extra Keys.	5
1	C211	Twenty-four-Tooth No. 1030 Sprocket.	175
1	C214	Eleven-Tooth No. 1240 Sprockets (when using No. 1240 Sprocket on Drum).	40
1	C227	Twelve-Tooth No. 1030 Sprocket (when using No. 1030 Sprocket on Drum).	40
1	G1271	Fifteen-Tooth Sprocket for Engine. The balance of material necessary for rig, is practically the same as listed under the MOGUL Outfit. This is left to the judgment of the operator.	100



Rotary Assembling Department



20" Parker Mogul Rotary—The Largest Rotary in the World
(Patented)

Description of Mogul Rotary

Where the oil strata is found at a great depth or the formation hard, no machine can equal the 20" PARKER MOGUL ROTARY, the LARGEST, STRONGEST, HEAVIEST, and SIMPLEST rotary made, which is especially designed for deep drilling and hard formations.

Features

GRIPPING DEVICE

The grip rings are twelve inches in diameter and made of the TOUGHEST TOOL steel we can procure. SOLID MANDRELS of the full floating type, FIVE INCHES in diameter support the tool steel grip rings and are adjusted by MACHINE STEEL SCREWS THREE INCHES in diameter with right and left-hand Acme threads and center nut welded on. With our type of construction it is IMPOSSIBLE TO BEND OR BREAK THE SCREWS.

TABLE AND BASE

The table and base are made of TOUGH, CLOSE GRAINED SEMI-STEEL, the best material known for this class of machinery. The cone bearing raceways are ACCURATELY MACHINED TO GAUGE, as also the large cones, TO INSURE AN EQUAL DISTRIBUTION of the load.

The entire table top is machined flat, insuring at all times proper bearing for the gripping device.

The cone raceways are also equipped with a special oil box, PROVIDING CONTINUAL AND EVEN LUBRICATION OF CONES AT ALL TIMES.

BEARING BOXES

The bearing boxes are adjustable upwards, downwards and sideways, permitting the pinion to mesh perfectly with the table at all times. This is AN EXCLUSIVE PARKER FEATURE. Further, these boxes are of the split type, permitting easy access to the rotary shaft.

SPROCKET

Our rotary sprocket is made with a spiral lubricating groove in the bore securing at all times perfect lubrication. A removable plug in hub permits this groove to be packed with grease without trouble and each filling will last for a long time.

After considerable experimenting we have designed a new tooth which gives the maximum strength, and a comparison with other makes will show its manifest superiority.

LOCKING DEVICE

A locking device, simple and strong in construction, keeps the rotary table stationary when unscrewing pipe without the use of tongs or chains. THIS IS ON NO OTHER ROTARY.

CHAIN GUIDE

Workmen are protected from breaking chain by our improved chain guide, and furthermore it prevents "whipping" of chain when running at full speed.

BOLTS AND NUTS

All bolts, including the internal hold-down bolts, are equipped with double nuts and positive-acting lock washers; there is no danger of bolts becoming loose to require frequent tightening.

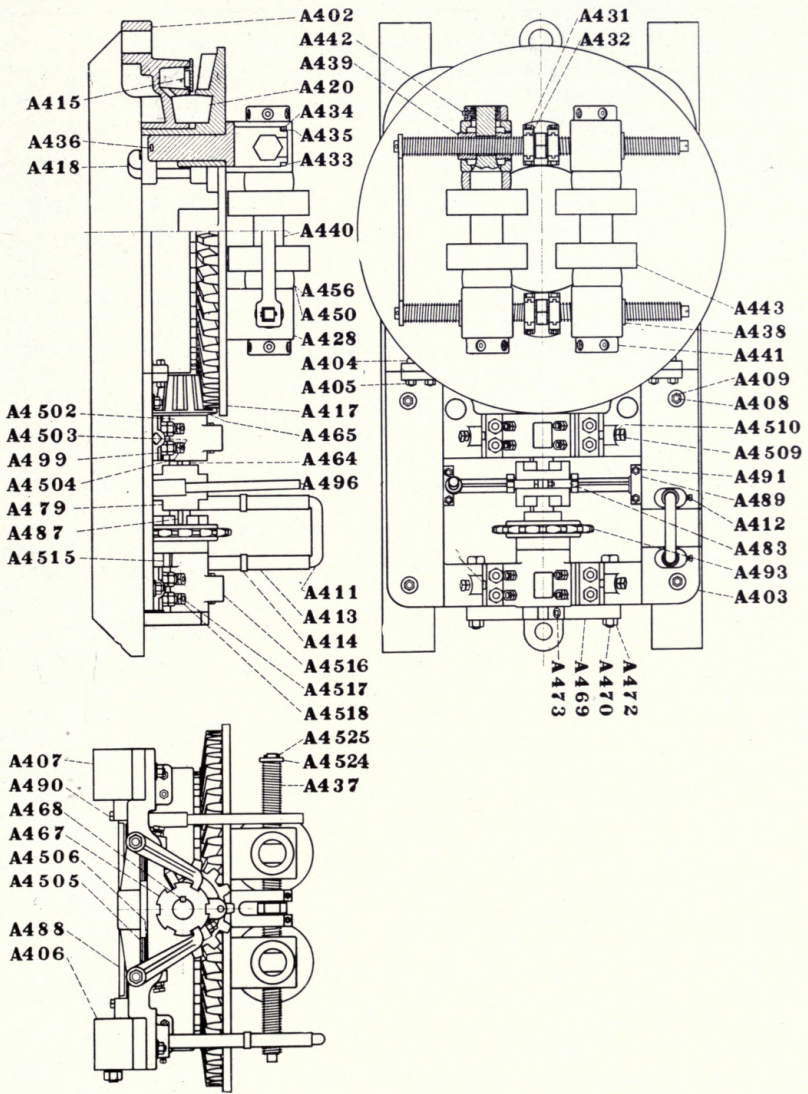
CLUTCH

Clutch is operated by a one-piece yoke lever, with removable handle. Clutch strap extends around clutch proper and has means for oiling same.

No detail that would add to strength, long life, or ease of control has been overlooked.

SPECIFICATIONS

Weight Complete.....	7300 lbs.
Overall Length.....	8' 4"
Overall Width.....	4' 9"
Height above Sills.....	2' 4"
Diameter of Grip Rings.....	12½"
Diameter of Mandrel.....	5"
Diameter of Screw.....	3"
Largest Bit.....	20"
Largest Pipe.....	18" O. D.
Smallest Pipe.....	2½"
Diameter of Table.....	4' 10"
Diameter of Pinion.....	12"
Diameter Rotary Shaft.....	3"
Diameter Rotary Sprocket.....	16"



Sectional View—20" Parker Mogul Rotary
(Patented)

Price List of Complete Parts

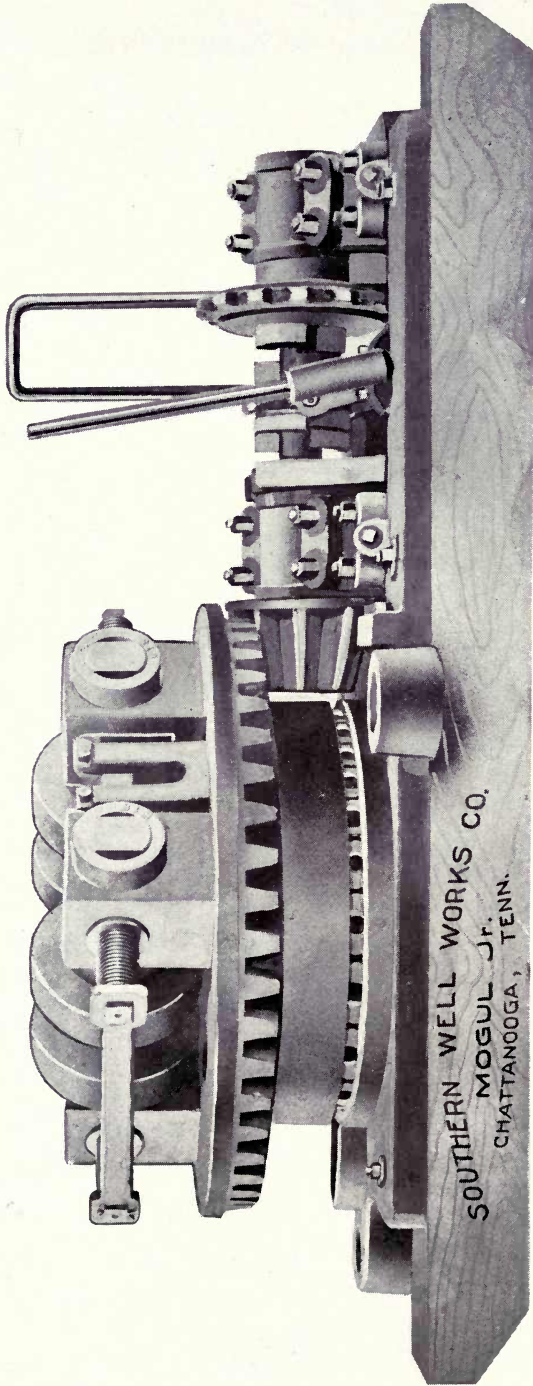
Part No.	Quantity	Name of Part	List, Each	Code
A 400		20" PARKER MOGUL ROTARY COMPLETE. Weight 7300 lbs.	\$835.00	ABACK
A 402	1	Table base	100.00	ABAF
A 403	1	Bearing base	50.00	ABASH
A 404	4	Base connection bolt . . . . .	.15	ABATE
A 406	1	Right-hand skid	16.50	ABATIS
A 407	1	Left-hand skid	16.50	ABATOR
A 408	8	Skid bolt . . . . .	.25	ABBA
A 411S	1	CHAIN GUIDE COMPLETE, composed of parts A411 to A414.	11.00	ABBE
A 411	1	Chain guide yoke	6.00	ABBOT
A 412	2	Chain guide yoke set screw . . . . .	.10	ABDUCE
A 413	4	Chain guide roller	1.00	ABEAM
A 414	2	Chain guide roller spacer . . . . .	.40	ABEAR
A 415	1	Oil well cover . . . . .	.85	ABED
A 417	1	Gear table	200.00	ABELE
A 418	4	Gear table hold-down bolt	4.00	ABET
A 420	20	Rotary bearing cone	4.00	ABHOR
A 428	4	Grip head	16.50	ABIDE
A 430	2	DRIVING POST COMPLETE, composed of parts A431 to A436.	41.50	ABLAUT
A 431	1	Driving post	33.25	ABLAZE
A 432	2	Driving post cap	4.00	ABLE
A 433	2	Driving post cap bolt . . . . .	.25	ABLY
A 436	1	Driving post cotter . . . . .	.20	ABOARD
A 437	2	Rotary screw with nut welded on	30.00	ABODE
A 438	2	Rotary screw right-hand nut	5.00	ABORT
A 439	2	Rotary screw left-hand nut	5.00	ABOUND
A 440	2	Mandrel	41.65	ABOUT
A 441	4	Mandrel collar	3.35	ABOVE
A 442	4	Mandrel collar set screw . . . . .	.10	ABRADE
A 443	4	Grip ring	25.00	ABREAST
A 450	4	4" spacing collar	3.35	ABRIDGE
A 451	4	1/4" spacing collar . . . . .	.25	ABROACH
A 452	4	1/2" spacing collar . . . . .	.25	ABROAD
A 456	4	6" spacing collar	3.35	ABRUPT
A 464	1	Rotary shaft	20.00	ABSENT
A 465	1	Rotary pinion	20.00	ABSINTH
A 466	1	Rotary pinion key . . . . .	.85	ABSORB
A 467	1	Locking collar	8.50	ABSTAIN
A 468	1	Locking collar key . . . . .	.75	ABSRUD
A 469	2	Locking dog	5.00	ABUSE
A 470	2	Locking dog fulcrum bolt . . . . .	.25	ABUT
A 471	2	Locking dog spacing collar . . . . .	.10	ABY

Price List of Complete Parts—Continued

Part No.	Quantity	Name of Part	List, Each	Code
A 472	2	Locking dog bolt nut.....	\$.25	ABYSS
A 473	2	Locking collar set screw.....	.10	ACCEDE
A 474	1	Rotary sprocket plug.....	.10	ACCENT
A 479	1	Rotary clutch.....	10.00	ACCESS
A 482	1	CLUTCH STRAP COMPLETE, composed of parts A483 and A492.....	16.00	ACCORD
A 483	2	Clutch strap.....	8.00	ACCOST
A 487	2	Clutch key.....	1.65	ACCOUNT
A 488	1	Clutch lever.....	16.50	ACCRUE
A 489	2	Clutch lever bearing cap.....	.85	ACHIEVE
A 490	4	Clutch lever bearing bolt.....	.15	ACID
A 492	2	Clutch strap bolt.....	.10	ACIDITY
A 493	1	Rotary sprocket.....	13.00	ACME
A 496	1	Clutch lever handle.....	1.65	ACNODE
A 498	1	PINION BEARING BOX COM- PLETE.....	25.00	ACOLYTE
A 499	1	Pinion bearing box.....	20.00	ACORN
A4502	1	Pinion bearing box cap.....	10.00	ACQUIRE
A4503	4	Pinion bearing box cap bolt.....	.15	ACQUIT
A4505	4	1/4" pinion bearing box liner.....	.50	ACRASY
A4506	4	1/8" bearing box liner.....	.50	ACRITES
A4507	8	Bearing box bolt.....	.50	ACRE
A4509	4	Bearing box adjusting screw.....	.85	ACRID
A4514	1	FRONT BEARING BOX COM- PLETE.....	25.00	ACRITA
A4515	1	Front bearing box.....	20.00	ACROBAT
A4516	1	Front bearing box cap.....	10.00	ACROGEN
A4517	4	Front bearing box cap bolt.....	.15	ACROSS
A4522	2	Quick opening wrench.....	3.35	ACT
A4523	1	Rotary screw wrench.....	5.00	ACTINIC
A4524	1	Locking bar.....	5.00	ACTION
A4525	2	Rotary screw cotter.....	.05	ACTIVE

Prices on bolts and screws include the necessary nuts and washers.

NOTE: Our present pinion and locking collar have no extended hub. If the extended hub style is desired for the older machines, please so mention.



20" Parker Mogul Jr. Rotary
(Patented)

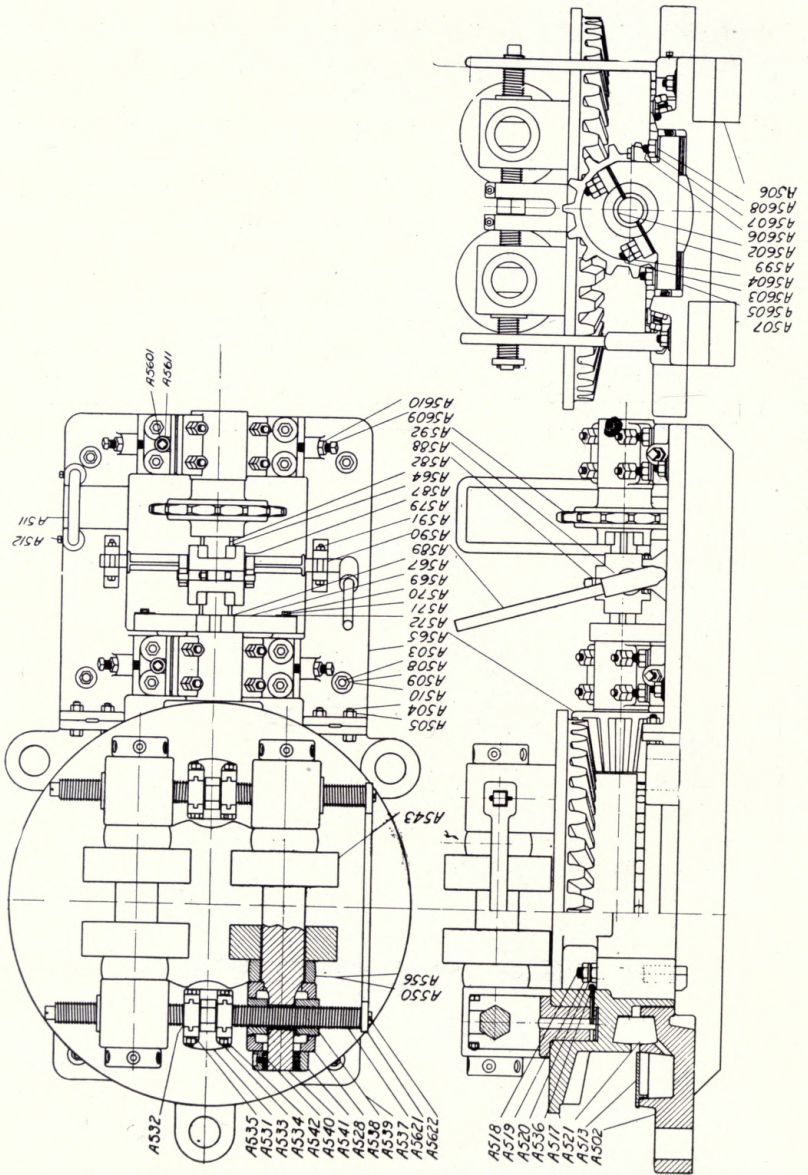
Description of Mogul Jr. Rotary

For wells up to 3,500 feet in depth, the 20" PARKER Mogul Jr. Rotary is the machine we always recommend. In every respect IT IS ESSENTIALLY A MOGUL, the only difference being that it is lighter in weight. All the features of the Mogul are incorporated into the Mogul Jr. and in addition it has CAPILLARY OILING BEARING BOXES. These boxes are ABSOLUTELY MUD-PROOF, free from projections and great SAVERS OF OIL.

SPECIFICATIONS

Weight Complete.....	6000 lbs.
Overall Length.....	7' 4"
Overall Width.....	4'
Height above Sills.....	2' 4"
Diameter of Grip Rings.....	12½"
Diameter of Mandrels.....	5"
Diameter of Screws.....	3"
Largest Bit.....	20"
Largest Pipe.....	18" O. D.
Smallest Pipe.....	2½"
Diameter of Table.....	3' 11"
Diameter of Pinion.....	12"
Diameter of Rotary Shaft.....	3"
Diameter of Rotary Sprocket.....	16"

We especially recommend this machine to contractors and operators where transportation is a problem, and who desire the STRONGEST ROTARY POSSIBLE. While this rotary is lighter in weight than our Mogul, it is considerably HEAVIER AND STRONGER THAN THE LARGEST OF OTHER MAKES.



Sectional View—Parker Mogul Jr. Rotary

Price List of Complete Parts

Part No.	Quantity	Name of Part	List, Each	Code
A 500		PARKER 20" MOGUL JR. ROTARY COMPLETE. Weight, 6,000 lbs.	\$670.00	ACTOR
A 502	1	Table base	65.00	ACUMEN
A 503	1	Bearing base	41.65	ACUTE
A 504	4	Base connection bolt .....	.25	ADAGE
A 506	1	Right-hand skid	16.00	ADAM
A 507	1	Left-hand skid	16.00	ADDAX
A 508	8	Frame bolt .....	.25	ADDER
A 511	1	Chain guide	5.00	ADDICT
A 512	2	Chain guide screw .....	.15	ADDUCE
A 513	1	Oil well cover .....	.25	ADEEM
A 517	1	Gear table	165.00	ADENOID
A 518	4	Gear table hold-down bolt	4.00	ADEPT
A 521	17	Rotary bearing cone	3.35	ADHERE
A 528	4	Grip head	16.50	ADHORT
A 530	2	DRIVING POST COMPLETE, composed of parts A531 to A536	41.50	ADIEU
A 531	1	Driving post	33.25	ADIPOSE
A 532	2	Driving post cap	4.00	ADJOIN
A 533	2	Driving post bolt .....	.25	ADJUDGE
A 536	1	Driving post cotter .....	.05	ADJUNCT
A 537	2	Rotary screw	28.00	ADJURE
A 538	2	Rotary screw right-hand nut	5.00	ADJUST
A 539	2	Rotary screw left-hand nut	5.00	ADMIRE
A 540	2	Mandrel	41.65	ADMIT
A 541	4	Mandrel collar	3.35	ADNATE
A 542	4	Mandrel collar screw .....	.10	ADOBE
A 543	4	Grip ring	25.00	ADORE
A 550	4	4" spacing collar	3.35	ADOWN
A 551	4	1/4" spacing collar .....	.25	ADRIFT
A 552	4	1/2" spacing collar .....	.25	ADRIP
A 556	4	6" spacing collar	3.35	ADROIT
A 564	1	Rotary shaft	16.65	ADULT
A 565	1	Rotary pinion	18.00	ADVENT
A 566	1	Rotary pinion key .....	.85	ADVERB
A 567	1	Locking collar	4.25	ADVERSE
A 568	1	Locking collar set screw .....	.05	ADVERT
A 569	2	Locking dog	3.00	ADVICE
A 570	2	Locking dog fulcrum pin .....	.10	ADZE
A 571	2	Fulcrum pin cotter .....	.05	AERIE
A 572	2	Fulcrum pin washer .....	.05	AERO
A 579	1	Clutch	8.50	AFAR

Price List of Complete Parts—Continued

Part No.	Quantity	Name of Part	List, Each	Code
A 582	1	CLUTCH STRAP COMPLETE, composed of parts A583 to A584	\$20.00	AFFECT
A 583	2	Clutch strap	8.00	AFFIANT
A 584	2	Clutch strap bolt . . . . .	.10	AFFIRM
A 587	2	Clutch key	1.65	AFFLICT
A 588	1	Clutch lever	16.50	AFFLUX
A 589	1	Clutch lever handle	1.65	AFFORD
A 590	2	Clutch lever bearing cap . . . . .	.85	AFFRAY
A 591	4	Clutch lever bearing cap bolt . . . . .	.15	AFFRONT
A 592	1	Rotary sprocket	12.00	AFFY
A 593	1	Rotary sprocket plug . . . . .	.10	AFFIRE
A 598	2	BEARING BOX COMPLETE, composed of parts A599 to A5605 and A5611	25.00	AFLAME
A 599	1	Bearing box	20.00	AFLOAT
A5600	2	Bearing box wicking . . . . .	.15	AFLUSH
A5601	3	Oil well plug . . . . .	.15	AFOOT
A5602	1	Bearing box cap	10.00	AFORE
A5603	4	Bearing box cap bolt . . . . .	.15	AFOUL
A5605	4	Bearing box liner . . . . .	.50	AFRAID
A5606	8	Bearing bolt . . . . .	.15	AFRESH
A5609	4	Bearing box adjusting screw . . . . .	.85	AFFRONT
A5611	1	Bearing box oiler . . . . .	.15	AFTER
A5612	2	Quick opening wrench	3.35	AGAMA
A5620	1	Rotary screw wrench	5.00	AGAPE
A5621	1	Rotary screw locking bar	5.00	AGED
A5622	4	Rotary screw cotter pin . . . . .	.05	AGENT

Prices on bolts include the necessary nuts, washers and cotters.



16" Parker Special Rotary (Patented)

Description of Parker 16-inch Special Rotary

For prospectors, where portability is a problem, for artesian well drilling and for general work in the southern United States oil fields, these machines are recommended.

Though lighter in construction than the Moguls, EVERY PART IS LIBERALLY PROPORTIONED, and the materials used are the same as on the larger machines. The same consistency of design is followed as on the Moguls and no feature that would lessen the efficiency has been omitted. Both machines are identical in design.

SPECIFICATIONS OF PARKER 16" SPECIAL

Weight Complete	3500 lbs.
Overall Length	7'
Overall Width	3' 4"
Height above Sills	22"
Diameter of Grip Rings	9"
Diameter of Mandrels	4"
Diameter of Screws	2 1/4"
Largest Bit	16 1/2"
Largest Pipe	12 1/2"
Smallest Pipe	2 1/2"
Diameter of Table	3' 4"
Diameter of Pinion	10"
Diameter of Rotary Shaft	2 1/4"
Diameter of Rotary Sprocket	13"

For Oil and Water Wells up to 2500 feet in depth.

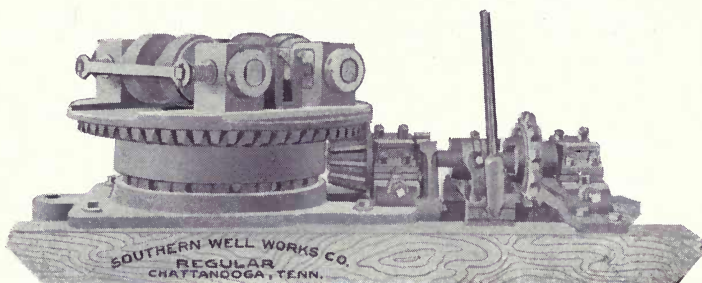
Price List of Complete Parts

Part No.	Quantity	Name of Part	List, Each	Code
A 200		PARKER 16" SPECIAL ROTARY COMPLETE. Weight, 3,500 pounds	\$500.00	AGILE
A 202	1	Base	58.00	AGLEAM
A 203	1	Oil well cover . . . . .	.25	AGLET
A 204	1	Right-hand skid	6.65	AGLOW
A 205	1	Left-hand skid	6.65	AGNAIL
A 206	4	Frame bolt . . . . .	.25	AGNATE
A 211	1	Gear table	100.00	AGOG
A 212	4	Gear table hold-down bolt	4.00	AGONE
A 215	14	Rotary bearing cone	3.35	AGONIZE
A 217	4	Grip head	12.00	AGOR
A 218	2	DRIVING POST COMPLETE, composed of parts A219 to A224	25.00	AGORAG
A 219	1	Driving post	18.50	AGOUTY
A 220	2	Driving post cap	4.00	AGREE
A 221	2	Driving post cap bolt . . . . .	.25	AGROUND
A 224	1	Driving post cotter . . . . .	.05	AGUE
A 225	2	Rotary screw	16.50	AGUISH
A 226	2	Rotary screw right-hand nut	5.00	AHEAD
A 227	2	Rotary screw left-hand nut	5.00	AHEM
A 230	2	Mandrel	27.00	AHOY
A 231	4	Mandrel collar	3.35	AHULL
A 232	4	Mandrel collar set screw . . . . .	.25	AID
A 233	4	Grip ring	16.65	AILMENT
A 235	4	4" spacing collar	3.35	AIMLESS
A 236	4	6" spacing collar	3.35	AIRBED
A 242	1	Rotary shaft	13.00	AIRBRAKE
A 243	1	Rotary pinion	8.35	AIRCELL
A 244	1	Rotary pinion key . . . . .	.75	AIRGUN
A 245	1	Locking collar	6.65	AIRHOLE
A 246	1	Locking collar set screw . . . . .	.15	AIRILY
A 247	2	Locking dog	3.35	AIRING
A 248	2	Locking dog fulcrum pin . . . . .	.60	AIRLESS
A 249	2	Fulcrum pin cotter . . . . .	.05	AIRPIPE
A 250	2	Fulcrum pin washer . . . . .	.05	AISLE
A 251	1	Locking collar key . . . . .	.75	AJARRY
A 256	1	Clutch	7.00	AJAR
A 258	1	CLUTCH STRAP COMPLETE, composed of parts A260 to A261 .	8.25	AKIMBO
A 260	2	Clutch strap	4.00	AKIN
A 261	2	Clutch strap bolt . . . . .	.15	ALACK
A 264	1	Clutch key . . . . .	.75	ALAMODE
A 265	1	Clutch lever	12.00	ALANINE
A 266	1	Clutch lever handle	1.00	ALARM

Price List of Complete Parts — Continued

Part No.	Quantity	Name of Part	List, Each	Code
A 270	2	CLUTCH LEVER BEARING COMPLETE, composed of parts A271 to A273.	\$.75	ALARMED
A 271	1	Clutch lever bearing box. ....	.40	ALARY
A 272	1	Clutch lever bearing box cap. ....	.30	ALAS
A 273	2	Clutch lever bearing box bolt. ....	.05	ALATE
A 275	1	Rotary sprocket.	7.50	ALBEIT
A 276	1	Rotary sprocket plug. ....	.10	ALBINO
A 280	2	BEARING BOX COMPLETE, composed of parts A281 to A283	10.00	ALBITE
A 281	1	Bearing box.	6.50	ALBUM
A 282	1	Bearing box cap.	3.50	ALCADE
A 283	4	Bearing box cap bolt. ....	.25	ALCOHOL
A 285	4	Bearing liner $\frac{1}{16}$ " thick. ....	.15	ALCOVE
A 286	4	Bearing box liner $\frac{1}{8}$ " thick. ....	.15	ALDER
A 287	4	Bearing box liner $\frac{1}{4}$ " thick. ....	.15	ALE
A 288	4	Bearing bolt. ....	.25	ALEMBIC
A 291	4	Bearing box adjusting screw. ....	.85	ALERT
A 293	1	Front bearing saddle.	6.65	ALGA
A 294	4	Saddle bolt. ....	.25	ALGATE
A 297	2	Quick opening wrench.	3.35	ALGEBRA
A 298	1	Rotary screw wrench.	5.00	ALGOUS
A 299	1	Locking bar.	5.00	ALIAS
A2300	2	Rotary screw cotter pin. ....	.05	ALIEN

Prices given on bolts include the necessary nuts and washers.



14" Parker Regular Rotary (Patented)

Description of 14-inch Parker Regular Rotary

Though this rotary is lighter in construction than the Parker 16" Special rotary, the design is the same in all respects.

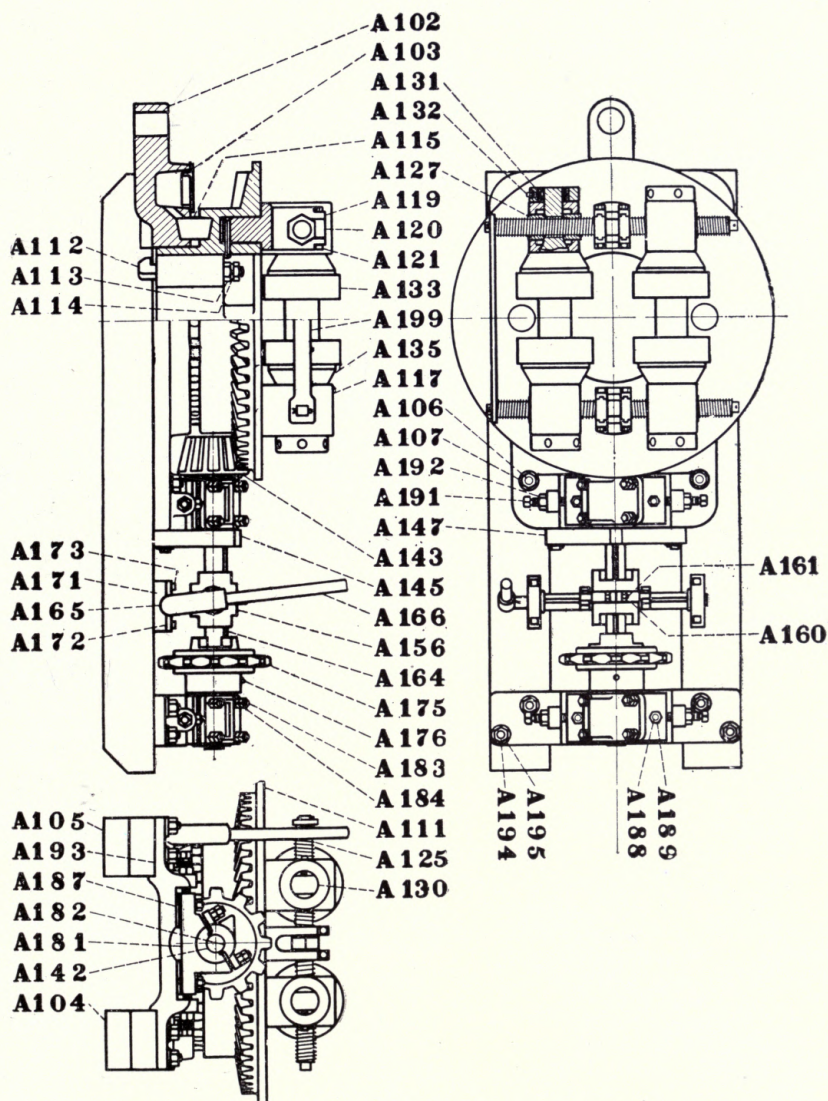
Generally used for artesian well drilling or in cases where portability is a factor.

This rotary combines the greatest strength with the least weight of any rotary manufactured at the present time, and all who are desirous of securing the best should investigate this rotary fully.

SPECIFICATIONS OF PARKER 14" REGULAR ROTARY

Weight Complete	2500 lbs.
Overall Length	6' 7"
Overall Width	3' 2"
Height above Sills	22"
Diameter of Grip Rings	9"
Diameter of Mandrels	4"
Diameter of Screws	2 $\frac{1}{4}$ "
Largest Bit	14"
Largest Pipe	10"
Smallest Pipe	2 $\frac{1}{2}$ "
Diameter of Table	3' 2"
Diameter of Pinion	8 $\frac{1}{2}$ "
Diameter of Rotary Shaft	2 $\frac{1}{4}$ "
Diameter of Rotary Sprocket	13"

For Water Wells up to 1500 feet in depth.



Sectional View—14" Parker Regular Rotary
(Patented)

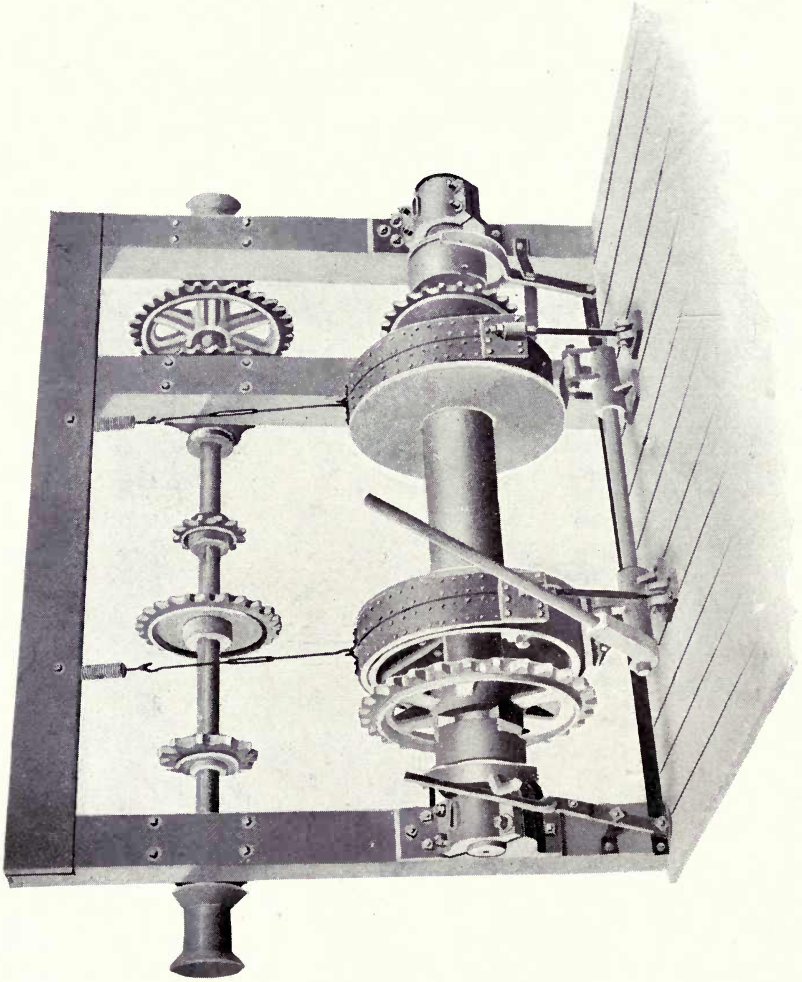
Price List of Complete Parts

Part No.	Quantity	Name of Part	List, Each	Code
A 100		PARKER 14" REGULAR ROTARY COMPLETE, weight 2,500 pounds	\$435.00	ALIGHT
A 102	1	Base	50.00	ALINER
A 103	1	Oil well cover . . . . .	.25	ALIETH
A 104	1	Right-hand skid	6.65	ALIPED
A 105	1	Left-hand skid	6.65	ALIQUET
A 106	4	Frame bolt . . . . .	.25	ALIVE
A 111	1	Gear table	80.00	ALLAH
A 112	4	Gear table hold-down bolt	4.00	ALLAY
A 115	14	Rotary bearing cone	3.35	ALLEGE
A 117	4	Grip head	12.00	ALLEGRO
A 118	2	DRIVING POST COMPLETE, composed of parts A119 to A124	25.00	ALLE
A 119	1	Driving post	18.50	ALLEY
A 120	2	Driving post cap	4.00	ALLOT
A 121	2	Driving post cap bolt . . . . .	.25	ALLSPICE
A 124	1	Driving post cotter . . . . .	.05	ALLUDE
A 125	2	Rotary screw	16.50	ALLWORK
A 126	2	Rotary screw right-hand nut	5.00	ALMA
A 127	2	Rotary screw left-hand nut	5.00	ALMANAC
A 130	2	Mandrel	27.00	ALMOST
A 131	4	Mandrel collar	3.35	ALOFT
A 132	4	Mandrel collar set screw . . . . .	.25	ALONE
A 133	4	Grip ring	16.65	ALoud
A 135	4	4" spacing collar	3.35	ALPACA
A 136	4	6" spacing collar	3.35	ALPHA
A 142	1	Rotary shaft	13.00	ALPINE
A 143	1	Rotary pinion	8.35	ALTAR
A 144	1	Rotary pinion key . . . . .	.75	ALUDEL
A 145	1	Locking collar	6.65	ALVINE
A 146	1	Locking collar set screw . . . . .	.15	AMAIN
A 147	2	Locking dog	3.35	AMASS
A 148	2	Locking dog fulerum pin . . . . .	.60	AMAZON
A 149	2	Fulerum pin cotter . . . . .	.05	AMBER
A 150	2	Fulerum pin washer . . . . .	.05	AMBUSH
A 151	1	Locking collar key . . . . .	.75	AMBUSHED
A 156	1	Clutch	7.00	AMEN
A 158	1	CLUTCH STRAP COMPLETE, composed of parts A160 to A161	8.25	AMICE
A 160	2	Clutch strap	4.00	AMIDST
A 161	2	Clutch strap bolt . . . . .	.15	AMITY
A 164	1	Clutch key . . . . .	.75	AMMA
A 165	1	Clutch lever	12.00	AMNESTY
A 166	1	Clutch lever handle	1.00	AMNION

Price List of Complete Parts—Continued

Part No.	Quantity	Name of Part	List, Each	Code
A 170	2	CLUTCH LEVER BEARING COMPLETE, composed of parts A171 to A173.	\$.75	AMNY
A 171	1	Clutch lever bearing box . . . . .	.40	AMOROUS
A 172	1	Clutch lever bearing box cap . . . . .	.30	AMPLY
A 173	2	Clutch lever bearing box bolt . . . . .	.05	AMUSE
A 175	1	Rotary sprocket	7.50	ANABAS
A 176	1	Rotary sprocket plug . . . . .	.10	ANARCHY
A 180	2	BEARING BOX COMPLETE, composed of parts A181 to A183	10.00	ANATOMY
A 181	1	Bearing box	6.50	ANBURY
A 182	1	Bearing box cap	3.50	ANCESTOR
A 183	4	Bearing box cap bolt . . . . .	.25	ANCHOR
A 185	4	Bearing liner $\frac{1}{16}$ " thick . . . . .	.15	ANCIENT
A 186	4	Bearing liner $\frac{1}{8}$ " thick . . . . .	.15	ANDIRON
A 187	4	Bearing liner $\frac{1}{4}$ " thick . . . . .	.15	ANENT
A 188	4	Bearing bolt . . . . .	.25	ANEW
A 191	4	Bearing adjusting screw . . . . .	.85	ANGER
A 193	1	Front bearing saddle	6.65	ANGINA
A 194	4	Saddle bolt . . . . .	.25	ANGORA
A 197	2	Quick opening wrench	3.35	ANGUISH
A 198	1	Rotary screw wrench	5.00	ANIMAL
A 199	1	Locking bar	5.00	ANNEX
A1300	4	Rotary screw cotter pin . . . . .	.05	ANNOY

Prices given on bolts include the necessary nuts and washers.



Parker Mogul Draw Works, 6" Drum Shaft. The Largest Draw Works in the World

Description of Mogul Draw Works

The PARKER MOGUL DRAW WORKS are the LARGEST, STRONGEST, HEAVIEST and SIMPLEST made in the world today. They will handle with ease a string of any size pipe to a depth of 5,000 feet. Each and every part is BUILT FOR SERVICE.

SHAFT Main Features

The 6" Shaft of cold drawn steel is cast integral with the drum, no keys to work loose, shear off or drop out. It is the LARGEST DRUM SHAFT MADE.

BRAKES

Brake flanges are REMOVABLE and INTERCHANGEABLE, an EXCLUSIVE feature of the PARKER and a MONEY AND TIME-SAVER. The brake bands are 8" wide, with hardwood or asbestos blocks, and HAVE AN ACTUAL FRICTION SURFACE OF 1,272 SQUARE INCHES. Dragging of the brake bands is prevented by an automatic-acting spring suspension device, and the natural wear of lagging is taken up by thread adjustment on the anchor bolt. The proportion of brake leverages is such that VERY LITTLE EFFORT is required to hold the drum in any position.

SPROCKETS

The drum shaft sprockets are bushed with the best PHOSPHOR-BRONZE we can procure, and have in addition extra large grease cups.

QUICK HOIST ATTACHMENT

Our MOGUL draw works in both the MOGUL and the MOGUL, JR., types are equipped with the special quick hoist attachment for rapid pulling of drill stem. SAVES 100% IN TIME over old method.

CONTROL

Drum and quick hoist clutches and both brakes are ALL CONTROLLED FROM ONE POSITION, a feature of the PARKER.

LINE SHAFT

The line shaft is $3\frac{1}{8}$ " diameter and is the proper distance from the floor to allow an easy position for using the Cat-heads, of which there are two.

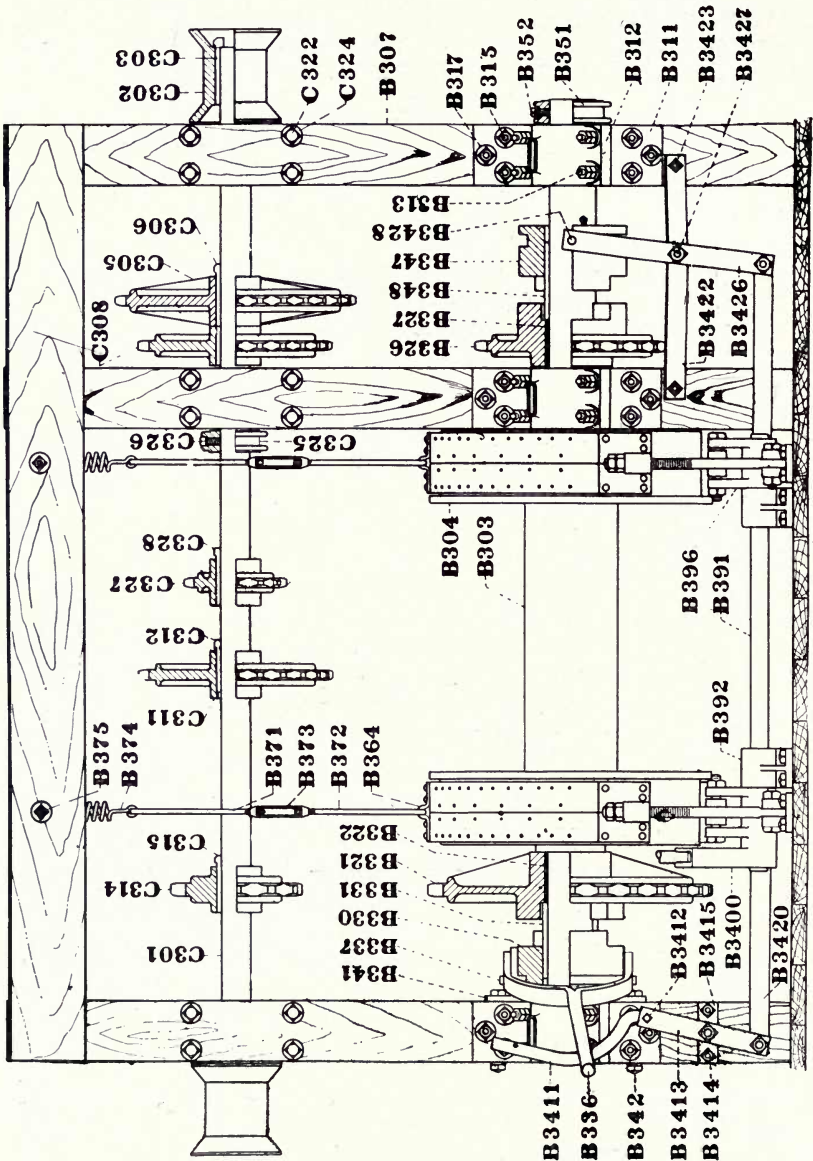
BOXES

Both drum and line shaft are carried by three EXTRA HEAVY, BABBITT-LINED boxes.

SPECIFICATIONS

Weight Complete.....	8200 lbs.
Shaft Diameter.....	6"
Drum Diameter.....	12"
Flange Diameter.....	37"
Brake Flange Diameter.....	34"
Brake Flange Width.....	8½"
Line Shaft Diameter.....	3½"
Length Overall.....	12' 0"

NOTE: The MOGUL JR. Draw Works are identically the same design and construction as the MOGUL listed above, with the exception of the Drum Shaft Diameter which is 5" instead of 6".



Sectional View—Parker Mogul Draw-Works

Price List of Complete Parts

Part No.	Quantity	Name of Part	List, Each	Code
B 300		MOGUL HOISTING DRUM, 6" SHAFT COMPLETE, with double 8" wood lagged brake bands and quick hoist attachment, less oak posts, weight, 6,000 pounds	\$665.00	BEAT
B 300S		MOGUL HOISTING DRUM, 6" shaft less quick hoist attachment B3410S	580.00	BEATEN
B 301	1	MOGUL HOISTING DRUM COMPLETE, less boxes, sprockets, brake rigging and quick hoist	350.00	BEATIFY
B 302S	1	Drum shaft with center cast on	210.00	BEAU
B 304	2	Drum flange	70.00	BEAUSH
B 305	24	Drum flange stud . . . . .	.40	BEAUTY
B 310	3	BEARING BOX COMPLETE, composed of parts B311 to B313	45.00	BECALM
B 311	1	Bearing box	28.00	BECAME
B 312	1	Bearing box cap	17.00	BECAUSE
B 313	4	Bearing box cap bolt . . . . .	.30	BECHANCE
B 315	18	Bearing box bolt . . . . .	.50	BECHARM
B 320	1	DRUM DRIVE SPROCKET COMPLETE, composed of parts B321 to B323 (bronze bushed)	66.65	BECK
B 321	1	Drum drive sprocket (27 teeth), 1240 chain	41.65	BECKET
B 322	1	Drum drive sprocket bushing (bronze)	25.00	BECKON
B 323	1	Drum drive sprocket grease cup	3.35	BECLOUD
B 325	1	BAILING SPROCKET COMPLETE, composed of parts B326 to B328 (bronze bushed)	50.00	BECOME
B 326	1	Bailing sprocket (24 teeth), 103 chain	25.00	BED
B 327	1	Bailing sprocket bushing (bronze)	25.00	BEDASH
B 328	1	Bailing sprocket grease cup	3.35	BEDAUB
B 330	1	Drum drive clutch	25.00	BEDBUG
B 331	2	Drum drive clutch key	2.00	BEDDING
B 335	1	DRIVE CLUTCH SHIFTER COMPLETE, composed of parts B336 to B342	16.65	BEDECK
B 336	1	Drive clutch yoke	10.00	BEDEVIL
B 337	2	Drive clutch yoke dog . . . . .	.85	BEDREW

Price List of Complete Parts — Continued

Part No.	Quantity	Name of Part	List, Each	Code
B 338	2	Drive clutch yoke cotter.....	\$.05	BEDIGHT
B 339	1	Drive clutch fulcrum bolt.....	.25	BEDIM
B 341	1	Clutch shifter bracket.....	1.65	BEDIZEN
B 342	1	Clutch shifter bracket bolt.....	.25	BEDLAM
B 347	1	Bailing clutch.....	35.00	BEDPAN
B 348	2	Bailing clutch key.....	2.00	BEDPIECE
B 350	1	DRUM SHAFT COLLAR COMPLETE, composed of parts B351 to B352.....	3.35	BEDPLATE
B 351	1	Drum shaft collar.....	3.00	BEDRENCH
B 352	1	Drum shaft collar set screw.....	.35	BEDRID
B 355	1	BRAKE RIGGING COMPLETE, composed of bands, levers, shaft and suspension...	118.95	BEDROCK
B 356	2	BRAKE BAND COMPLETE, (wood lagged).....	30.00	BEDROOM
B 357	2	BRAKE BAND COMPLETE (asbestos lagged), EXTRA...	52.00	BEDRUG
B 358	2	BRAKE BAND COMPLETE (wood and asbestos lagged), EXTRA.....	41.00	BEDSIDE
B 359	4	Brake band (bare).....	4.00	BEDSORE
B 360	2	Brake band clevis.....	2.75	BEDSTEAD
B 361	16	Brake band clevis rivet (per 100)	1.00	BEDSTRAW
B 362	2	Brake band anchor clevis.....	2.75	BEDTICK
B 363	16	Brake band anchor clevis rivet (per 100).....	1.00	BEDTIME
B 364	2	Brake band suspension clip.....	1.00	BEDUCK
B 365	4	Brake band suspension clip rivet (per 100).....	1.00	BEDUIN
B 366	21	Wood brake block.....	.40	BEDUNG
B 367	21	Asbestos brake block.....	1.65	BEDUST
B 368	126	Brake block bolt ($\frac{1}{4}$ " x $1\frac{1}{4}$ " per 100).....	1.00	BEDYE
B 370	2	BRAKE BAND SUSPENSION COMPLETE, composed of parts B371 to B375.....	5.00	BEE
B 371	1	Suspension right-hand hook.....	1.65	BEECH
B 372	1	Suspension left-hand hook.....	1.65	BEECHEN
B 373	1	Suspension turn buckle.....	1.25	BEELINE
B 374	1	Suspension spring.....	1.65	BEEBLE
B 375	1	Suspension spring bolt.....	.15	BEFALL
B 381	2	Anchor bolt and nut.....	3.35	BEFOG

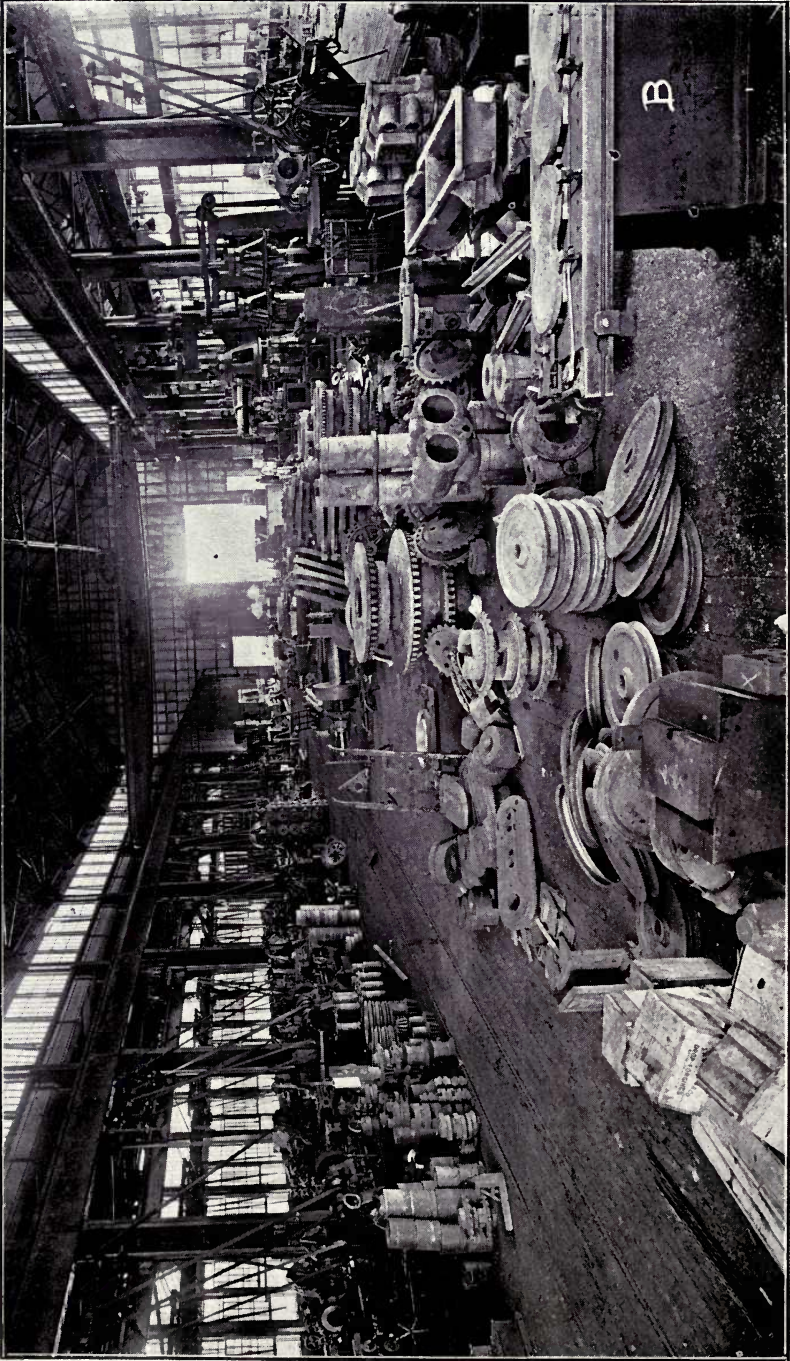
Price List of Complete Parts — Continued

Part No.	Quantity	Name of Part	List, Each	Code
B 383	2	Anchor bolt floor stand.....	\$ 2.50	BEFOOL
B 384	2	Anchor bolt fulcrum bolt.....	.15	BEG
B 386	8	Anchor bolt floor stand bolt.....	.15	BEGEM
B 391	1	Brake shaft.....	8.35	BEGHARD
B 392	2	Brake shaft pedestal.....	3.35	BEGILD
B 393	8	Brake shaft pedestal bolt.....	.15	BEGIN
B 396	1	Brake shaft yoke.....	3.35	BEGIRD
B 397	1	Brake shaft yoke key.....	1.25	BEGNAW
B 398	1	Brake shaft yoke screw.....	.10	BEGONE
B 399	1	Brake shaft yoke bolt.....	.15	BEGOT
B3400	1	Brake shaft handle socket.....	8.35	BEGRIME
B3401	1	Brake shaft handle.....	5.00	BEGUILE
B3402	2	Brake shaft handle screw.....	.10	BEGUM
B3403	1	Brake shaft handle socket key...	1.25	BEHALF
B3404	1	Brake shaft handle socket bolt...	.15	BEHAVE
B3410S	1	QUICK HOIST ATTACHMENT COMPLETE, composed of parts B325, B347, B348, B3410.....	112.00	BEHEAD
B3410	1	QUICK HOIST RIGGING COMPLETE, composed of parts B3411 to B3429.....	25.00	BEHELD
B3411	1	Quick hoist handle.....	2.50	BEHEST
B3412	1	Quick hoist handle screw.....	.15	BEHOOF
B3413	1	Quick hoist handle socket.....	4.00	BEHOOFED
B3414	1	Quick hoist handle bracket.....	4.00	BEHOVE
B3415	2	Quick hoist handle bracket bolt...	.15	BEJEWEL
B3418	1	Quick hoist handle fulcrum bolt...	.15	BELABOR
B3420	1	Quick hoist connecting bar.....	4.00	BELATE
B3421	2	Connecting bar bolt.....	.15	BELAY
B3422	1	Quick hoist yoke bracket.....	4.00	BELCH
B3423	2	Quick hoist yoke bracket bolt....	.15	BEDLAM
B3426	1	Quick hoist yoke.....	6.00	BELFRY
B2427	1	Quick hoist yoke fulcrum bolt...	.15	BELIE
B3428	2	Quick hoist yoke dog.....	.85	BELIKE
B3429	2	Quick hoist yoke dog cotter.....	.05	BELL
B3433	1	BRAKE DRUM LAGGING, Extra.....	16.65	BISECT
B 307	3	OAK POST, Extra.....	11.65	BISHOP

NOTE: Asbestos lagged brake bands, B357, are only furnished when ordered, at increase in list price of complete drum of \$44.00.

Half asbestos and half wood lagged brake bands, B358, are only furnished when ordered, at increase in list price of complete drum of \$23.30.

The advantages of the asbestos blocks is apparent.



Machine Department — Main Plant

Price List of Complete Parts

Part No.	Quantity	Name of Part	List, Each	Code
B 400	1	MOGUL JR. HOISTING DRUM, 5" SHAFT COM- PLETE, with double 8" wood lagged brake bands and quick hoist attachment, less oak posts, weight, 5,600 pounds	\$575.00	BELLJAR
B 400S	1	MOGUL JR. HOISTING DRUM, 6" shaft, less quick hoist attachment, B3410S	542.00	BELLMAN
B 401	1	MOGUL JR. HOISTING DRUM COMPLETE, less boxes, sprockets, brake rigging and quick hoist	300.00	BELLOW
B 402S	1	Drum shaft with center cast on	160.00	BELLY
B 404	2	Drum flange	70.00	BELONG
B 405	24	Drum flange stud . . . . .	.40	BEMAZE
B 410	3	BEARING BOX COMPLETE, composed of parts B411 to B413	20.00	BEMEAN
B 411	1	Bearing box	12.50	BEMIRE
B 412	1	Bearing box cap	7.50	BEMOAN
B 413	4	Bearing box cap bolt . . . . .	.30	BEMOCK
B 415	18	Bearing box bolt . . . . .	.50	BEMOIL
B 420	1	DRUM DRIVE SPROCKET COMPLETE, composed of parts B421 to B423 (bronze bushed)	50.00	BENCH
B 421	1	Drum drive sprocket (27 teeth) 1240 chain	30.00	BENCHER
B 422	1	Drum drive sprocket bushing (bronze)	20.00	BEND
B 423	1	Drum drive sprocket grease cup	3.35	BENDER
B 425	1	BAILING SPROCKET COM- PLETE, composed of parts B426 to B428 (bronze bushed)	45.00	BENEATH
B 426	1	Bailing sprocket (24 teeth) 103 chain	22.50	BENEDICT
B 427	1	Bailing sprocket bushing (bronze)	20.00	BENEFICE
B 428	1	Bailing sprocket grease cup	3.35	BENEFIT
B 430	1	Drum drive clutch	20.00	BENGAL
B 431	2	Drum drive clutch key	2.00	BENGOLA
B 435	1	DRIVE CLUTCH SHIFTER COMPLETE, composed of parts B436 to B442	16.65	BENIGN
B 436	1	Drive clutch yoke	10.00	BENNET
B 437	2	Drive clutch yoke dog . . . . .	.85	BENTHAL

Price List of Complete Parts — Continued

Part No.	Quantity	Name of Part	List, Each	Code
B 438	2	Drive clutch yoke cotter.....	\$.05	BENUMB
B 439	1	Drive clutch fulcrum bolt.....	.25	BENZENE
B 441	1	Clutch shifter bracket.....	1.65	BENZOL
B 442	1	Clutch shifter bracket bolt.....	.25	BEPAINT
B 447	1	Bailing clutch.....	25.00	BEQUEST
B 448	2	Bailing clutch key.....	2.00	BERATE
B 450	1	DRUM SHAFT COLLAR COMPLETE, composed of parts B451 to B452.....	3.00	BEREAVE
B 451	1	Drum shaft collar.....	2.75	BEREFT
B 452	1	Drum shaft collar set screw.....	.25	BERG
B 455	1	BRAKE RIGGING COMPLETE, composed of bands, levers, shaft and suspension...	118.95	BERIME
B 456	2	BRAKE BAND COMPLETE (wood lagged).....	30.00	BERLIN
B 457	2	BRAKE BAND COMPLETE (asbestos lagged), EXTRA....	52.00	BERRY
B 458	2	BRAKE BAND COMPLETE (wood and asbestos lagged), EXTRA.....	41.00	BERTH
B 459	4	Brake band (bare).....	4.00	BERTRAM
B 460	2	Brake band clevis.....	2.75	BESEEM
B 461	16	Brake band clevis rivet (per 100)	1.00	BESET
B 462	2	Brake band anchor clevis.....	2.75	BESIDE
B 463	16	Brake band anchor clevis rivet (per 100).....	1.00	BESMUT
B 464	2	Brake band suspension clip.....	1.00	BESORT
B 465	4	Brake suspension clip rivet (per 100).....	1.00	BESPEAK
B 466	21	Wood brake block.....	.40	BEST
B 467	21	Asbestos brake block.....	1.65	BESTAIN
B 468	126	Brake block bolt ($\frac{1}{4}$ " x $1\frac{1}{4}$ ") per 100.....	1.00	BESTAR
B 470	2	BRAKE BAND SUSPENSION COMPLETE, composed of parts B471 to B475.....	5.00	BESTIAL
B 471	1	Suspension right-hand hook.....	1.65	BESTICK
B 472	1	Suspension left-hand hook.....	1.65	BESTIR
B 473	1	Suspension turn buckle.....	1.25	BESTOW
B 474	1	Suspension spring.....	1.65	BET
B 475	1	Suspension spring bolt.....	.15	BETAKE
B 481	2	Anchor bolt and nut.....	3.35	BETEL

Price List of Complete Parts — Continued

Part No.	Quantity	Name of Part	List, Each	Code
B 483	2	Anchor bolt floor stand.....	\$ 2.50	BETIDE
B 484	2	Anchor bolt fulcrum bolt.....	.15	BETOKEN
B 486	8	Anchor bolt floor stand bolt.....	.15	BETRAY
B 491	1	Brake shaft.....	8.35	BETTER
B 492	2	Brake shaft pedestal.....	3.35	BETWIXT
B 493	8	Brake shaft pedestal bolt.....	.15	BEWAIL
B 496	1	Brake shaft yoke.....	3.35	BEYLIC
B 497	1	Brake shaft yoke key.....	1.25	BEYOND
B 498	1	Brake shaft yoke screw.....	.10	BIAS
B 499	1	Brake shaft yoke bolt.....	.15	BIB
B4400	1	Brake shaft handle socket.....	8.35	BIDE
B4401	1	Brake shaft handle.....	5.00	BIGHORN
B4402	2	Brake shaft handle screw.....	.10	BIGOTRY
B4403	1	Brake shaft handle socket key...	1.25	BIGWIG
B4404	1	Brake shaft handle socket bolt..	.15	BIJOU
B4410S	1	QUICK HOIST ATTACHMENT COMPLETE, composed of parts B425, B447, B448, B4410.....	112.00	BIGE
B4410	1	QUICK HOIST RIGGING COMPLETE, composed of parts B4411 to B4429.....	25.00	BILLOW
B4411	1	Quick hoist handle.....	2.50	BINARY
B4412	1	Quick hoist handle screw.....	.15	BINDER
B4413	1	Quick hoist handle socket.....	4.00	BINDING
B4414	1	Quick hoist handle bracket.....	4.00	BINOCLE
B4415	2	Quick hoist handle bracket bolt..	.15	BIOGEN
B4418	1	Quick hoist handle fulcrum bolt..	.15	BIORGAN
B4420	1	Quick hoist connecting bar.....	4.00	BIOTAXY
B4421	2	Connecting bar bolt.....	.15	BIOTIC
B4422	1	Quick hoist yoke bracket.....	4.00	BIPED
B4423	2	Quick hoist yoke bracket bolt...	.15	BIPOLAR
B4426	1	Quick hoist yoke.....	6.00	BIPONT
B4427	1	Quick hoist yoke fulcrum bolt...	.15	BIRCH
B4428	2	Quick hoist yoke dog.....	.85	BISCUIT
B4429	2	Quick hoist yoke dog cotter.....	.05	BISE
B4433	1	BRAKE DRUM LAGGING, Extra.....	16.65	BISECT
B 307	3	OAK POST, Extra.....	11.65	BISHOP

NOTE: Asbestos lagged brake bands, B457, are only furnished when ordered, at increase in list price of complete drum of \$44.00.

Half asbestos and half wood lagged brake bands, B458, are only furnished when ordered, at increase in list price of complete drum of \$23.30.

The advantage of the asbestos blocks is apparent.

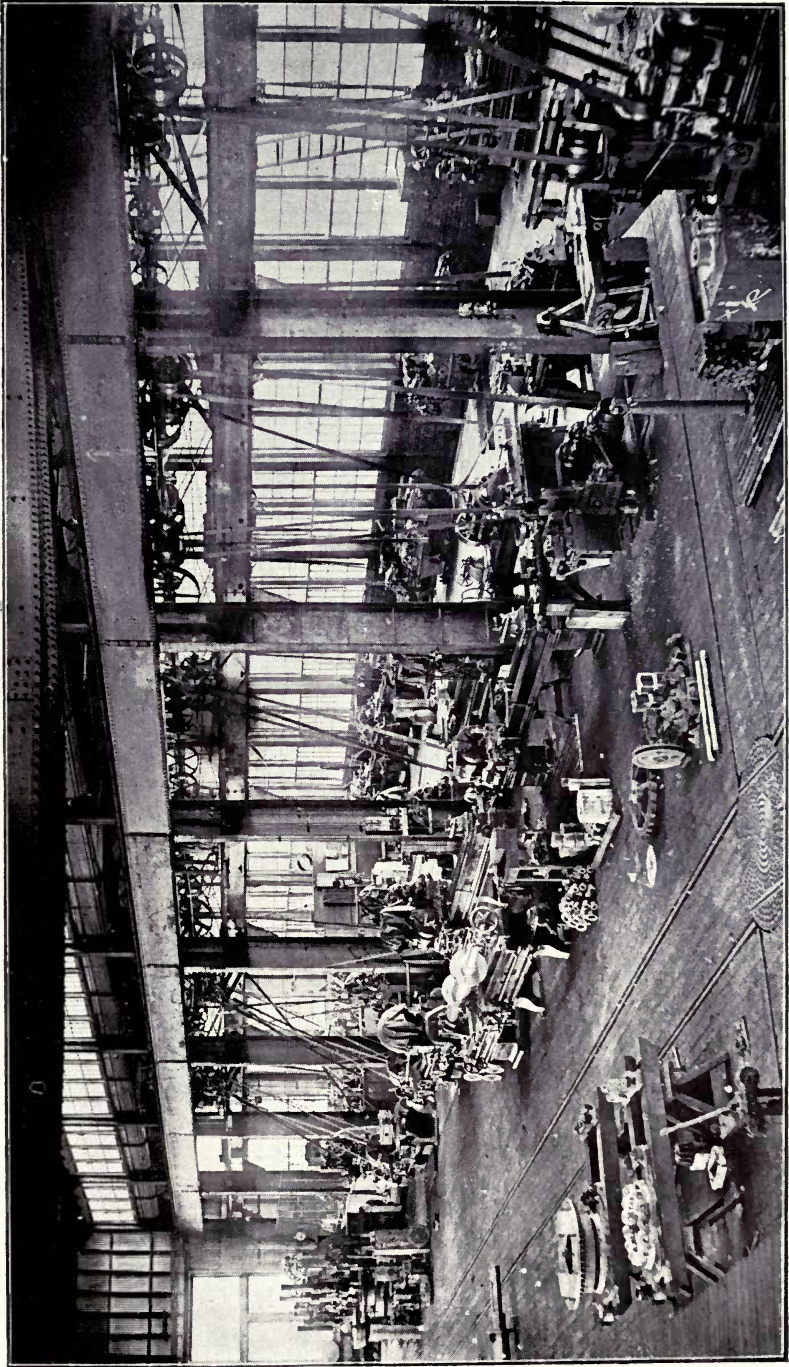
Price List of Complete Parts

Part No.	Quantity	Name of Part	List, Each	Code
C 300		MOGUL LINE SHAFT COMPLETE. Weight 2,200 lbs	\$200.00	CADGE
C 301	1	Line shaft (3 $\frac{1}{8}$ " x 12' 0")	50.00	CADDIE
C 302	2	Cat head	16.50	CADRANS
C 303	2	Cat head key	1.65	CAESAR
C 305	1	Rotary drive sprocket (30 teeth) 103 chain	25.00	CAFE
C 306	1	Rotary drive sprocket key	1.65	CAIRN
C 308	1	Quick hoist sprocket (24 teeth) 103 chain	20.00	CAKE
C 309	1	Quick hoist sprocket key	1.65	CALCAR
C 311	1	Engine sprocket (24 teeth) 1030 chain	20.00	CALCIFY
C 312	1	Engine sprocket key	1.65	CALCINE
C 314	1	Drum drive sprocket (11 teeth) 1240 chain	10.00	CALCITE
C 315	1	Drum drive sprocket key	1.65	CALCIUM
C 317	3	BEARING BOX COMPLETE, composed of parts C318 to C320	20.00	CALDRON
C 318	1	Bearing box	12.00	CALEFY
C 319	1	Bearing box cap	8.00	CALF
C 320	4	Bearing box cap bolt . . . . .	.25	CALIBER
C 322	12	Bearing box bolt . . . . .	.25	CALICO
C 325	1	Line shaft collar	3.25	CALIF
C 327	1	Mud mixer sprocket (12 teeth) 103 chain	6.65	CALK
C 328	1	Mud mixer sprocket key	1.65	CALL

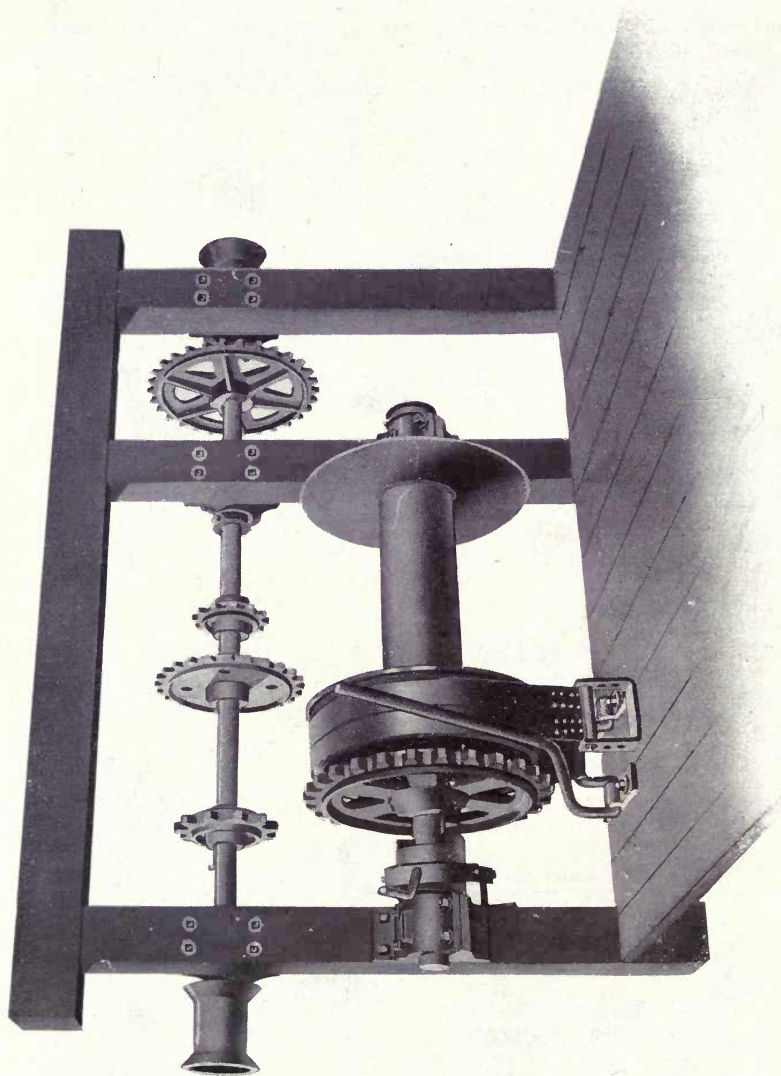
This shaft is used in connection with PARKER MOGUL and PARKER MOGUL JR. drums.

NOTE: Parts C327 and C328 are only included with complete line shaft when Mud Mixing Machine X100, page 112, is ordered.

Prices given on bolts include the necessary nuts and washers.



Lathe and Automatic Machine Department



Parker Special Draw Works — Single Band Type

Parker Single Band Draw Works

THE SAME TYPE OF CONSTRUCTION IS USED FOR FASTENING THE DRUM TO THE SHAFT AND THE BRAKE FLANGES TO THE DRUM AS ON THE MOGUL SERIES. (See description on page 43.)

The boxes are of the split type and lined with AA1 Babbitt.

The SPROCKET has the improved form of tooth and is BUSHED WITH PHOSPHOR-BRONZE, and in addition has a large grease cup for continuous lubrication.

SPECIFICATIONS

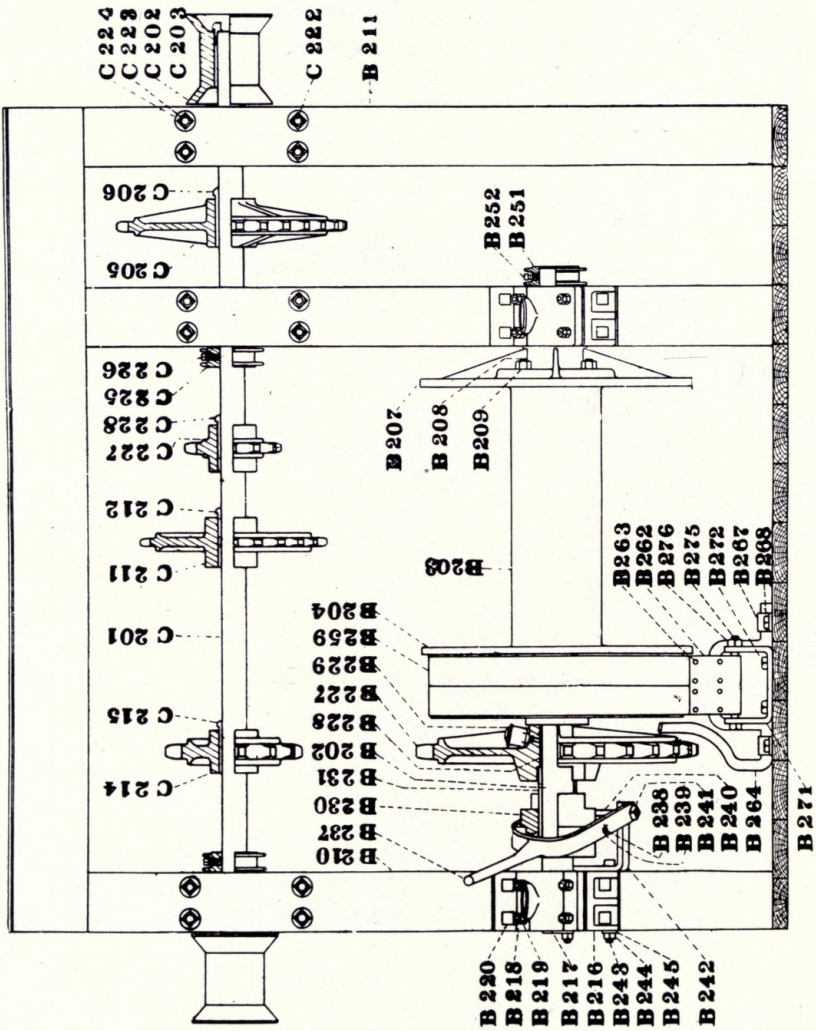
Weight Complete	$3\frac{11}{16}$ " 4000 lbs., $4\frac{3}{16}$ " 5000 lbs., 5" 6500 lbs
Shaft Diameter	$3\frac{11}{16}$ " or $4\frac{3}{16}$ " or 5"
Drum Diameter	12"
Flange Diameter	36"
Brake Flange Diameter	34"
Brake Flange Width	$3\frac{11}{16}$ ", 6", $4\frac{3}{16}$ ", 5", 8"
Line Shaft Diameter	$3\frac{7}{16}$ "
Length Overall	11'

Our Single Band Draw Works are made in three sizes, as follows: $3\frac{1}{16}$ " shaft, Parker Regular. Weight 4,000 lbs. for wells up to 1,500 feet in depth. $4\frac{3}{16}$ " shaft, Parker Special. Weight 5,000 lbs. 5" shaft, Parker California Special. Weight 6,500 lbs.

The $4\frac{3}{16}$ " and 5" Draw Works are especially adapted to shallow oil wells, ranging in depth from 1,500 feet to 2,500 feet.

We recommend our $3\frac{7}{16}$ " x 11' Parker Line Shaft to be used in connection with either of the above hoisting drums.

While these draw works are lighter than our Mogul series, they are CONSIDERABLY SIMPLER AND STRONGER THAN OTHER MAKES, and are the most successful draw works in use in the Texas and Louisiana fields.



Front Elevation — Parker Special Drum and Line Shaft — Single Band Type

Price List of Complete Parts

Part No.	Quantity	Name of Part	List, Each	Code
B 500	1	PARKER CALIFORNIA HOISTING DRUM, 5" SHAFT COMPLETE, with single 8" steel band, brake rigging and clutch shifter, weight, less oak posts, 4,000 pounds.....	\$425.00	BARREL
B 501	1	PARKER CALIFORNIA DRUM COMPLETE, com- posed of parts B502 to B508 ...	225.00	BARREN
B 502	1	Drum shaft with center cast on..	150.00	BARRIER
B 504	1	Drum brake flange.....	75.00	BARROOM
B 505	8	Drum brake flange stud.....	.40	BARROW
B 507	1	Drum flange.....	33.35	BARTER
B 508	6	Drum flange stud.....	.40	BARTRAM
B 515	2	BEARING BOX COMPLETE, babbitted, composed of parts B516 to B518.....	20.00	BASELY
B 516	1	Bearing box.....	12.00	BASH
B 517	1	Bearing box cap.....	8.00	BASIC
B 518	4	Bearing box cap bolt.....	.30	BASIFY
B 520	4	Bearing box bolt.....	.50	BASINED
B 526	1	DRUM S P R O C K E T COM- PLETE, No. 1240, 24 teeth, bronze bushed, composed of parts B527 to B529.....	50.00	BASSET
B 527	1	Drum sprocket without bronze bushing.....	30.00	BASSO
B 528	1	Drum sprocket bushing (bronze)	20.00	BASTILE
B 529	1	Grease cup.....	3.35	BASTION
B 530	1	Drum clutch.....	20.00	BAT
B 531	2	Drum clutch key.....	2.00	BATH
B 536	1	DRUM CLUTCH SHIFTER COMPLETE, composed of parts B537 to B543.....	13.35	BATHORSE
B 537	1	Clutch shifter yoke and handle..	7.50	BATLET
B 538	2	Clutch shifter yoke dog.....	.85	BATMAN
B 539	2	Clutch yoke dog cotter.....	.05	BATON
B 540	1	Clutch yoke fulcrum bolt.....	.35	BATTLE
B 542	1	Clutch yoke bracket.....	1.65	BATTER
B 543	2	Clutch yoke bracket bolt.....	.25	BATULE
B 550	1	DRUM SHAFT COLLAR COM- PLETE, composed of parts B551 to B552.....	2.50	BAWCOCK

Price List of Complete Parts — Continued

Part No.	Quantity	Name of Part	List, Each	Code
B 551	1	Drum shaft collar.....	\$ 2.25	BAWD
B 552	1	Drum shaft collar set screw.....	.25	BAWDRY
B 555	1	BRAKE RIGGING COMPLETE, with band, lever and staple, composed of parts B556 to B575.....	22.50	BAWLER
B 556	1	8" STEEL BRAKE BAND COMPLETE, composed of parts B559 to B563.....	9.00	BAY
B 559	2	4" steel brake band.....	2.50	BAYOU
B 560	1	Brake band clevis.....	1.40	BAYRUM
B 561	8	Brake band clevis rivet (per 100)	1.00	BAYSALT
B 562	1	Brake band anchor clevis.....	1.40	BAYTREE
B 563	8	Brake band anchor clevis rivet (per 100).....	1.00	BAZAR
B 564	1	Brake lever.....	8.35	BEACH
B 567	2	Brake lever clip.....	.75	BEADING
B 568	4	Brake lever clip bolt.....	.15	BEADLE
B 571	1	Brake band anchor or staple....	3.35	BEAK
B 572	2	Brake band anchor bolt.....	.15	BEAKER
B 575	1	Anchor fulcrum bolt.....	.35	BEAR
B 510	2	OAK DRUM POST, Extra....	11.65	BEARISH
B 511	1	OAK LINE SHAFT POST, Extra	11.65	BEAST
B5433	1	DRUM LAGGING COMPLETE, Extra.....	16.65	BEASTLY

Prices given on bolts include the necessary nuts and washers.

Price List of Complete Parts

Part No.	Quantity	Name of Part	List, Each	Code
B 200	1	PARKER SPECIAL HOISTING DRUM, COMPLETE with 4 $\frac{3}{16}$ " shaft, single 8" steel band, brake rigging and clutch shifter, weight, less oak posts, 3,500 pounds	\$350.00	BANDAGE
B 201	1	PARKER SPECIAL HOISTING DRUM, 4 $\frac{3}{16}$ " SHAFT COM- PLETE, composed of parts B202 to B208	200.00	BANDANA
B 202	1	Drum shaft with center cast on	135.00	BANDIT
B 204	1	Drum brake flange	75.00	BANDLET
B 205	8	Drum brake flange stud . . . . .	.40	BANDOG
B 207	1	Drum flange	33.35	BANDORE
B 208	6	Drum flange stud . . . . .	.40	BANDY
B 215	2	BEARING BOX COMPLETE, babbitted, composed of parts B216 to B218	16.65	BANISH
B 216	1	Bearing box	10.00	BANJO
B 217	1	Bearing box cap	6.65	BANK
B 218	4	Bearing box cap bolt . . . . .	.30	BANKER
B 220	4	Bearing box bolt . . . . .	.50	BANKING
B 226	1	DRUM S P R O C K E T COM- PLETE, No. 1240, 27 teeth, bronze bushed, composed of parts B227 to B229	45.00	BANNOCK
B 227	1	Drum sprocket No. 1240, 27 teeth, without bronze bushing	25.00	BANNS
B 228	1	Drum sprocket bushing (bronze)	20.00	BANQUET
B 229	1	Grease cup	3.35	BANTAM
B 230	1	Drum clutch	16.65	BANTER
B 231	2	Drum clutch key	1.50	BANTLING
B 236	1	DRUM CLUTCH SHIFTER COMPLETE, composed of parts B237 to B243	13.35	BANYAN
B 237	1	Clutch shifter yoke and handle	7.50	BAOBAB
B 238	2	Clutch shifter yoke dog . . . . .	.85	BAPTISM
B 239	2	Clutch shifter yoke dog cotter . . . . .	.05	BAPTIST
B 240	1	Clutch yoke fulcrum bolt . . . . .	.35	BAPTIZE
B 242	1	Clutch yoke bracket	1.65	BARB
B 243	2	Clutch yoke bracket bolt . . . . .	.25	BARBATE
B 250	1	DRUM SHAFT COLLAR COM- PLETE, composed of parts B251 to B252	2.50	BARBED

Price List of Complete Parts — Continued

Part No.	Quantity	Name of Part	List, Each	Code
B 251	1	Drum shaft collar.....	\$ 2.25	BARBER
B 252	1	Drum shaft collar set screw.....	.25	BARBERRY
B 255	1	BRAKE RIGGING COMPLETE, with band, lever and staple, composed of parts B256 to B275.....	22.50	BARBET
B 256	1	8" steel brake band complete, less lever and staple, composed of parts B259 to B263.....	9.00	BARBULE
B 259	2	4" steel brake band.....	2.50	BARELY
B 260	1	Brake band clevis.....	1.40	BARGAIN
B 261	8	Brake band clevis rivet (per 100)	1.00	BARGE
B 262	1	Brake band anchor clevis.....	1.40	BARIA
B 263	8	Brake band anchor clevis rivet (per 100).....	1.00	BARIC
B 264	1	Brake lever.....	8.35	BARITE
B 267	2	Brake lever clip.....	.75	BARK
B 268	4	Brake lever clip bolt.....	.15	BARLEY
B 271	1	Brake band anchor or staple.....	3.35	BARM
B 272	2	Brake band anchor bolt.....	.15	BAROCCO
B 275	1	Anchor fulcrum bolt.....	.35	BARON
B 510	2	OAK DRUM POST, Extra.....	11.65	BEARISH
B 511	1	OAK LINE SHAFT POST, Extra	11.65	BEAST
B5433	1	DRUM LAGGING COMPLETE, Extra.....	16.65	BEASTLY

Prices given on bolts include the necessary nuts and washers.

Price List of Complete Parts

Part No.	Quantity	Name of Part	List, Each	Code
B 100	1	PARKER REGULAR HOISTING DRUM, COMPLETE, with 3 $\frac{11}{16}$ " shaft, single 6" steel band and No. 1030 sprocket, weight, less oak posts, 2,470 pounds.....	\$240.00	BABBLE
B 100S	1	PARKER REGULAR HOISTING DRUM, COMPLETE, with 3 $\frac{11}{16}$ " shaft, single 6" steel band and No. 1240 sprocket, weight, 2,550 pounds.....	255.00	BABE
B 101	1	REGULAR HOISTING DRUM, 3 $\frac{11}{16}$ " SHAFT, COMPLETE, composed of parts B102 to B109.....	175.00	BABOON
B 102	1	Drum shaft with center cast on..	100.00	BABY
B 104	1	Drum brake flange.....	65.00	BABYISH
B 105	8	Drum brake flange stud.....	.40	BACCATE
B 107	1	Drum flange.....	33.35	BACHELOR
B 108	6	Drum flange stud.....	.40	BACKER
B 115	2	BEARING BOX COMPLETE, composed of parts B116 to B118.....	15.00	BADE
B 116	1	Bearing box.....	9.00	BADGE
B 117	1	Bearing box cap.....	6.00	BADNESS
B 118	4	Bearing box cap bolt.....	.30	BAFFLE
B 120	4	Bearing box bolt.....	.50	BAG
B 126	1	DRUM SPROCKET COMPLETE, No. 1030, 24 teeth, bronze bushed, composed of parts B127 to B129.....	25.00	BAGATE
B 127	1	Drum sprocket, No. 1030, 24 teeth, without bronze bushing.	14.00	BAGGING
B 128	1	Drum sprocket bushing, No. 1030 sprocket.....	11.00	BAGGY
B 129	1	Grease cup, No. 1030 sprocket ..	3.35	BAGMAN
B 126A	1	DRUM SPROCKET COMPLETE, No. 1240, 24 teeth, bronze bushed, composed of parts B127A to B129A.....	40.00	BAGBIO
B 127A	1	Drum sprocket, No. 1240, 24 teeth, without bronze bushing..	25.00	BAGPIPE
B 128A	1	Drum sprocket bushing, No. 1240 sprocket.....	15.00	BAGUE

Price List of Complete Parts — Continued

Part No.	Quantity	Name of Part	List, Each	Code
B 129A	1	Grease cup, No. 1240 sprocket . . .	\$ 3.35	BAILEE
B 130	1	Drum clutch	14.00	BAILIFF
B 131	2	Drum clutch key	1.50	BAILMENT
B 136	1	DRUM CLUTCH SHIFTER COMPLETE, composed of parts B137 to B143	13.35	BAIRN
B 137	1	Clutch shifter yoke and handle . .	7.50	BAIT
B 138	2	Clutch shifter yoke dog . . . . .	.85	BAITER
B 139	2	Clutch yoke dog cotter . . . . .	.05	BAIZE
B 140	1	Clutch yoke fulcrum bolt . . . . .	.35	BAKE
B 142	1	Clutch yoke bracket	1.65	BAKERY
B 143	2	Clutch yoke bracket bolt . . . . .	.25	BAKING
B 150	1	DRUM SHAFT COLLAR COM- PLETE, composed of parts B151 to B152	2.00	BALANCE
B 151	1	Drum shaft collar	1.75	BALANOID
B 152	1	Drum shaft collar set screw . . . .	.25	BALCONY
B 155	1	BRAKE RIGGING COM- PLETE, composed of parts B156 to B175	20.00	BALD
B 156	1	6" steel brake band, less lever and staple, composed of parts B159 to B163	8.35	BALDLY
B 159	1	6" steel brake band only	4.00	BALDNESS
B 160	1	Brake band clevis	1.35	BALDPATE
B 161	8	Brake band clevis rivet (per 100)	1.00	BALDRIC
B 162	1	Brake band anchor clevis	1.35	BALEEN
B 163	8	Brake band anchor clevis rivet (per 100)	1.00	BALIZE
B 164	1	Brake lever	8.35	BALK
B 167	2	Brake lever clip . . . . .	.65	BALLAST
B 168	4	Brake lever clip bolt . . . . .	.15	BALLON
B 171	1	Brake band anchor or staple	2.50	BALM
B 172	2	Brake band anchor bolt . . . . .	.15	BALSAM
B 175	1	Anchor fulcrum bolt . . . . .	.35	BAMBINO
B 510	2	OAK DRUM POST, Extra	11.65	BEARISH
B 511	1	OAK LINE SHAFT POST, Extra	11.65	BEAST
B5433	1	DRUM LAGGING COMPLETE, Extra	16.65	BEASTLY

Prices given on bolts include the necessary nuts and washers.

"PARKER ROTARIES — STANDARD OF THE WORLD"

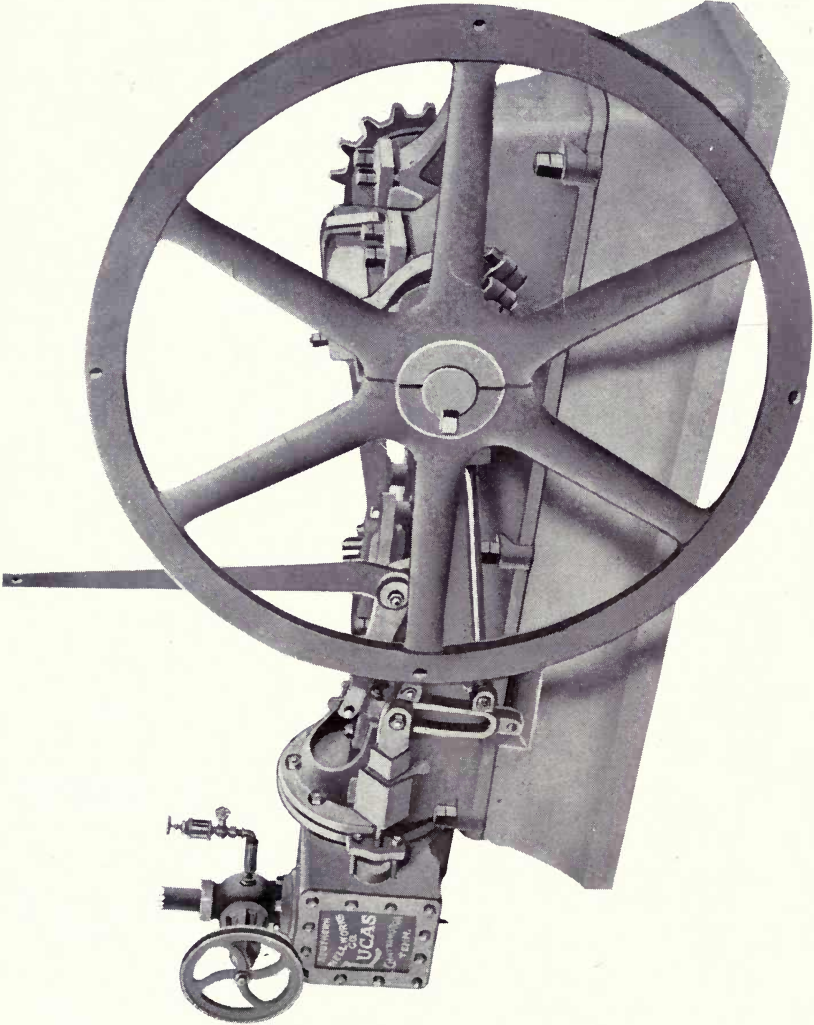
Price List of Complete Parts

Part No.	Quantity	Name of Part	List, Each	Code
C 200		PARKER SPECIAL LINE SHAFT COMPLETE. Weight 1,500 pounds.....	\$135.00	CAB
C 201	1	Line shaft ($3\frac{7}{16}$ " x 11' 0").....	40.00	CABAL
C 202	2	Cat head.....	14.00	CABAS
C 203	2	Cat head key.....	1.50	CABBAGE
C 205	1	Rotary drive sprocket (30 teeth) 103 chain.....	20.00	CABIN
C 206	1	Rotary drive sprocket key.....	1.50	CABINET
C 211	1	Engine sprocket (24 teeth) 1030 chain.....	16.65	CABLE
C 212	1	Engine sprocket key.....	1.50	CABOB
C 214	1	Drum drive sprocket (11 teeth) 1030 or 1240 chain.....	10.00	CABOOSE
C 215	1	Drum drive sprocket key.....	1.50	CACHE
C 217	3	BEARING BOX COMPLETE, composed of parts C218 to C220	13.35	CACKLE
C 218	1	Bearing box.....	9.00	CACTUS
C 219	1	Bearing box cap.....	4.00	CAD
C 220	4	Bearing box cap bolt.....	.15	CADAVER
C 222	12	Bearing box bolt.....	.50	CADDIS
C 225	2	Line shaft collar.....	2.00	CADDY
C 226	2	Line shaft collar screw.....	.10	CADE
C 227	1	Mud mixer sprocket (12 teeth) 103 chain.....	6.65	CADENCE
C 228	1	Mud mixer sprocket key.....	1.50	CADET

Prices given on bolts include the necessary nuts and washers.

This line shaft is used in connection with PARKER REGULAR, PARKER SPECIAL and PARKER CALIFORNIA type drums.

NOTE: Parts C227 and C228 are only included with complete line shaft when Mud Mixing Machine X100, page 112, is ordered.



Parker Lucas Drilling Engine

Description of Parker Lucas Drilling Engine

This engine is designed especially for oil field service on holes up to 3,000 feet in depth. Every part is of sturdy construction and of the best materials.

The flywheel is extra heavy to give as steady rotation as possible, it being easily demonstrated that a "jerky" running engine has a very detrimental effect on the chain and all parts of the rig dependent on it.

Forged steel connecting rods of high tensile strength steel with brasses of the best phosphor-bronze, and extra size bearing are used throughout.

The bed is of massive proportions to avoid springing and consequent wearing of the crosshead guides and journals, and the crankshaft is of crucible cast steel machined accurately all over.

We have now in course of construction a heavier engine for the most severe service in the oil fields and to those in need of such an engine we shall be glad to send particulars.

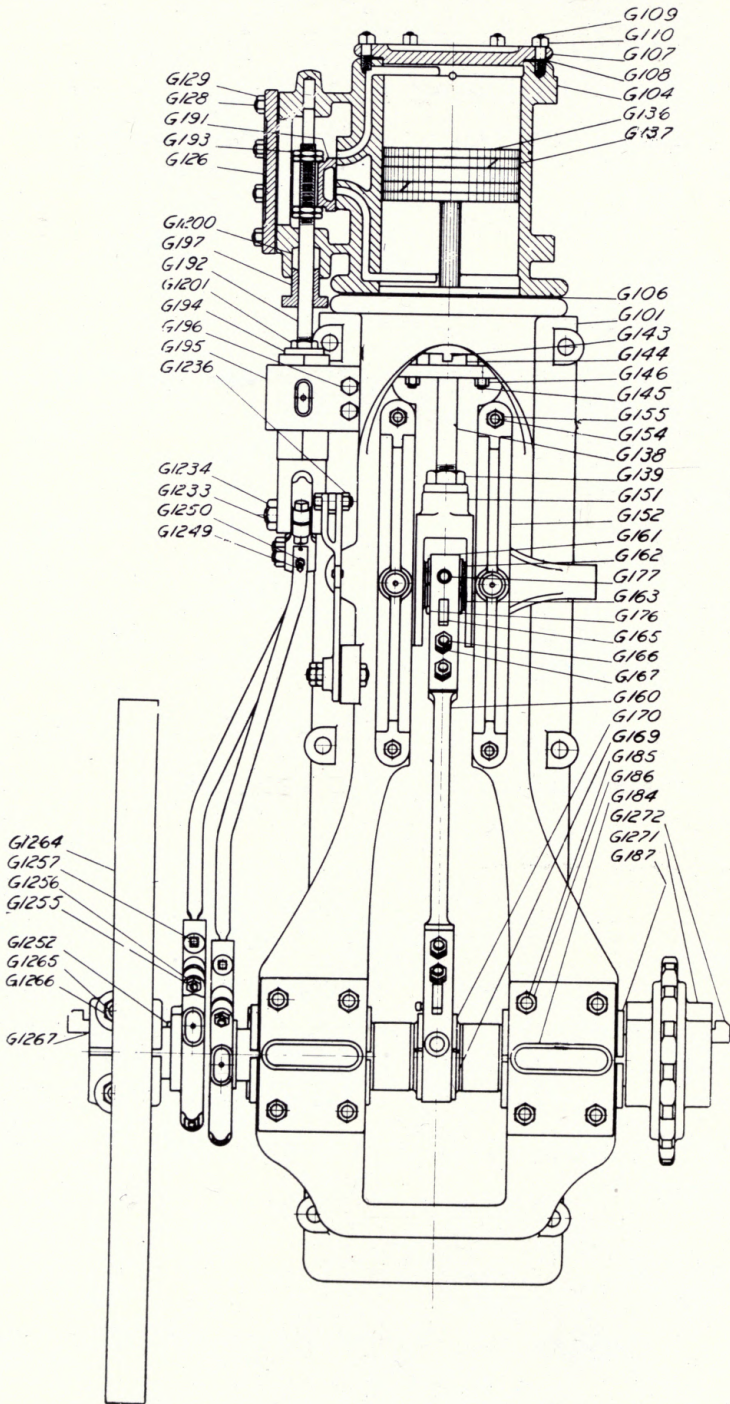
SPECIFICATIONS

Horsepower.....	23
Diameter of Cylinder.....	10½"
Length of Stroke.....	12"
Weight Complete.....	3200
Weight Stripped.....	2950

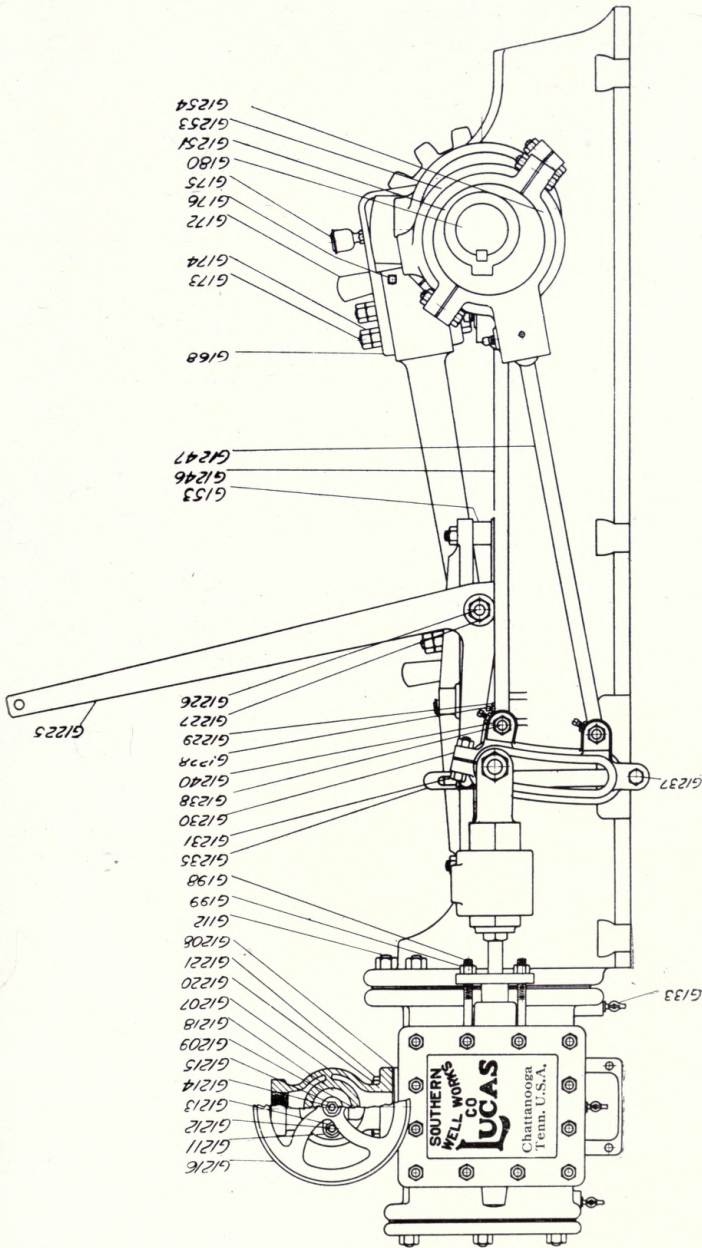
Price List on Lucas Engines

23 H. P. Lucas engine complete with pump, heater and extra balance rims..	\$400.00
23 H. P. Lucas engine stripped, equipped with engine sprocket instead of belt pulley.....	357.00

NOTE: Belt pulley or engine sprocket are furnished as specified.



Plan View — Parker Lucas Drilling Engine



Side Elevation — Parker Lucas Drilling Engine

Price List of Complete Parts

Part No.	Quantity	Name of Part	List, Each	Code
G 100		10½" x 12" LUCAS ENGINE COMPLETE, with pump and heater. Weight, 3,400 pounds	\$400.00	GAB
G 100S		10½" x 12" Lucas engine (stripped) 3,200 pounds	357.00	GABBLE
G 101	1	Bed	60.00	GABBRO
G 102S		Bed (studded)	65.50	GABEL
G 104	1	Cylinder	33.00	GABION
G 105S		Cylinder (studded)	39.00	GAD
G 106	1	Cylinder bed end gasket	.25	GADFLY
G 107	1	Cylinder head	4.50	GADOID
G 108	1	Cylinder head gasket	.25	GADWALL
G 109	6	Cylinder head stud	.15	GAELIC
G 111	2	Cylinder bed end long stud	.15	GAFF
G 112	5	Cylinder bed end short stud	.15	GAFFER
G 119	1	Exhaust flange	.75	GAFFLE
G 120	1	Exhaust flange gasket	.25	GAG
G 121	4	Exhaust flange stud	.15	GAGGER
G 126	1	Steam chest cover	3.75	GAITY
G 127	1	Steam chest cover gasket	.25	GAILY
G 128	12	Steam chest cover stud	.15	GAIN
G 133	3	Cylinder drain cock	.25	GAINSAY
G 135	1	PISTON COMPLETE, composed of parts G136 to G139	16.00	GAIRISH
G 136	1	Piston head	7.70	GAIT
G 137	2	Piston ring	2.00	GALA
G 138	1	Piston rod	3.80	GALAGO
G 139	1	Piston rod nut	.50	GALAXY
G 143	1	Piston rod stuffing box	1.75	GALBAN
G 144	1	Stuffing box gland	.75	GALE
G 145	2	Stuffing box gland stud	.15	GALENA
G 147		Piston rod packing	.25	GALENIC
G 148	1	Stuffing box gasket	.25	GALILEE
G 151	1	Crosshead	10.00	GALLOT
G 152	2	Crosshead top guide	3.00	GALL
G 153	2	Top guide spacer	.25	GALLANT
G 154	4	Top guide stud	.15	GALLEON
G 159	1	CONNECTING ROD COMPLETE, composed of parts G160 to G177	42.00	GALLEY
G 160	1	Connecting rod	13.00	GALLFLY
G 161	1	Connecting rod strap (crosshead end)	5.75	GALLIC
G 162S	1	Connecting rod brass (crosshead end) per set	6.50	GALLIOT
G 164	1	Connecting rod liner	.25	GALLIUM

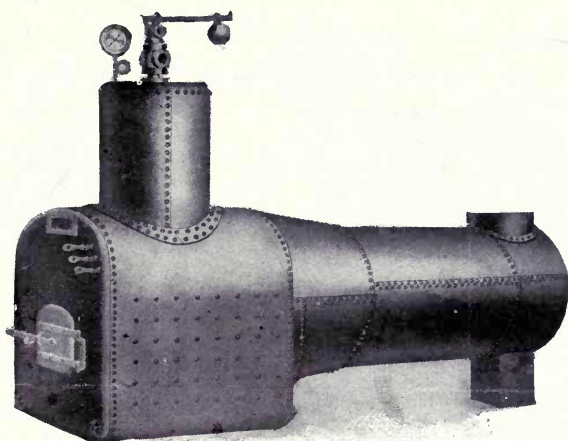
Price List of Complete Parts — Continued

Part No.	Quantity	Name of Part	List, Each	Code
G 165	1	Connecting rod key (crosshead end).....	\$ 1.00	GALLON
G 166	2	Connecting rod bolt (crosshead end).....	1.00	GALLOW
G 168	1	Connecting rod strap (crank end)...	6.75	GALORE
G 169S	1	Connecting rod brass (crank end) per set.....	9.00	GAMBIT
G 171	1	Connecting rod liner (crank end)...	.35	GAMBLE
G 172	1	Connecting rod key (crank end)...	1.00	GAMBOGE
G 173	2	Connecting rod bolt (crank end)...	1.00	GAMBOL
G 175	1	Connecting rod oil cup (crank end)...	.50	GAME
G 176	2	Connecting rod set screw.....	.10	GAMIC
G 177	1	Connecting rod oil cup (crosshead end).....	.50	GAMMER
G 180	1	Crank shaft.....	40.00	GAMMON
G 183	2	Main journal cap.....	2.00	GAMUT
G 184	2	Main journal oil well cover.....	.15	GANDER
G 185	8	Main journal stud.....	.15	GANG
G 187	4	Quarter box.....	1.50	GANNET
G 191	1	Slide valve.....	2.75	GANTLET
G 192	1	Slide valve stem.....	2.50	GAP
G 193	4	Slide valve stem nut.....	.25	GAPER
G 194	1	Slide valve guide.....	3.50	GARAGE
G 195	1	Slide valve guide box.....	3.50	GARB
G 196	2	Slide valve guide box screw.....	.10	GARBAGE
G 197	1	Slide valve gland.....	1.00	GARBLE
G 198	2	Slide valve gland stud.....	.15	GARBOIL
G1200		Slide valve packing.....	.25	GARDEN
G1201	1	Valve stem guide lock nut.....	.25	GARFISH
G1206	1	THROTTLE VALVE COMPLETE, composed of parts G1207 to G1223.....	10.00	GARGET
G1207	1	Throttle valve body.....	5.50	GARGLE
G1208	1	Throttle valve body gasket.....	.25	GARISH
G1209	1	Throttle valve yoke.....	2.50	GARLAND
G1210		Throttle valve yoke packing.....	.25	GARLIC
G1211	1	Throttle valve gland.....	1.00	GARMENT
G1212	2	Throttle valve gland stud.....	.15	GARNER
G1214	1	Throttle valve stem.....	1.50	GARNISH
G1215	1	Throttle valve stem nut.....	.50	GARROT
G1216	1	Throttle valve handwheel.....	.50	GARTER
G1217	1	Throttle valve stem lock nut.....	.25	GAS
G1218	1	Throttle valve.....	.75	GASTRIC
G1219	1	Throttle valve seat.....	.75	GASTRO
G1220	4	Throttle valve stud.....	.15	GATE
G1222	1	Throttle yoke gasket.....	.25	GATHER
G1223	1	Throttle valve body plug.....	.10	GAUCHE
G1225	1	Reverse lever.....	3.50	GAUD

Price List of Complete Parts — Continued

Part No.	Quantity	Name of Part	List, Each	Code
G1225A	1	Reverse lever fulcrum	\$ 3.00	GAUFFER
G1226	1	Reverse lever fulcrum stud . . . . .	.15	GAUGE
G1228	1	Reverse lever stop screw . . . . .	.10	GAULT
G1230	1	Reverse link	8.00	GAUNT
G1231	1	Reverse link jaw bolt . . . . .	.15	GAUZE
G1232	1	Reverse link roller . . . . .	.75	GAVE
G1233	1	Reverse link roller pin . . . . .	.75	GAVOT
G1234	1	Reverse link roller pin nut . . . . .	.10	GAWK
G1235	1	Reverse link hanger	2.00	GAY
G1236	1	Reverse link hanger bolt . . . . .	.10	GAZE
G1237	1	Reverse link hanger lower bolt . . . . .	.10	GAZON
G1238	2	Eccentric rod pin . . . . .	.50	GEAN
G1240	2	Eccentric rod pin nut . . . . .	.10	GECK
G1241	1	Reverse link jaw screw . . . . .	.10	GEE
G1242	2	Reverse link hanger screw . . . . .	.10	GELABLE
G1243	1	Reverse pull rod hook	1.00	GELATIN
G1244	1	Reverse pull rod handle	1.00	GELD
G1246	1	Eccentric forward rod	3.00	GELDING
G1247	1	Eccentric reverse rod	3.00	GEM
G1248	2	Eccentric rod bushing . . . . .	.50	GEMEL
G1249	2	Eccentric rod set screw . . . . .	.10	GEMINI
G1251	1	Eccentric hub	5.00	GENDER
G1252	1	Eccentric key . . . . .	.75	GENERAL
G1253	2	Eccentric strap (upper half)	2.00	GENERIC
G1254	2	Eccentric strap (lower half)	2.00	GENESIS
G1255	4	Eccentric strap bolt . . . . .	.10	GENET
G1257	2	Eccentric strap set screw . . . . .	.10	GENEVA
G1264	1	Flywheel	27.00	GENIUS
G1265	2	Flywheel bolt . . . . .	.50	GENRE
G1267	1	Flywheel key . . . . .	.75	GENT
G1268		Flywheel balance rim (first, second, third)	10.00	GENTLE
G1269	4	Flywheel balance rim bolt . . . . .	.15	GENTRY
G1271	1	Engine sprocket (15 teeth)	8.00	GEODE
G1272	1	Engine sprocket key . . . . .	.75	GEORGE
G1273	1	Engine pulley	18.00	GERAH
G1274	2	Engine pulley bolt . . . . .	.15	GERM
G1276	1	Engine pulley key . . . . .	.75	GERMAN
G1277	6	Foundation stud . . . . .	.30	GEST
G1280	1	Double end wrench . . . . .	.35	GET
G1281	1	Double end wrench . . . . .	.35	GETTER
G1282	1	Wedge . . . . .	.25	GETUP
G1283	1	Exhaust pipe	2.50	GEYSER
G1284	1	Oil country lubricator	1.00	GHAST
G1285	1	Lubricator connection . . . . .	.15	GIANT

Prices given on studs and bolts include the necessary nuts.



Oil Country Portable Boiler

(Locomotive Type)

This type of boiler is particularly adapted to the oil regions for drilling and pumping oil wells, etc.

The plate throughout is open hearth homogeneous steel of 60,000 pounds tensile strength with a reduction area of 40 to 50 per cent., and can be turned over and bent cold without fracture.

The tubes are hammered charcoal iron.

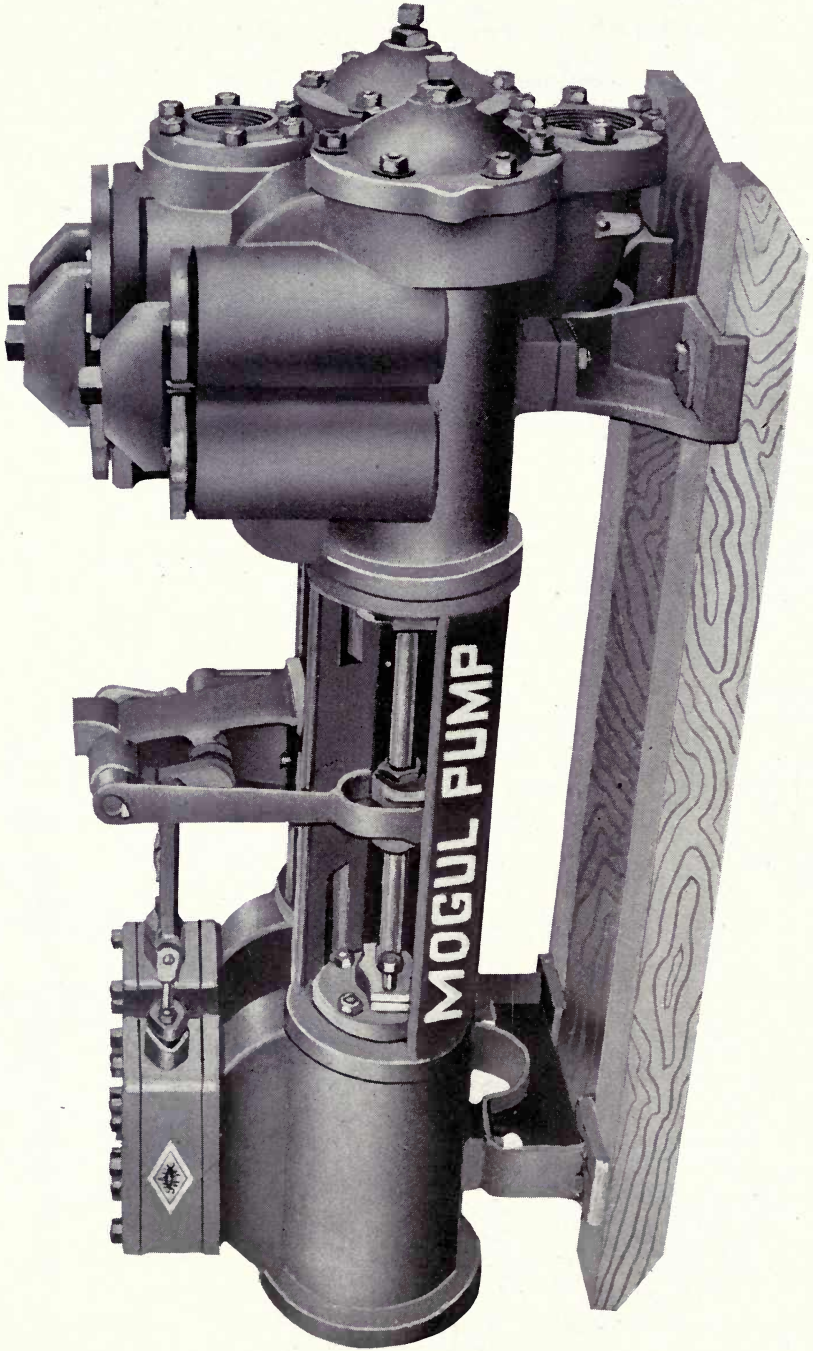
The bracing and stay bolting is of the most approved method, stay bolts being $4\frac{1}{2}$ " centers on flat surfaces.

Openings for safety valves, blow-off valves, feed pipes and gauge cocks are double thickness, assuring good long threads.

Boilers are inspected and tested at 150 pounds steam and water pressure and proved absolutely tight before leaving the factory.

SPECIFICATIONS

	20 H. P.	25 H. P.	30 H. P.	40 H. P.
Diameter of Shell.....	36"	40"	40"	44"
Length of Fire Box.....	49"	49"	49"	54"
Width of Fire Box.....	36"	40"	40"	44"
Height of Fire Box above Grate.....	36"	40"	40"	44"
Number of Tubes 3" Diameter.....	38"	43"	43"	60"
Length of Tubes.....	96"	96"	108"	114"
Diameter of Dome.....	28"	32"	32"	36"
Height of Dome.....	32"	34"	34"	36"
Diameter of Smoke Stack.....	18"	20"	24"	26"
Length of Smoke Stack.....	24"	24"	24"	24"
Weight Complete in Pounds.....	6600	7000	7500	8700



Parker Mogul Duplex Steam Pump. 10" x 5 3/4" x 12"

Description of Parker Mogul Duplex Steam Pump

Our MOGUL Pump is designed especially for oil field service, and every adverse service condition has been anticipated by an accurate knowledge of those conditions, resulting in a pump massive in proportion, heavy and of special materials to withstand the abrasive actions of the liquids used in the oil fields.

Eight valves of medium soft rubber with special composition metal valve seats are forced in their seats under pressure, and are located in the most accessible positions. The valves are protected by flat plate washers held securely in position by conical phosphor-bronze springs.

The rocker arms are of fork design, this construction giving twice the wearing surface of the single lever design, and preventing the piston rods from turning. These arms are extra long, giving a very smooth and uniform motion.

Piston rods are of the split type, permitting the removal of either end without disturbing the other end.

After considerable experimenting with castings of varying analysis we have adopted one for our water cylinder liners that we believe to be the best on the market today for the service intended.

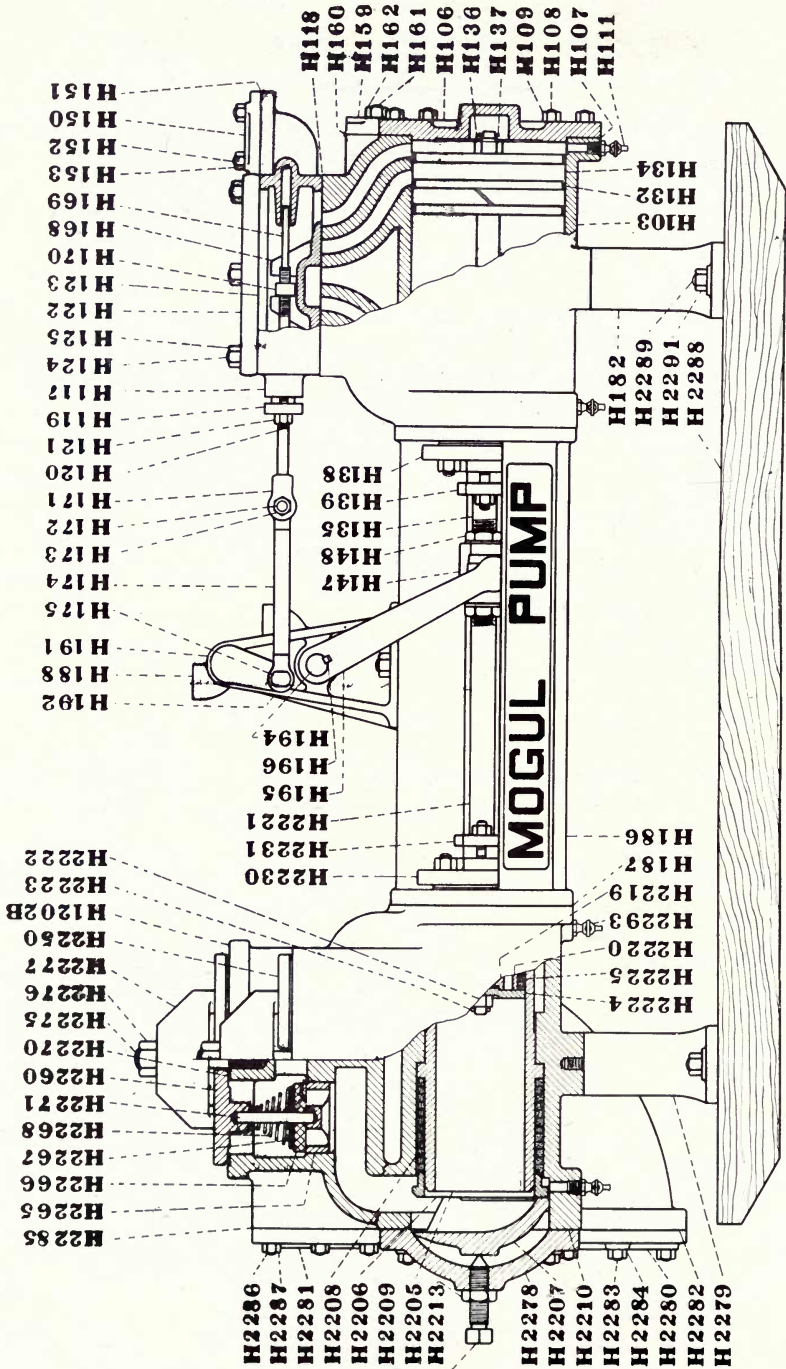
We wish particularly to call attention to the water or slush end on this pump. The liners are so constructed as to permit PACKING AROUND THE LINERS; YOU CANNOT CUT OUT THE WATER END BEHIND THE LINERS.

The water liner packing is readily adjusted from the outside by means of large conical pointed screws, which can be locked after the desired adjustments are made.

Every component part in the make-up of the PARKER MOGUL Pump is massive and all parts are designed to withstand pressures up to 250 pounds per square inch with a large factor of safety.

SPECIFICATIONS

Weight Complete	3500 lbs.
Steam Cylinder Diameter	10"
Stroke	12"
Diameter of Water Plunger	5 $\frac{3}{4}$ "
Displacement of Water Plunger in Gallons per Stroke of One Plunger	1.39
Steam Inlet Diameter	2"
Steam Exhaust Diameter	2 $\frac{1}{2}$ "
Suction Diameter	5"
Discharge Diameter	4"



Sectional View—Parker Mogul Duplex Steam Pump
 10" x 5 3/4" x 12"

Price List of Complete Parts

Part No.	Quantity	Name of Part	List, Each	Code
H 200		PARKER MOGUL, 10" x 5 $\frac{3}{4}$ " x 12" DUPLEX PUMP COM- PLETE, weight, 4,000 lbs.	\$475.00	HAUBERK
H 102S	1	Steam cylinder (studded)	90.00	HAUGHTY
H 103	1	Steam cylinder (bare)	85.00	HAUL
H 104	8	Stud (cradle) .....	.25	HAULAGE
H 106	2	Steam cylinder head	5.10	HAULER
H 107	2	Steam cylinder head gasket .....	.20	HAUNCH
H 108	16	Stud (steam cylinder head) .....	.25	HAUNT
H 110	1	Steam cylinder plug .....	.15	HAUNTER
H 111	4	Steam cylinder cock .....	.35	HAVEN
H 117	1	Steam chest	21.40	HAVOC
H 118	1	Steam chest gasket .....	.20	HAWK
H 119	2	Steam chest gland .....	.80	HAWKBILL
H 120	4	Steam chest stuffing box stud .....	.25	HAWKED
H 122	2	Steam chest cover	4.30	HAWSE
H 123	2	Steam chest cover gasket .....	.20	HAY
H 124	12	Steam chest cover stud .....	.25	HAYCOCK
H 126	2	Steam chest cover plug .....	.10	HAYLOFT
H 131	2	Steam piston complete, com- posed of parts H132 to H137 ...	18.00	HAYMOW
H 132	1	Steam piston head	10.70	HAYRICK
H 134	2	Steam piston ring	3.00	HAZARD
H 135	1	Steam piston rod	3.00	HAZE
H 136	1	Steam piston rod nut .....	.40	HAZLENUIT
H 137	1	Piston rod cotter .....	.15	HEAD
H 138	2	Stuffing box (steam end)	4.00	HEADACHE
H 139	2	Stuffing box gland (steam end) ...	1.35	HEADED
H 140	4	Stuffing box stud .....	.25	HEADING
H 142	2	Stuffing box gasket .....	.20	HEADLESS
H 147	2	Cross head	1.90	HEADLINE
H 148	4	Cross head nut .....	.25	HEADMAN
H 150	1	Steam inlet flange	1.40	HEADSHIP
H 151	1	Steam inlet flange gasket .....	.20	HEADSTAL
H 152	4	Steam inlet flange stud .....	.25	HEADWAY
H 159	1	Steam exhaust flange	1.40	HEAL
H 160	1	Steam exhaust flange gasket .....	.20	HEALER
H 161	2	Exhaust flange stud .....	.25	HEALTH
H 168	2	Slide valve	3.40	HEAPER
H 169	2	Slide valve stem .....	.75	HEARD
H 170	2	Slide valve stem nut .....	.25	HEARER
H 171	2	Slide valve stem yoke	1.30	HEARSAY
H 172	2	Slide stem link pin .....	.60	HEARSE
H 174	2	Slide valve link	1.15	HEARTH
H 175	2	Slide valve link bolt .....	.60	HEATER

Price List of Complete Parts—Continued

Part No.	Quantity	Name of Part	List, Each	Code
H 182	1	Steam cylinder foot	\$ 4.00	HEATH
H 183	4	Cylinder foot screw . . . . .	.15	HAYSTACK
H 186	2	Cradle or concave	24.00	HEATHEN
H 187	4	Cradle gasket . . . . .	.20	HEAVE
H 188	1	Rocker stand	11.40	HEBREW
H 189	2	Rocker stand stud . . . . .	.25	HECKLE
H 191	1	Upper rocker shaft	1.75	HECTARE
H 192	1	Long rocker arm	3.50	HECTIC
H 193	1	Long rocker arm key . . . . .	.25	HEDDLE
H 194	1	Lower rocker shaft	1.75	HEDGE
H 195	1	Short rocker arm	2.50	HEDONIC
H 196	1	Short rocker arm key . . . . .	.25	HEEDFUL
H1200B	1	MOGUL WATER CYLINDER COMPLETE, composed of parts H1201B to H2286 and H2293	240.00	HEELTAP
H1201B	1	Water cylinder with studs and seats	193.45	HEGIRA
H1202B	1	Water cylinder (bare)	158.30	HEINOUS
H1203	8	Stud (cradle end) . . . . .	.25	HEIRDOM
H2205	2	Water cylinder liner (5 $\frac{3}{4}$ ")	10.00	HEIRESS
H2206	2	Liner packing gland	3.00	HEIRLOOM
H2207	2	Liner adjusting cover	1.65	HEIRSHIP
H2209	2	Adjusting screw . . . . .	.75	HELIAC
H2210	2	Water cylinder head gasket . . . . .	.25	HELICAL
H2211	12	Stud (water cylinder head) . . . . .	.25	HELICOID
H2218	2	Water piston complete, com- posed of parts H2219 to H2224	8.55	HELIO
H2219	1	Water piston head (5 $\frac{3}{4}$ ")	2.00	HELLENE
H2220	1	Water piston float ring	1.00	HELM
H2221	1	Water piston rod (split type)	3.00	HELMET
H2222	1	Piston rod nut . . . . .	.40	HELOT
H2223	1	Piston rod cotter . . . . .	.15	HELPER
H2224	1	Water piston follower (5 $\frac{3}{4}$ ")	2.00	HELPFUL
H2230	2	Stuffing box (water cylinder)	4.00	HELMATE
H2231	2	Stuffing box gland	1.35	HEMAL
H2232	4	Stuffing box stud . . . . .	.25	HEMATIN
H2234	2	Stuffing box gasket . . . . .	.20	HEMATITE
H2250	4	Suction valve cover	1.65	HEMIN
H2260	4	Discharge valve cover	1.65	HENBANE
H2265	8	Valve seat (brass or steel)	3.35	HENCE
H2266	8	Rubber valve (extra grade) 4 $\frac{1}{2}$ " x 3 $\frac{3}{4}$ " x 1 $\frac{1}{8}$ "	1.65	HENNA
H2267	8	Valve plate . . . . .	.15	HENOTIC

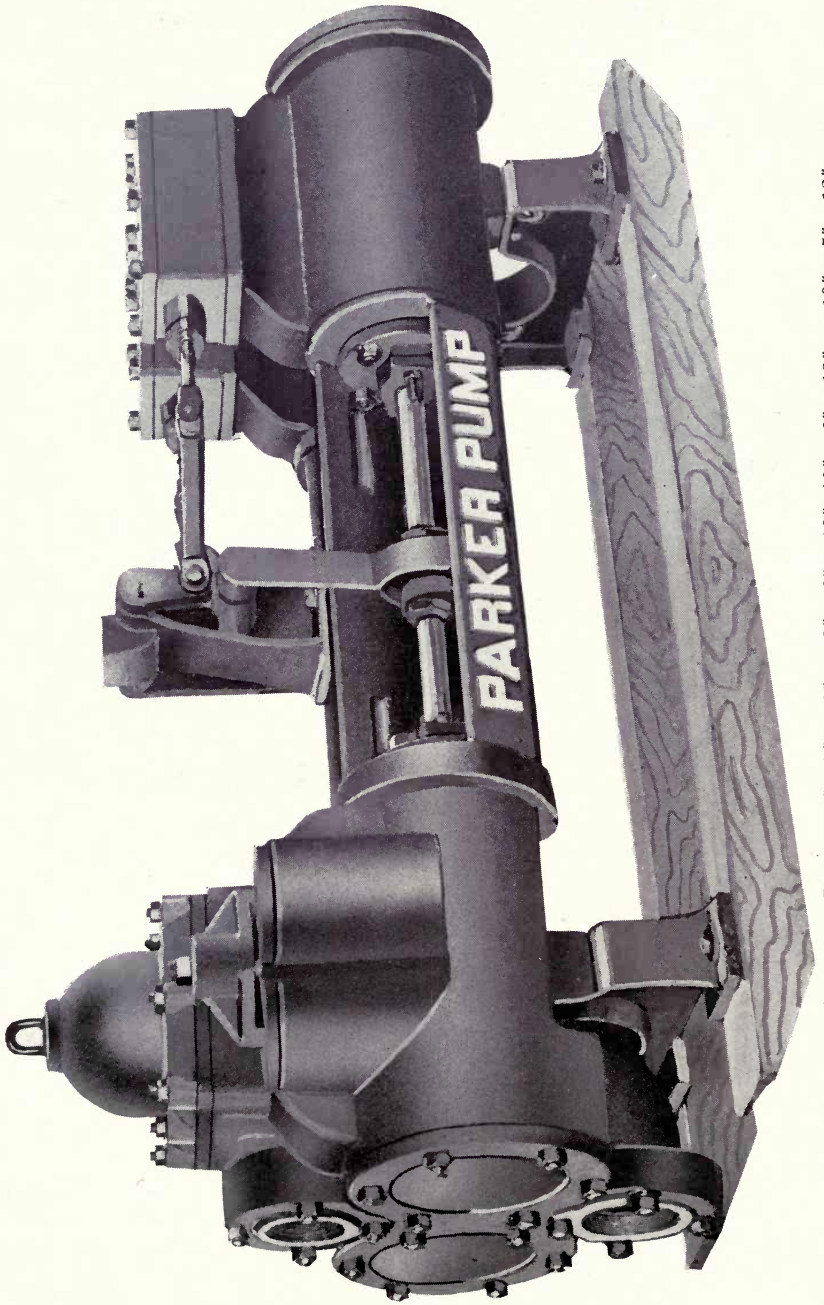
Price List of Complete Parts—Continued

Part No.	Quantity	Name of Part	List, Each	Code
H2268	8	Valve spring.....	\$.50	HENPECK
H2270	8	Valve cover gasket.....	.25	HENRY
H2271	8	Valve stem.....	.85	HEPAR
H2275	4	Crow foot stud.....	.75	HEPATIC
H2277	4	Crow foot.....	2.00	HEPATIZE
H2278	2	Water cylinder head.....	6.65	HEPTAD
H2279	1	Water cylinder foot.....	7.00	HERALD
H2280	1	Suction flange.....	3.35	HERB
H2281	1	Discharge flange.....	3.35	HERBAGE
H2282	1	Suction flange gasket.....	.25	HERBAL
H2283	6	Suction flange stud.....	.25	HERDER
H2285	1	Discharge flange gasket.....	.25	HERDMAN
H2286	6	Discharge flange stud.....	.25	HEREAT
H2293	5	Water cylinder drain cock.....	.35	HEREBY
H2294	2	Water cylinder foot stud.....	.25	HEREIN
H1281	2	Water cylinder plug.....	.05	HEREOF
H1282	2	Pump skid.....	1.65	HERESY
H1283	4	Pump skid bolt.....	.15	HERETIC
H1287	1	Piston rod socket wrench.....	2.35	HERETO
H1288	1	Crow foot stud wrench.....	5.65	HERMIT
H1290	1	Cross head wrench.....	.85	HERO
H1291	1	Double S wrench.....	.40	HEROINE
H1292S	1	Valve remover.....	3.00	HERPES

Prices given on studs and bolts include the necessary nuts and washers.

Extras for Bronze Fitted

H2221A	1	Water piston rod.....	\$6.00
H2222A	1	Water piston rod nut.....	.80



Parker Duplex Steam Pump. 8" x 5" x 10", or 8" x 6" x 10"; 10" x 6" x 12", or 10" x 5" x 12"

Description of Parker Duplex Steam Pump

In general appearance the PARKER Duplex Steam Pump is similar to the PARKER MOGUL Duplex Pump, but is of lighter construction and adapted for use in the Southern oil fields of the United States and in localities where the wells do not exceed 2,500 feet in depth. When this depth is exceeded we recommend the MOGUL Pump.

The same general design is followed in the PARKER as in the MOGUL with the exception of the water end. On the PARKER we use an air chamber, which has to be removed for the inspection of the discharge valves.

The water cylinder liners are fitted with six lugs, and the seat has been materially increased over that formerly used, preventing leaking past the liner.

Materials are the same as in our larger pump, and the inspection and tests are the same.

SPECIFICATIONS

Weight Complete	3000 lbs.
Steam Cylinder Diameter	10"
Stroke	12"
Diameter of Water Plunger	6"
Displacement of Water Cylinder in Gallons per Stroke of One Plunger	1.46
Steam Inlet Diameter	2"
Steam Exhaust Diameter	2 1/2"
Suction Diameter	5"
Discharge Diameter	4"

NOTE: The liners for these pumps were formerly manufactured with only three lugs. On all pumps sold previous to 1912, specify whether three lugs or six lugs are required when ordering extra liners.

Price List on Complete Parker Pumps

Size	Suction	Discharge	Weight	List
8" x 5" x 10"	4"	3"	1875 lbs.	\$300.00
8" x 6" x 10"	4"	3"	1875 lbs.	300.00
10" x 5" x 12"	5"	4"	3000 lbs.	416.50
10" x 6" x 12"	5"	4"	3000 lbs.	416.50

"PARKER ROTARIES — STANDARD OF THE WORLD"

Price List of Complete Parts

Part No.	Quantity	Name of Part	List, Each	Code
H 100	1	PARKER 10" x 6" x 12" DU- PLEX STEAM PUMP COM- PLETE, weight, 3,200 pounds .	\$416.50	HABIT
H 102S	1	Steam cylinder (studded).....	90.00	HABITAT
H 103	1	Steam cylinder (bare).....	85.00	HABITUDE
H 104	8	Stud (cradle end).....	.25	HACHURE
H 106	2	Steam cylinder head.....	5.10	HACK
H 107	2	Steam cylinder head gasket.....	.20	HACKER
H 108	16	Stud (steam cylinder head).....	.25	HACKLE
H 110	1	Steam cylinder plug.....	.15	HACKNEY
H 111	4	Steam cylinder cock.....	.35	HAD
H 117	1	Steam chest.....	21.40	HADDOCK
H 118	1	Steam chest gasket.....	.20	HADES
H 119	2	Steam chest gland.....	.80	HAFT
H 120	4	Steam chest stuffing box stud....	.25	HAG
H 122	2	Steam chest cover.....	4.30	HAGBUT
H 123	2	Steam chest cover gasket.....	.20	HAGGARD
H 124	12	Stud (steam chest cover).....	.25	HAGGIS
H 126	2	Steam chest cover plug.....	.10	HAGGLE
H 131	2	STEAM PISTON COMPLETE, composed of parts H132 to H137.....	18.00	HAIL
H 132	1	Steam piston head.....	10.70	HAired
H 134	2	Steam piston ring.....	3.00	HAIRY
H 135	1	Steam piston rod.....	3.00	HALBERD
H 136	1	Steam piston rod nut.....	.40	HALCYON
H 137	1	Piston rod cotter.....	.15	HALFBEAK
H 138	2	Stuffing box (steam end).....	4.00	HALFCKOCK
H 139	2	Stuffing box gland.....	1.35	HALFWAY
H 140	4	Stud (stuffing box).....	.25	HALIBUT
H 142	2	Stuffing box gasket.....	.20	HALLOW
H 147	2	Cross head.....	1.90	HALLUX
H 148	4	Cross head nut.....	.25	HALOID
H 150	1	Steam inlet flange.....	1.40	HALSER
H 151	1	Steam inlet flange gasket.....	.20	HALTER
H 152	4	Stud (steam inlet flange).....	.25	HALYARD
H 159	1	Steam exhaust flange.....	1.40	HAM
H 160	1	Steam exhaust flange gasket.....	.20	HAMITE
H 161	2	Stud (exhaust flange).....	.25	HAMLET
H 168	2	Slide valve.....	3.40	HAMMER
H 169	2	Slide valve stem.....	.75	HAMMOCK
H 170	2	Slide valve stem nut.....	.25	HAMOSE
H 171	2	Slide valve stem yoke.....	1.30	HAMPER
H 172	2	Valve stem link pin.....	.60	HAMSTER
H 174	2	Slide valve link.....	1.15	HAMULE

Price List of Complete Parts — Continued

Part No.	Quantity	Name of Part	List, Each	Code
H 175	2	Slide valve link bolt.....	\$.60	HANAPER
H 182	1	Steam cylinder foot.....	4.00	HANCE
H 183	4	Steam cylinder foot screw.....	.15	HAYSTACK
H 186	2	Cradle or concave.....	24.00	HAND
H 187	4	Cradle gasket.....	.20	HANDBILL
H 188	1	Rocker stand.....	11.40	HANDCART
H 189	2	Rocker stand stud.....	.25	HANDCUFF
H 191	1	Upper rocker shaft.....	1.75	HANDED
H 192	1	Long rocker arm.....	3.50	HANDFUL
H 193	1	Long rocker arm key.....	.25	HANDLE
H 194	1	Lower rocker shaft.....	1.75	HANSEL
H 195	1	Short rocker arm.....	2.50	HANDY
H 196	1	Short rocker arm key.....	.25	HANGDOG
H1200	1	PARKER WATER CYLINDER COMPLETE, composed of parts H1202 to H1281.....	200.00	HANGER
H1201S	1	Water cylinder with studs and seats.....	125.00	HANGING
H1202	1	Water cylinder (bare).....	115.00	HANGMAN
H1203	8	Cradle end stud.....	.25	HANGNAIL
H1205	2	Water cylinder liner (6").....	8.35	HANSE
H1206	2	Liner gasket.....	.20	HANSOM
H1207	12	Liner stud.....	.25	HAP
H1209	1	Water cylinder head.....	5.00	HAPLESS
H1210	2	Water cylinder head gasket.....	.20	HAPLY
H1211	12	Water cylinder head stud.....	.25	HAPPEN
H1218	2	WATER PISTON COMPLETE, composed of parts H1219 to H1224.....	7.70	HARASS
H1219	1	Water piston head.....	1.65	HARBOR
H1220	1	Water piston float ring.....	.85	HARDEN
H1221	1	Water piston rod (split type).....	3.00	HARDBACK
H1222	1	Water piston rod nut.....	.40	HARDLY
H1223	1	Water piston rod cotter.....	.15	HARDMAN
H1224	1	Water piston follower.....	1.65	HARDTACK
H1230	2	Stuffing box (water end).....	3.35	HARE
H1231	2	Stuffing box gland.....	1.35	HAREBELL
H1232	4	Stud (stuffing box).....	.25	HAREFOOT
H1234	2	Stuffing box gasket.....	.20	HARELIP
H1239	1	Air dome.....	12.50	HAREM
H1240	1	Air dome cap.....	.50	HARICOT
H1241	1	Air dome relief plug.....	.10	HARIER
H1242	1	Air dome gasket.....	.20	HARK
H1243	8	Air dome stud.....	.25	HARKEN

Price List of Complete Parts—Continued

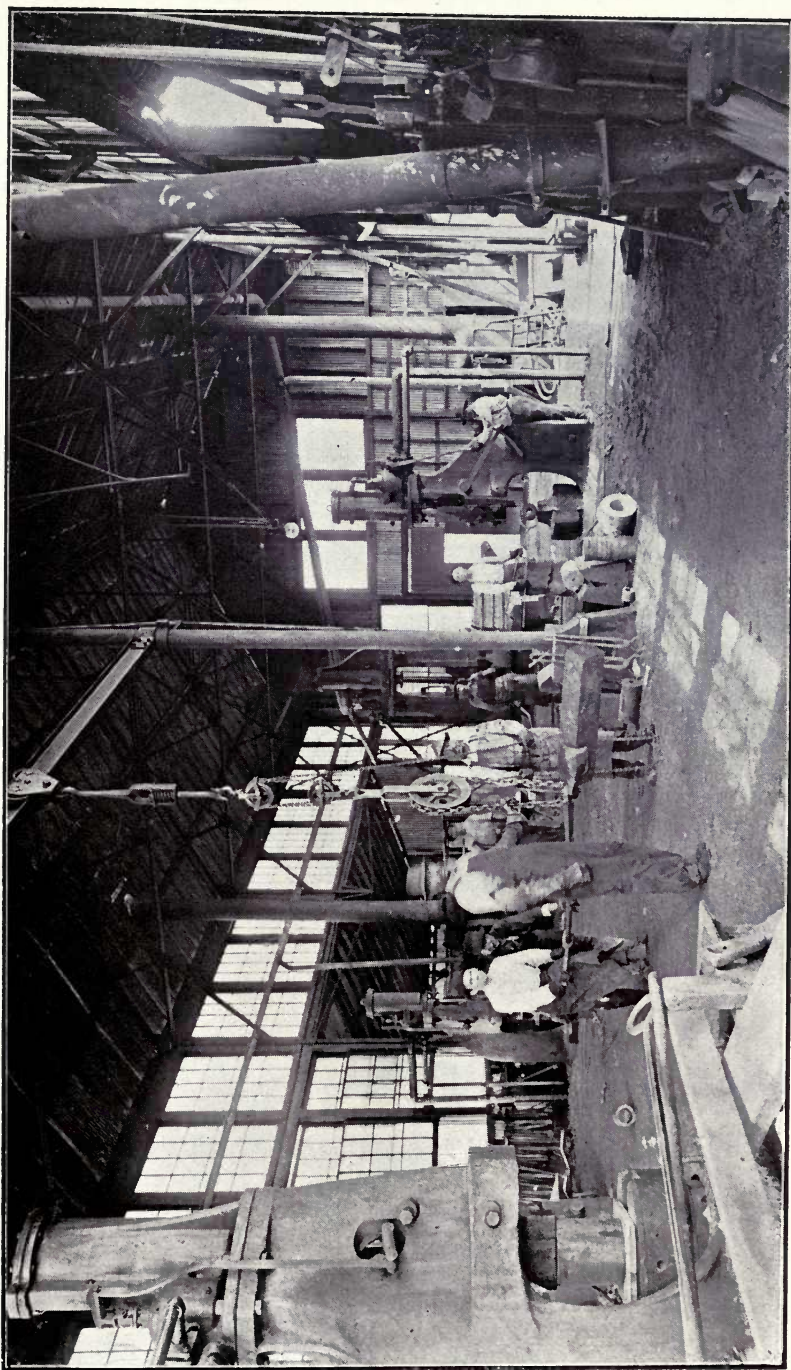
Part No.	Quantity	Name of Part	List, Each	Code
H1250	1	Suction flange.....	\$ 3.35	HARMFUL
H1251	1	Suction flange gasket.....	.20	HARMONY
H1252	4	Suction flange stud.....	.25	HARNESS
H1260	1	Discharge flange.....	3.35	HARP
H1261	1	Discharge flange gasket.....	.20	HARPER
H1262	4	Discharge flange stud.....	.25	HARPIST
H1265	8	Valve seat (brass or steel).....	1.65	HARPOON
H1266	8	Rubber valve (extra grade) 4½" x ¾" x ⅝".....	1.65	HARPY
H1267	8	Valve stem.....	.50	HARRIER
H1268	8	Valve spring.....	.25	HARROW
H1269	4	Pot valve cover.....	.85	HARSH
H1270	4	Pot valve cover gasket.....	.20	HARVEST
H1271	8	Rubber valve plate.....	.15	HASLET
H1275	2	Crow foot stud.....	.25	HASSOCK
H1277	2	Crow foot.....	.65	HASTATE
H1278	1	Water cylinder foot.....	4.00	HASTE
H1279	2	Water cylinder foot stud.....	.25	HATABLE
H1280	5	Water cylinder drain cock.....	.35	HATCH
H1281	2	Water cylinder plug.....	.05	HATCHEL
H1282	2	Pump skid.....	1.65	HATCHING
H1283	4	Pump skid bolt.....	.15	HATCHURE
H1285	1	Valve seat wrench.....	1.00	HATCHWAY
H1286	1	Valve seat wrench handle.....	.50	HATEFUL
H1287	1	Piston rod wrench.....	2.35	HATRED
H1288	1	Liner socket wrench.....	.50	HATTER
H1289	1	Open end wrench (double).....	.40	HATTING
H1290	1	Cross head wrench.....	.85	HATTREE

Prices given on bolts and studs include the necessary nuts and washers.

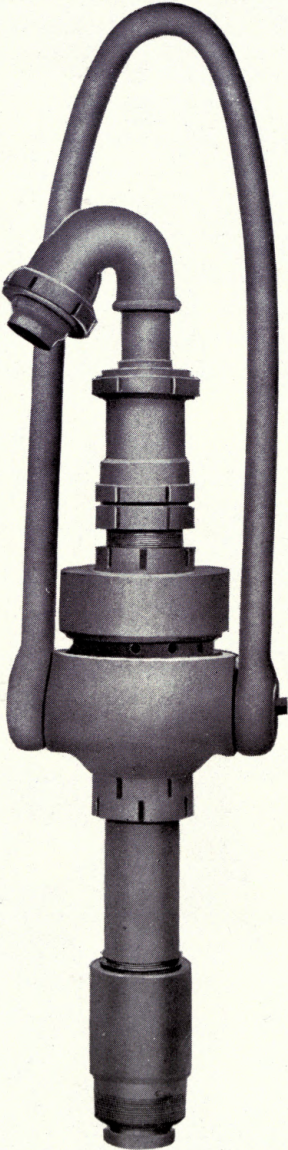
Extras for Bronze Fitted

H1221A	1	Water piston rod.....	\$6.00
H1222A	1	Water piston rod nut.....	.80

NOTE: All extra parts for 10" x 5" x 12" PARKER pumps take same list as above.



Section of Forge Department — Most Complete in the South



Parker Hydraulic Swivel

Parker Cone Bearing Swivels

In designing the PARKER line of Hydraulic Swivels, every phase of drilling has been considered, and the generous proportions of our swivels anticipate fully the severe service this class of tool has to render.

No cast iron whatever is used. STEEL, MALLEABLE IRON and BRASS are the only materials we use in our swivels.

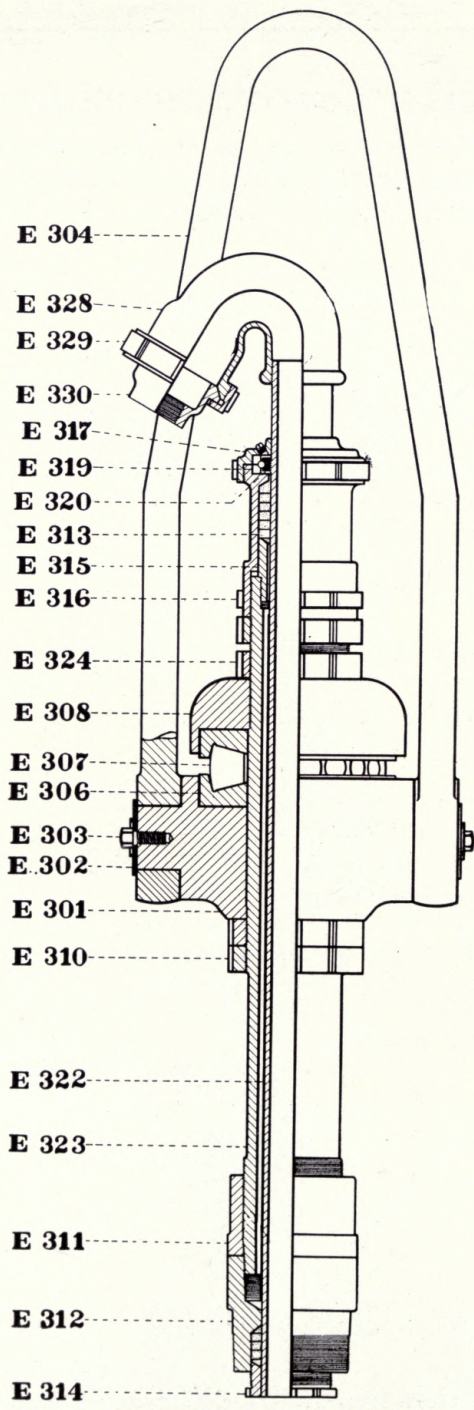
The cross head or trunnion is of solid homogeneous steel, of extra length, preventing abnormal wear of the swivel barrel or casing. The trunnion, bore and bearing seat are all MACHINED TO GAUGE.

Our regular equipment consists of cone bearings, as we believe after exhaustive tests that the advantages of this type of bearing for this particular kind of service greatly outweigh those of the ball bearing type, though we are prepared to furnish at no extra charge, the ball bearings when so desired.

Carefully selected special alloy cone bearing steel only is used in our bearings. The cones and race plates after hardening and heat treating are ground to gauges, insuring at all times that each cone will receive its proper proportion of the load.

All threads are cut according to hardened gauges, which have been inspected for accuracy of pitch and depth of thread before using, a guarantee that all parts of one size swivel will interchange with like parts of another swivel of the same size.

All three sizes which we manufacture are identical in design.



Sectional View—Parker Swivel
(Patented)

Price List of Complete Parts

Part No.	Quantity	Name of Part	List, Each	Code
E 300		5" PARKER MOGUL SWIVEL COMPLETE, composed of parts E301 to E330. Weight, 775 lbs.	\$335.00	EAGER
E 301	1	Crosshead or trunnion	58.00	EAGLE
E 302	2	Crosshead or trunnion washer . . . . .	.50	EAR
E 303	2	Crosshead or trunnion screw . . . . .	.15	EARDROP
E 304	1	Bail	35.00	EARL
E 305	1	CONE BEARING COMPLETE, composed of parts E306 to E307	52.00	EARLAP
E 306	2	Cone bearing raceplate	20.00	EARLDOM
E 307	12	Cone	2.00	EARLESS
E 308	1	Cone bearing seat	35.00	EARLOCK
E 310	2	Right-hand lock collar	4.00	EARLY
E 311	1	Bushing jam collar	4.00	EARMARK
E 312	1	Bushing	16.50	EARN
E 313		Bushing packing . . . . .	.35	EARNEST
E 314	1	Lower packing gland	5.80	EARSHELL
E 315	1	Upper packing gland	2.50	EARSHOT
E 316	1	Stuffing box	14.00	EARTH
E 317	1	Stuffing box cap	10.00	EARTHEN
E 318	1	STAND PIPE BALL BEARING COMPLETE, composed of parts E319 to E321	8.35	EARTHLY
E 319	2	Outer ball race	2.00	EARTHNUIT
E 320	1	Inner ball race	3.35	EARWAX
E 321	36	Bearing ball . . . . .	.05	EASE
E 322S	1	Stand pipe with E320	12.50	EASTER
E 323	1	Casing or barrel	40.00	EASY
E 324	2	Left-hand lock collar	4.00	EAT
E 325	1	Spanner wrench	1.65	EATER
E 326	1	Stuffing box cap plug . . . . .	.10	EAVES
E 327	1	GOOSENECK COMPLETE, composed of parts E328 to E330	25.00	EBB
E 328	1	Gooseneck bend	12.00	EBON
E 329	1	Gooseneck coupling	8.35	EBONITE
E 330	1	Nozzle coupling	5.00	ECBATIC

NOTE: For those desiring ball bearings where cones are now used, we will furnish the same as follows:

E 300A	1	5" PARKER MOGUL BALL BEARING SWIVEL COMPLETE, composed of parts E301A to E330A	335.00	EXULT
E 305A	1	TRUNNION BALL BEARING COMPLETE, composed of parts E306A to E307A	60.00	EXULTED
E 306A	3	Trunnion ball race	20.00	EXULTING
E 307A	40	Trunnion bearing ball	1.00	EYRIE

When ordering repairs for Parker ball bearing swivels affix the letter "A" to part number.

NOTE: For best results we recommend swivels with cone bearings.

Price List of Complete Parts

Part No.	Quantity	Name of Part	List, Each	Code
E 200		4" PARKER MOGUL JR. SWIVEL COMPLETE, composed of parts E201 to E230. Weight, 460 lbs.	\$225.00	EFFACE
E 201	1	Crosshead or trunnion.	42.00	EFFECT
E 202	2	Crosshead or trunnion washer. ....	.50	EFFIGY
E 203	2	Crosshead or trunnion screw. ....	.15	EFFLUX
E 204	1	Bail.	25.00	EFFORT
E 205	1	CONE BEARING COMPLETE, composed of parts E206 to E207	46.00	EFFUSE
E 206	2	Cone bearing raceplate.	18.50	EGG
E 207	18	Cone.	2.00	EGGBIRD
E 208	1	Cone bearing seat.	27.50	EGGNOG
E 210	2	Right-hand lock collar.	4.00	EGGPLANT
E 211	1	Bushing jam collar.	4.00	EGO
E 212	1	Swivel bushing.	13.00	EGOISM
E 213		Bushing packing. ....	.35	EGOIST
E 214	1	Lower packing gland.	5.80	EGOTISM
E 215	1	Upper packing gland.	2.50	EGRESS
E 216	1	Stuffing box.	12.00	EGRET
E 217	1	Stuffing box cap.	8.50	EIDER
E 218	1	STAND PIPE BALL BEARING COMPLETE, composed of parts E219 to E221.	8.35	ETHER
E 219	2	Outer ball race.	2.00	EJECT
E 220	1	Inner ball race.	3.35	EJECTOR
E 221	28	Bearing ball. ....	.05	ELAPSE
E 222S	1	Stand pipe with E220.	11.50	ELASTIC
E 223	1	Casing or barrel.	32.50	ELATE
E 224	2	Left-hand lock collar.	4.00	ELBOW
E 225	1	Swivel spanner wrench.	1.65	ELECT
E 226	1	Stuffing box cap plug. ....	.05	ELECTION
E 227	1	GOOSENECK COMPLETE, composed of parts E228 to E230	23.50	ELECTIVE
E 228	1	Gooseneck bend.	11.00	ELECTOR
E 229	1	Gooseneck coupling.	7.50	ELECTRIC
E 230	1	Nozzle coupling.	5.00	ELECTRO

NOTE: For those desiring ball bearings where cones are now used, we will furnish the same as follows:

E 200A	1	4" PARKER MOGUL JR. BALL BEARING SWIVEL COMPLETE, composed of parts E201A to E230A.	225.00	EXTEND
E 205A	1	TRUNNION BALL BEARING COMPLETE, composed of parts E206A to E207A.	50.00	EXTINCT
E 206A	3	Trunnion ball race.	18.50	EXTOL
E 207A	40	Trunnion bearing ball.	1.00	EXTORT

When ordering repairs for Parker ball bearing swivels affix the letter "A" to part number.

NOTE: For best results we recommend swivels with cone bearings.

Price List of Complete Parts

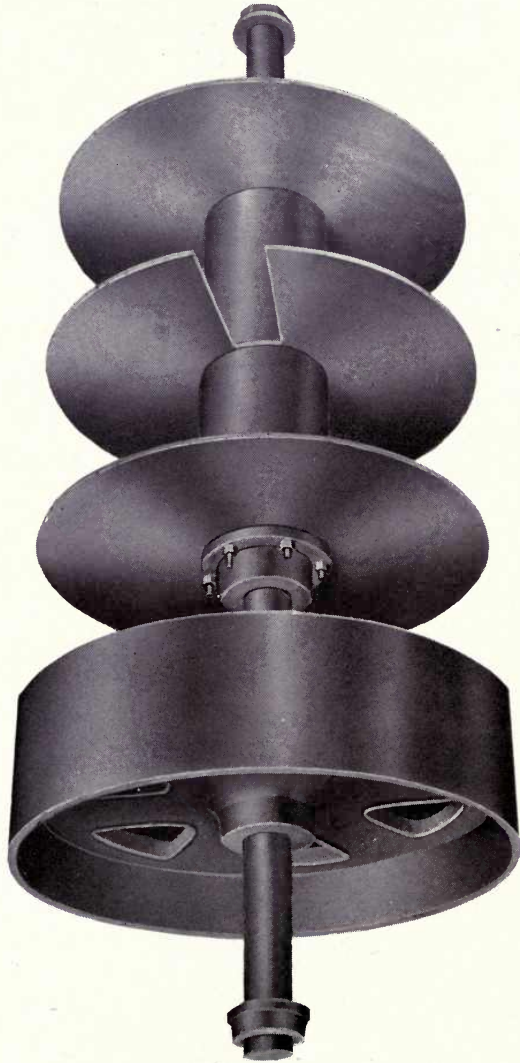
Part No.	Quantity	Name of Part	List, Each	Code
E 100		3" PARKER SPECIAL SWIVEL COMPLETE, composed of parts E101 to E130. Weight, 375 lbs.	\$175.00	ECHO
E 101	1	Crosshead or trunnion.....	35.00	ECLAIR
E 102	2	Crosshead or trunnion washer....	.50	ECLAT
E 103	2	Crosshead or trunnion screw.....	.15	ECLECTIC
E 104	1	Bail.....	15.00	ECLIPSE
E 105	1	CONE BEARING COMPLETE, composed of parts E106 to E107		
			41.65	ECLIPTIC
E 106	2	Cone bearing raceplate.....	16.50	ECLOGUE
E 107	12	Cone.....	1.65	ECRU
E 108	1	Cone bearing seat.....	20.00	ECTOPY
E 110	2	Right-hand lock collar.....	3.35	ECZEMA
E 111	1	Bushing jam collar.....	6.65	EDDA
E 112	1	Bushing.....	11.65	EDEMA
E 113		Bushing packing.....	.35	EDEN
E 114	1	Lower packing gland.....	5.00	EDENTAL
E 115	1	Stuffing box.....	10.00	EDGE
E 117	1	Stuffing box cap.....	7.50	EDIBLE
E 118	1	STAND PIPE BALL BEARING COMPLETE, composed of parts E119 to E121.....	8.35	EDICT
E 119	2	Outer ball race.....	2.00	EDIFICE
E 120	1	Inner ball race.....	3.35	EDIFY
E 121	25	Bearing ball.....	.05	EDILE
E 122S	1	Stand pipe with E120.....	10.00	EDIT
E 123	1	Casing or barrel.....	25.00	EDITION
E 124	2	Left-hand lock collar.....	3.35	EDITOR
E 125	1	Spanner wrench.....	1.65	EDUCATE
E 126	1	Stuffing box cap plug.....	.05	EDUCE
E 127	1	GOOSENECK COMPLETE, composed of parts E128 to E130.....	21.00	EDUCT
E 128	1	Gooseneck bend.....	10.00	EDUCTOR
E 129	1	Gooseneck coupling.....	6.65	EEL
E 130	1	Nozzle coupling.....	5.00	EELGRASS

NOTE: To those desiring Ball Bearings where cones are now used, we will furnish the same as follows:

E 100A	1	3" PARKER SPECIAL BALL BEARING SWIVEL COMPLETE, composed of parts E101A to E130A.....	175.00	ELEGANT
E 105A	1	TRUNNION BALL BEARING COMPLETE, composed of parts E106A to E107A.....	45.00	EXPOUND
E 106A	3	Trunnion ball races.....	16.50	EXPRESS
E 107A	40	Trunnion bearing ball.....	1.00	EXTANT

When ordering repairs for Parker ball bearing swivels affix the letter "A" to part number.

NOTE: For best results, we recommend swivels with cone bearings.

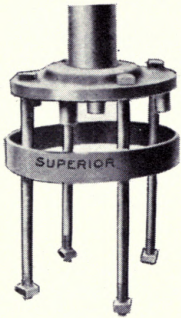


Parker Superior Sand Reel Complete

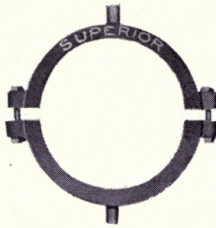
Price List of Complete Parts

Part No.	Quantity	Name of Part	List, Each	Code
F 100	1	SET OF 6" SUPERIOR RIG IRONS with Sand Reel, and 2½" x 30" Walking Beam Stirrup.....	\$680.25	FABAIN
F 101	1	6" SUPERIOR RIG IRON SHAFT COMPLETE, composed of parts F103 to F105 .	110.00	FABLE
F 102	1	6" SHAFT AND CRANK COMPLETE, composed of parts F101-F106-F107-F112..	117.00	FABRIC
F 103	1	Shaft.....	77.50	FACADE
F 104	1	Crank.....	27.50	FACILE
F 105	1	Crank key.....	1.00	FACUND
F 106	2	6" set collars.....	1.75	FAGOT
F 107	2	Set collar set screw.....	.25	FALCATE
F 108S	1	SET 36" FLANGES, composed of parts F108-F108A F109-F111.....	37.00	FALCON
F 108	1	36" flange (nut side).....	15.70	FALLIBLE
F 108A	1	36" flange (bolt side).....	15.70	FAMISH
F 109	8	36" flange bolt (¾" x 10").....	.20	FAMOUS
F 111	4	36" flange key.....	1.00	FANION
F 112	2	Clutch key.....	1.75	FANTASM
F 113	1	WRIST PIN COMPLETE, composed of parts F114 to F118.....	6.80	FARAD
F 114	1	Wrist pin.....	4.70	FARDEL
F 115	1	Wrist pin nut.....	1.50	FASCES
F 116	1	Wrist pin outer collar (lugs)....	.25	FASCIAL
F 117	1	Wrist pin inner collar (no lugs)..	.25	FASHION
F 118	1	Wrist pin cotter.....	.10	FATAL
F 119	1	42" clutch sprocket.....	47.50	FATHOM
F 120	1	6" PLAIN CLUTCH COMPLETE, composed of parts F121 and F122.....	29.50	FAUCAL
F 121	1	6" plain clutch.....	21.00	FAUCET
F 122	1	6" plain clutch strap complete, composed of parts F123 to F124.....	8.50	FAVEL
F 123	2	6" clutch strap.....	4.15	FEASIBLE
F 124	2	Clutch strap bolt.....	.10	FEBRILE

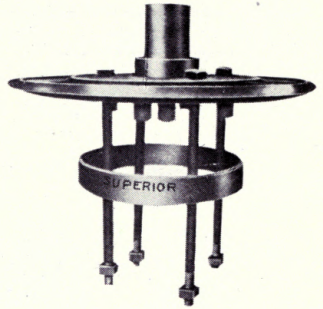
Superior Rig Irons



F 175



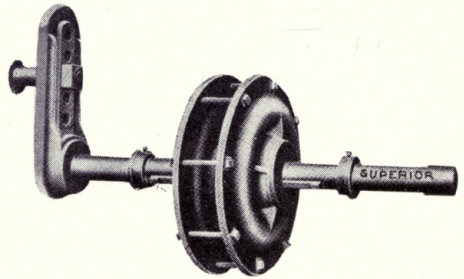
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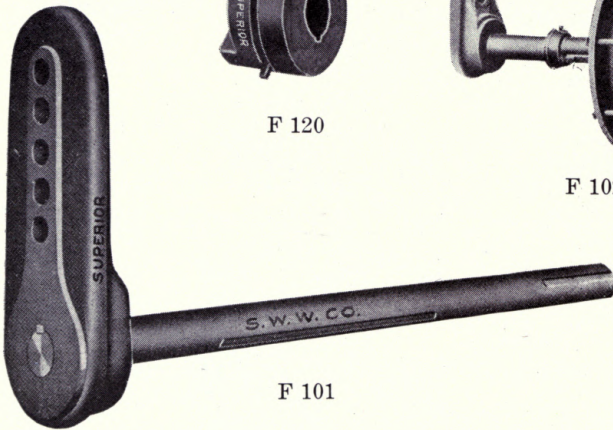
F 185S



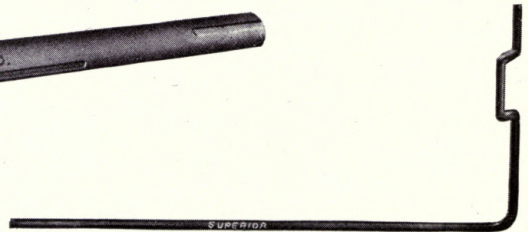
F 120



F 102 & F 108S



F 101



F 195 & F 201



F 112



F 111



F 106

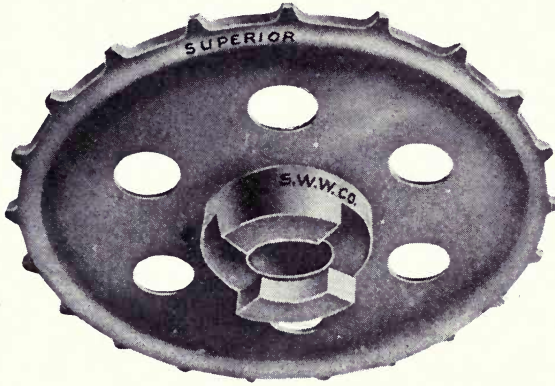


F 113

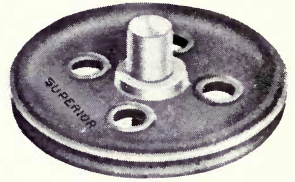
Price List of Complete Parts—Continued

Part No.	Quantity	Name of Part	List, Each	Code
F 126	1	6" CLUTCH LEVER COMPLETE, composed of parts F127 to F129.....	\$13.00	FEDERAL
F 127	2	Clutch lever fingers.....	2.95	FELINE
F 128	1	Clutch lever.....	7.00	FENCE
F 129	2	Clutch lever bolt.....	.05	FENIAN
F 131	1	7 ft. SPROCKET TUG RIM..	25.00	FERRET
F 132	1	6" x 14" JACK POST BOX COMPLETE, composed of parts F133 to F136.....	36.50	FERRIC
F 133	1	6" x 14" jack post box.....	15.70	FERRULE
F 134	1	6" x 14" jack post box cap.....	20.00	FERVID
F 136	4	6" x 14" jack post box bolt (1¼" x 12½").....	.20	FESCUE
F 138	1	6" x 12" CALF WHEEL BOX COMPLETE, composed of parts F139 to F142.....	31.50	FESTOON
F 139	1	6" x 12" calf wheel box.....	15.35	FESTIVE
F 140	1	6" x 12" calf wheel box cap....	15.35	FETAL
F 142	4	Calf wheel box bolt (1¼"x11½")	.20	FETCH
F 144	4	1¼" x 8' 6" TURNBUCKLE ROD COMPLETE.....	3.20	FETLOCK
F 148	2	1½" x 8' 4" JACK POST ROD	2.75	FIAT
F 151	1	JACK POST PLATE 2"x6"x22"	4.50	FIBLUA
F 152	2	1½" x 48" EYE BOLT COMPLETE.....	1.80	FICTILE
F 155	1	1½" x 26" DOUBLE END BOLT COMPLETE.....	.80	FIDDLE
F 158	2	⅞" x 18" EYE BOLT COMPLETE.....	.45	FIEND
F 161	1	⅞" x 8' DOUBLE END BOLT COMPLETE.....	.70	FIEGMENT
F 164	2	⅞" x 9' 6" DOUBLE END BOLT COMPLETE.....	.90	FILAMENT
F 167S	1	Set 5" CENTER IRONS COMPLETE, composed of parts F168-F172-F174.....	22.70	FILBERT
F 168	2	5" side iron.....	4.60	FILEMOT
F 169	2	5" side iron cap.....	1.50	FILEBEG

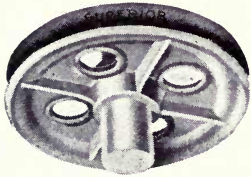
Superior Rig Irons



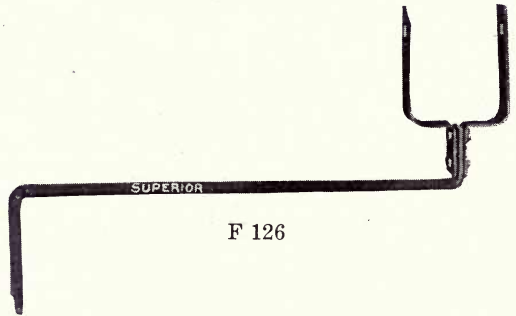
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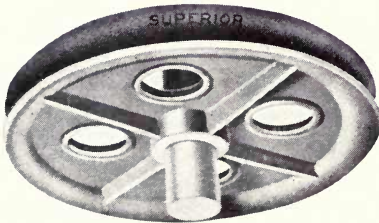
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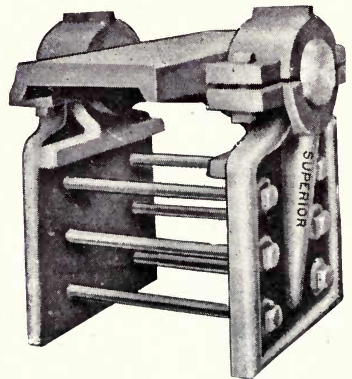
F 207



F 126



F 206



F 167S

Price List of Complete Parts—Continued

Part No.	Quantity	Name of Part	List, Each	Code
F 170	4	5" side iron cap bolt ($\frac{7}{8}$ " x 4") .	\$.10	FILICOID
F 172	6	5" side iron bolt ($\frac{7}{8}$ " x 20") . . . .	.20	FILLIP
F 174	1	5" saddle iron	8.00	FILTRATE
F 174A	4	Saddle iron bolt ($\frac{7}{8}$ " x 34") . . . . .	.30	FIMBLE
F 175	1	SET 16" B. W. GUDGEONS B & B.	13.20	FINABLE
F 175S	1	16" CALF WHEEL GUD- GEON COMPLETE, com- posed of parts F176 to F179.	6.60	FINANCE
F 176	1	16" bull wheel gudgeon	4.10	FINBACK
F 177	4	Bull wheel gudgeon bolt (1" x 20") . . . . .	.25	FINDRAW
F 179	1	Bull wheel gudgeon band	1.50	FINESSE
F 185S	1	30" CALF WHEEL GUD- GEON B & B.	14.60	FINFISH
F 186	1	30" calf wheel gudgeon	12.10	FINIAL
F 187	4	30" calf wheel gudgeon bolt (1" x 20") . . . . .	.25	FINIS
F 189	1	30" calf wheel gudgeon band	1.80	FINLET
F 190S	1	$\frac{1}{4}$ " x 7" x 28' BRAKE BAND COMPLETE, lever and staple	14.60	FIORD
F 191S	1	7" Brake band less lever	10.10	FIREARM
F 195	1	7" brake band lever ($1\frac{3}{4}$ ")	4.50	FIRKIN
F 196S	1	$\frac{3}{16}$ " x 6" x 28' BRAKE BAND COMPLETE, lever and staple	8.20	FIRMAN
F 197S	1	6" brake band, less lever	4.70	FIRESIDE
F 201	1	6" brake band lever ($1\frac{1}{2}$ ")	3.50	FISSURE
F 202	1	$2\frac{1}{2}$ " x 30" WALKING BEAM STIRRUP COMPLETE, composed of parts F203 to F204.	11.75	FISTIC
F 203	1	$2\frac{1}{2}$ " x 30" walking beam stirrup	11.00	FISTULA

Superior Rig Irons



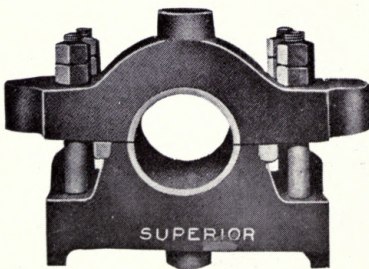
F 209



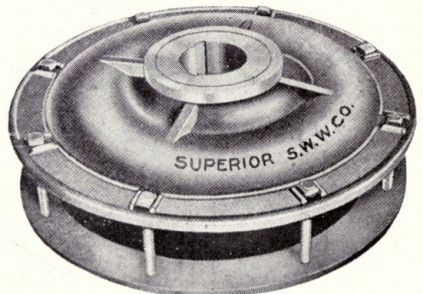
F 151



F 131



F 132



F 108S

Price List of Complete Parts—Continued

Part No.	Quantity	Name of Part	List, Each	Code
F 204	4	Walking beam stirrup bolt	\$.25	FITCH
F 206	1	36" CROWN PULLEY	18.20	FIVEFOLD
F 207	1	24" SAND LINE SHEAVE	6.00	FIXABLE
F 208	4	22" CASING LINE PULLEY	6.75	FIXATION
F 209		55' SPROCKET CHAIN No. 1030	60.50	FIXITY
F 215	1	4" x 9'-0" SAND REEL COM- PLETE WITH LEVER, composed of parts F216 to F235	102.50	FIXTURE
F 216	1	Sand reel shaft	25.00	FIZGIG
F 217	1	42" friction pulley	38.50	FLACCID
F 218	1	Friction key	1.00	FLAG
F 220	2	40" outside flange	10.00	FLAGMAN
F 221	2	Outside flange hub	4.00	FLAGON
F 222	4	Flange hub bolt ($\frac{3}{4}$ " x $3\frac{1}{2}$") . . . . .	.10	FLAGRANT
F 224	2	Outside flange key . . . . .	.75	FLAIL
F 225	1	40" center flange	11.50	FLAKE
F 226	1	Center flange key	1.00	FLAM
F 227	2	12" x 18" drum	3.00	FLAMBEAU
F 228	2	Drum center flange	1.50	FLAMEN
F 228A	2	Drum inner flange (no keyway)	1.50	FLANCH
F 229	4	$\frac{3}{4}$ " x $41\frac{1}{2}$ " D. E. BOLT COM- PLETE . . . . .	.50	FLANK
F 232	2	Sand reel shaft collar . . . . .	.75	FLARE
F 233	2	Sand reel shaft collar screw . . . . .	.15	FLASH
F 234	1	1 $\frac{1}{2}$ " sand reel lever	3.75	FLAT
F 235	2	Flange key cotter . . . . .	.05	FLATTEN

Prices given on bolts include the necessary nuts and washers.

Special

F 190AS	1	$\frac{1}{4}$ " x 10" x 28' BRAKE BAND COMPLETE, lever and staple	\$ 18.90	FIREBALL
F 190A	1	10" brake band complete, less lever	14.40	FIREBIRD
F 195A	1	10" brake band lever ($1\frac{3}{4}$ ")	4.50	FIRENEW

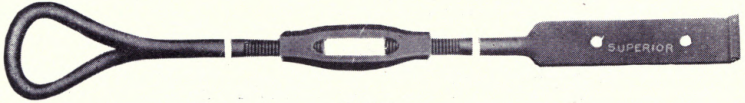
We also manufacture 7 $\frac{1}{2}$ " Superior Rig irons for extra deep drilling.

Prices furnished on request.

Superior Rig Irons



F 164



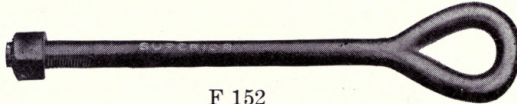
F 144



F 155



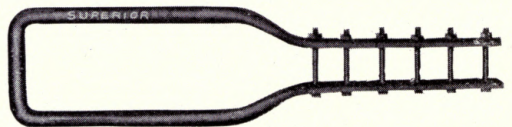
F 190S



F 152



F 158



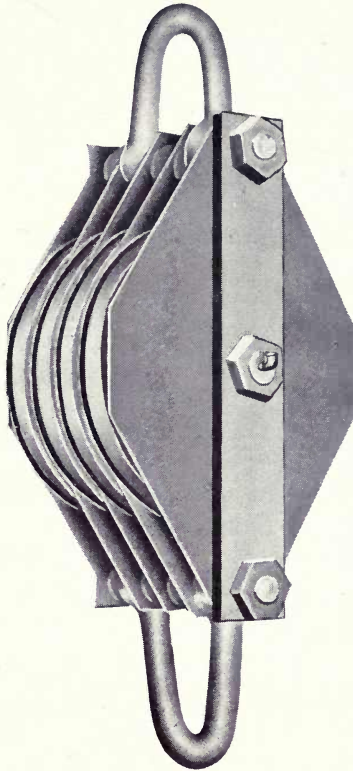
F 202



F 161



F 149



Parker Improved Travelling Block

Parker Travelling Block

Made in four sizes

Quality has been the first thing considered in the design of our block, as we know the uses to which blocks of this character are put, and that we believe our blocks to fulfill all conditions is shown by the fact that all our blocks embody the same principles of design.

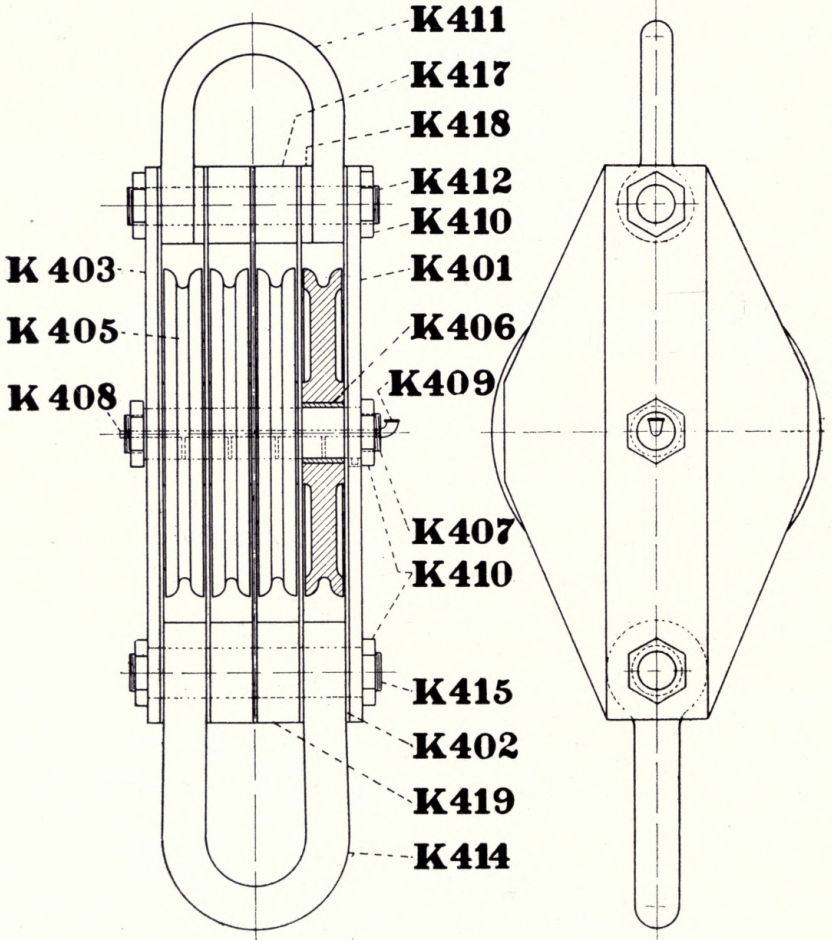
The sheaves are bronze bushed and the shaft on which they revolve has a central hole connecting with an oil cup, assuring that each sheave is lubricated properly at all times. These little details save many dollars in the end as improper attention within reason is taken care of.

The plates are of tank steel tested to 60,000 pounds tensile strength and all holes for pins are drilled, not punched.

Re-enforcing bars are placed on the outside to give ample bearing for the pins and shafts.

All bails are hand forged from mild steel of high tensile strength to prevent crystallization in use.

Sheave wheel treads are machined to fit the wire line and every detail that would improve the block has been incorporated in our design.



Parker Mogul Travelling Block

Price List of Complete Parts

Part No.	Quantity	Name of Part	List, Each	Code
K 400	1	MOGUL 4-SHEAVE TRAVEL- LING BLOCK COMPLETE, weight 2,000 pounds.....	\$260.00	KNEAD
K 401	1	Keyway side bar.....	16.65	KNEADER
K 402	5	Plate.....	8.35	KNEE
K 403	1	Plain side bar.....	16.65	KNEECAP
K 404	4	Sheave wheel complete, com- posed of parts K405 to K406..	25.00	KNEEPAN
K 405	1	Sheave wheel without bushing..	16.65	KNOCK
K 406	1	Sheave wheel bushing.....	8.35	KNOLL
K 407	1	Sheave wheel shaft.....	25.00	KNOTTY
K 408	1	Sheave wheel shaft plug.....	.10	KNOW
K 409	1	Sheave wheel oiler.....	.10	KNUCKLE
K 410	2	Sheave wheel shaft nut.....	2.50	KNUR
K 411	1	Upper bail.....	16.65	KNURLED
K 412	1	Upper tie bolt.....	8.35	KOBALT
K 413	2	Upper tie bolt nut.....	2.50	KOBOLD
K 414	1	Lower bail.....	16.65	KODAK
K 415	1	Lower tie bolt.....	8.35	KOHL
K 416	2	Lower tie bolt nut.....	2.50	KODOO
K 417	2	Upper center spacer.....	1.00	KOPECK
K 418	2	Upper side spacer.....	.50	KORAN
K 419	2	Lower center spacer.....	1.65	KOSMOS

SPECIFICATIONS

MOGUL 4-SHEAVE TRAVELLING BLOCK K400

Length of plate.....	44"
Thickness of plate.....	$\frac{5}{16}$ "
Diameter of sheave wheel.....	26"
Diameter of sheave wheel shaft.....	4"
Diameter of lower pin.....	4"
Diameter of upper pin.....	3"
Diameter of upper bail.....	2 $\frac{1}{2}$ "
Diameter of lower bail.....	3 $\frac{1}{2}$ "

Price List of Complete Parts

Part No.	Quantity	Name of Part	List, Each	Code
K 300		PARKER 4-SHEAVE TRAVEL- LING BLOCK COMPLETE, composed of parts K301 to K321. Weight, 1,700 lbs.	\$175.00	KADI
K 301	1	Keyway side bar	8.35	KAISER
K 302	5	Plate	6.65	KAKA
K 303	1	Plain side bar	8.35	KALE
K 304	4	SHEAVE WHEEL COMPLETE, composed of parts K305 to K306	25.00	KALIUM
K 305	1	Sheave wheel without bronze bushing	16.50	KALMIA
K 306	1	Sheave wheel bushing	6.65	KAOLIN
K 307	1	Sheave wheel shaft	25.00	KAROB
K 308	1	Sheave wheel shaft plug .....	.05	KAYAK
K 309	1	Sheave wheel oiler .....	.10	KALES
K 310	2	Sheave wheel shaft nut	1.25	KEBLAH
K 311	1	Upper bail	11.65	KECK
K 312	1	Upper tie bolt	2.00	KECKLE
K 313	2	Upper tie bolt nut	1.00	KECKSY
K 314	1	Lower bail	11.65	KEDGE
K 315	1	Lower tie bolt	2.00	KEEL
K 316	2	Lower tie bolt nut	1.00	KEELAGE
K 317	2	Upper center spacer .....	.35	KEELER
K 318	2	Upper side spacer .....	.35	KEELFAT
K 319	2	Lower center spacer .....	.35	KEELHAUL
K 320	2	Lower side spacer .....	.35	KEELING

SPECIFICATIONS

PARKER 4-SHEAVE TRAVELLING BLOCK K300

Length of plate .....	.36"
Thickness of plate .....	.14"
Diameter of sheave wheel .....	.24"
Diameter of sheave wheel shaft	3 1/2"
Diameter of lower pin .....	.2"
Diameter of upper pin .....	.2"
Diameter of upper bail .....	.2"
Diameter of lower bail .....	.3"

Price List of Complete Parts

Part No.	Quantity	Name of Part	List, Each	Code
K 100		SPECIAL 3 SHEAVE TRAVEL- LING BLOCK COMPLETE, composed of parts K101 to K121 Weight, 1,100 lbs.	\$145.00	KEEN
K 101	1	Keyway side bar	8.35	KEEPER
K 102	4	Plate	6.65	KEG
K 103	1	Plain side bar	8.35	KELOID
K 104	3	SHEAVE WHEEL COMPLETE, composed of parts K105 to K106	25.00	KELP
K 105	1	Sheave wheel without bronze bushing	16.50	KELPIE
K 106	1	Sheave wheel bushing (bronze) ...	8.00	KEN
K 107	1	Sheave wheel shaft	16.50	KENNEL
K 108	1	Sheave wheel shaft plug .....	.05	KENTLE
K 109	1	Sheave wheel oiler .....	.10	KEPT
K 110	2	Sheave wheel shaft nut	1.25	KERAMIC
K 111	1	Bail	11.65	KERATIN
K 112	1	Upper tie bolt	2.00	KERB
K 113	2	Upper tie bolt nut	2.00	KERITE
K 114	1	Rope guide	2.00	KERNEL
K 115	1	Lower tie bolt	1.85	KERSEY
K 116	1	Lower tie bolt nut .....	.85	KESTREL
K 117	2	Upper center spacer .....	.35	KETCH
K 118	1	Upper side spacer .....	.35	KETONE
K 119	1	Lower center spacer .....	.35	KETTLE
K 120	2	Lower side spacer .....	.35	KEVEL

SPECIFICATIONS

PARKER SPECIAL 3-SHEAVE TRAVELLING BLOCK K100

Length of plate	36"
Thickness of plate	1/4"
Diameter of sheave wheel	24"
Diameter of sheave wheel shaft	3 1/2"
Diameter of lower pin	2"
Diameter of upper pin	1 1/4"
Diameter of upper bail	2 3/4"

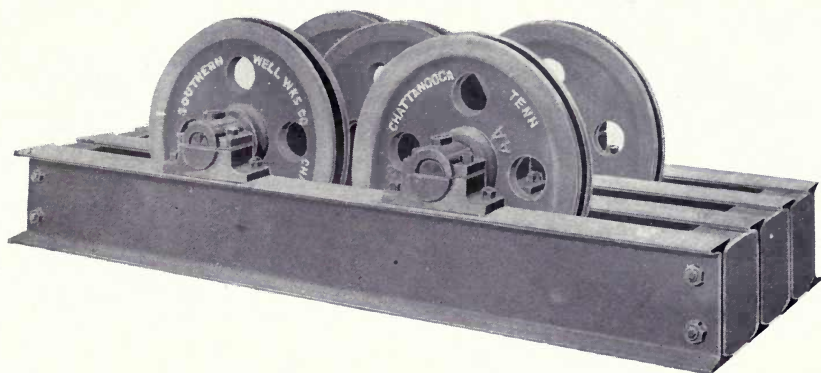
Price List of Complete Parts

Part No.	Quantity	Name of Part	List, Each	Code
K 500	1	REGULAR 3-SHEAVE TRAV- ELLING BLOCK COM- PLETE, weight, 650 pounds . .	\$91.35	KINGCUP
K 501	1	Keyway side bar	5.25	KINGDOM
K 502	4	Plate	4.15	KINGFISH
K 503	1	Plain side bar	5.25	KINGLET
K 505	3	Sheave wheel (not bushed)	10.35	KIOSK
K 507	1	Sheave wheel shaft	10.35	KIPSKIN
K 508	1	Sheave wheel shaft plug . . . . .	.05	KIRMESS
K 509	1	Sheave wheel oiler . . . . .	.10	KIRTLE
K 510	2	Sheave wheel shaft nut	1.00	KISMET
K 511	1	Bail	7.35	KISS
K 512	1	Upper tie bolt	1.35	KISSER
K 513	2	Upper tie bolt nut	1.00	KIT
K 514	1	Becket or rope guide	1.50	KITCAT
K 515	1	Lower tie bolt	1.65	KITCHEN
K 516	2	Lower tie bolt nut	1.00	KITTEN
K 517	2	Upper center spacer . . . . .	.25	KLICK
K 518	1	Upper side spacer . . . . .	.25	KNACK
K 519	1	Lower center spacer . . . . .	.25	KNAG
K 520	2	Lower side spacer . . . . .	.25	KNARL

SPECIFICATIONS

PARKER REGULAR 3-SHEAVE TRAVELLING BLOCK K500

Length of plate . . . . .	.28"
Thickness of plate	1/4"
Diameter of sheave wheel . . . . .	.22"
Diameter of sheave wheel shaft . . . . .	.2"
Diameter of lower pin . . . . .	.1"
Diameter of upper pin	1 1/4"
Diameter of upper bail	1 3/4"



Parker Steel Crown Block

Parker Improved Steel Crown Block

Made in 10" and 8" sizes

The PARKER Steel Crown Block is of unusual strength due to the incorporation into its design of structural steel I beams, which are held together by tie bolts with nuts on each end.

The beams are held equidistant by spacers which cannot become loose from any cause.

All sheaves are machined in the tread, preventing undue wear of the line which is inevitable with a cast tread.

The trunnions or shafts are of cold rolled steel, forced into the sheaves by hydraulic pressure and are of ample diameter to assure easy running qualities with the minimum of wear.

Bearing boxes are babbit lined and the caps are removable.

We recommend this type of block for rotary drilling only. For combination work, see blocks on page 109.

Price List of Complete Parts

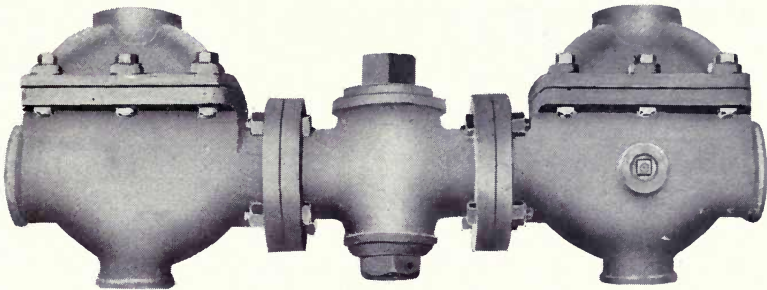
Part No.	Quantity	Name of Part	List, Each	Code
J 100		10" PARKER CROWN BLOCK COMPLETE, composed of parts J101 to J125. Weight, 1,700 lbs.	\$200.00	JAW
J 101	1	BASE COMPLETE, composed of parts J102 to J116.	135.00	JAWED
J 102	4	I beam.	11.65	JEER
J 103	6	I beam spacer.	5.00	JELLY
J 104	4	Tie bar. ....	.75	JERK
J 111	10	BEARING BOX COMPLETE, composed of parts J112 to J114	8.35	JEST
J 112	1	Bearing box.	5.00	JESTER
J 113	1	Bearing box cap.	3.35	JETTY
J 114	2	Bearing box cap bolt. ....	.25	JETSAM
J 116	2	Bearing box bolt. ....	.25	JIFFY
J 123	5	SHEAVE WHEEL COMPLETE, composed of parts J124 to J125	13.00	JIGGER
J 124	1	Sheave wheel.	10.00	JOCKEY
J 125	1	Sheave wheel shaft.	3.00	JOCOSE

Prices on bolts include the necessary nuts and washers.

Price List of Complete Parts

Part No.	Quantity	Name of Part	List, Each	Code
J 200		8" PARKER CROWN BLOCK COMPLETE, composed of parts J201 to J225. Weight, 1,175 lbs.	\$135.00	JAB
J 201	1	BASE COMPLETE, composed of parts J202 to J216.	85.00	JABE
J 202	4	I beam.	8.35	JABBER
J 203	6	I beam spacer.	5.00	JABIRU
J 204	4	Tie bar. ....	.75	JABOT
J 201	10	BEARING BOX COMPLETE, composed of parts J212 to J214	8.35	JACK
J 212	1	Bearing box.	5.00	JACKET
J 213	1	Bearing box cap.	3.35	JACOBIN
J 214	2	Bearing box cap bolt. ....	.25	JADE
J 216	4	Bearing box bolt. ....	.25	JAGER
J 223	5	SHEAVE WHEEL COMPLETE, composed of parts J224 to J225	10.00	JAGGER
J 224	1	Sheave wheel.	7.00	JAILER
J 225	1	Sheave wheel shaft.	3.00	JARGON

Prices on bolts include the necessary nuts and washers.



Parker Improved Valve Trap

The above cut illustrates the PARKER improved valve trap for preventing pieces of valves and other foreign matter from getting into the drill stem and plugging the holes of the drilling bits.

Well made in every part, with the necessary valves for cleaning or emptying the mud.

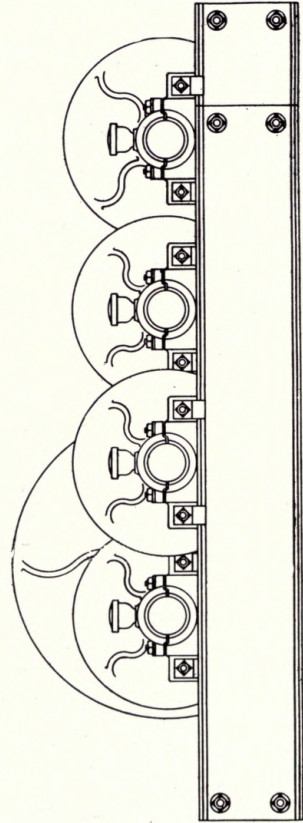
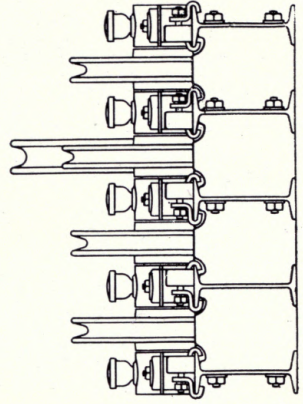
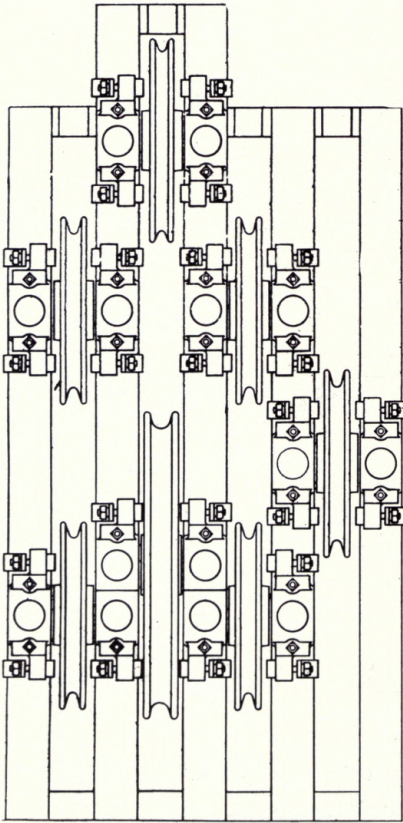
Part No.	Quantity	Name of Part	List, Each	Code
HA 100		PARKER VALVE TRAP COMPLETE, weight 190 lbs.	\$40.00	HILT
HA 101	2	Valve trap body	13.35	HIMSELF
HA 102	2	Valve trap body plug . . . . .	.20	HIND
HA 103	2	Strainer plate	1.65	HINDER
HA 104	2	Body gasket . . . . .	.15	HINGE
HA 105	2	Small dome (2" opening)	4.00	HIP
HA 106	2	Large dome (2½" opening)	4.00	HIPPISH
HA 107	12	Body bolt, ½ x 2½" sq. hd. . . . .	.10	HISPANIC
HA 109	1	Plug cock	8.35	HITCH
HA 110	2	Plug cock gasket . . . . .	.15	HITHER
HA 111	8	Flange bolt . . . . .	.10	HIVE

Prices given on bolts include the necessary nuts and washers.

HA 105 used with 3" PARKER Swivel.

HA 106 used with 4" and 5" PARKER Swivel.

"PARKER ROTARIES — STANDARD OF THE WORLD"



Parker Mogul Adjustable Crown Block—Self-Oiling Features
(Patent Applied for)

Parker Adjustable Crown Block

After many requests from our customers for an adjustable crown block suitable for use where the conditions are unusually severe, we take pleasure in introducing to the drilling confraternity at large the PARKER Adjustable Crown Block, on which we have applied for American and foreign patents.

Original in design, massive in proportion and made of the best materials, we predict for this crown block a very large sale.

The bearings are lubricated by means of a simple automatic oiler which permits just the right amount of oil to get to the shaft at each revolution. No oil whatever is used when the sheaves are standing idle. This is on no other crown block, and is one of the many PARKER progressive features.

The bearings are adjustable along the structural steel I beams to suit individual requirements, no corrugations or other similar devices to give trouble; just two nuts to loosen or tighten on each bearing.

This block has five 22" casing line pulleys, one 24" sand line sheave, and one 36" crown pulley.

The line cut on the preceding page gives an idea of its simple and sturdy construction.

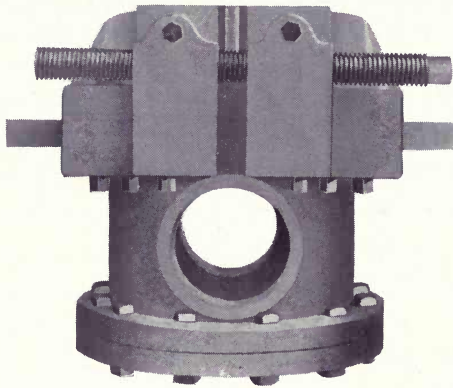
Specifications of the 12" Mogul Crown Block

(Adjustable)

Weight Complete	4250 lbs.
Overall Length . . . . .	.8'
Overall Width . . . . .	.4'
Bearings, Babbitted and Self-oiling.	
Diameter of Crown Pulley . . . . .	.36"
Diameter of Sand Line Sheave . . . . .	.24"
Diameter of Casing Line Pulley . . . . .	.22"

The 10" MOGUL Jr., Crown Block is identical in design, but of lighter construction than the 12" MOGUL Crown Block, weighing 4,000 pounds.

Prices and complete information regarding these blocks will be furnished upon request.



1912 Parker Blowout Preventer

A PARKER Blowout Preventer placed beneath the derrick floor on the first surface casing or conductor pipe, will provide protection against a blowout or loss of well from high gas or oil pressure and in addition is extremely valuable for use in passing or drilling through large bodies of heaving sand, gravel beds, crevices and any formation that tends to cave.

Closing the jaws of the preventer, shutting off the overflow pipe and increasing the pressure of the column of mud by pumps, completely fills up loose sand and gravel formation with a wall of mud, preventing caving successfully.

In drilling in high gas pressures of loose oil sands which have sufficient pressure to blow out, the closing of the preventer enables the driller to kill the pressure until able to set casing or screen, if screen is being set, any mud forced into the oil sand is washed out, before bringing well in.

We strongly advise the use of the blowout preventer in prospect work or in any territory containing high pressures, loose sands, gravels, etc., specially useful in saving pipe when drilling.

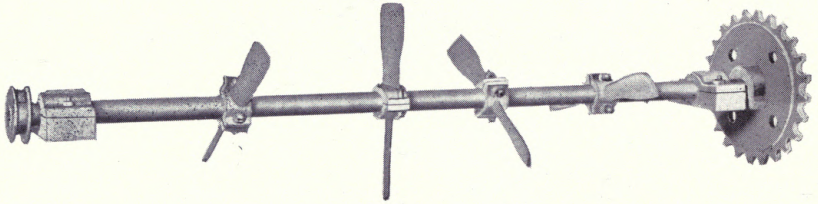
HAS SAVED HUNDREDS OF WELLS THAT WOULD HAVE BEEN LOST WITHOUT IT.

Price List of Complete Parts

Part No.	Quantity	Name of Part	List, Each	Code
Z 100		12" PARKER BLOW-OUT PRE-VENTER COMPLETE, including two flanges. Weight, 1,100 lbs.	\$250.00	ZAFFER
Z 101	1	Body.....	50.00	ZAMBO
Z 102		Body packing.....	.35	ZAX
Z 103	2	Slip housing.....	33.00	ZEA
Z 104	2	Right-hand gib plate.....	3.50	ZEALOT
Z 105	2	Left-hand gib plate.....	3.50	ZECHIN
Z 106	12	Gib plate screw.....	.10	ZEDDARY
Z 110	4	4" packing block (four to set).....	4.00	ZENITH
Z 111	4	6" packing block (four to set).....	4.00	ZEOLITE
Z 112	20	Packing block retaining screw....	.25	ZEPHYR
Z 113	1	4" slip.....	65.00	ZERO
Z 114		4" slip packing.....	.25	ZEST
Z 115	1	6" slip.....	60.00	ZETA
Z 116		6" slip packing.....	.25	ZIBET
Z 120	2	Adjusting screw.....	16.50	ZIGZAG
Z 121	2	Adjusting screw right-hand nut....	3.35	ZILLA
Z 122	2	Adjusting screw left-hand nut....	3.35	ZINC
Z 123	4	Nut hold-down screw.....	.25	ZINCKY
Z 124	2	Hand wheel.....	1.65	ZINGARO
Z 125	2	Adjusting screw connection.....	5.00	ZION
Z 126	4	Screw connection pin.....	1.65	ZIRCON
Z 127	12	Flange bolt.....	.10	ZITHER
Z 135	1	6" flange.....	11.00	ZOCLE
Z 136	1	8" flange.....	11.00	ZOCCO
Z 137	1	10" flange.....	11.00	ZODIAC
Z 138	1	12½" flange.....	11.00	ZO Aid
Z 139	4	Slip housing screw.....	.05	ZOIC

Prices given on bolts include the necessary nuts and washers.

NOTE: The PARKER Blowout Preventer Complete is sold equipped with any two sizes of pipe flanges. Additional flanges are sold extra.



Mud Mixer Irons

Used for mixing plastic mud for the rotary process. A very necessary part of the equipment, as a properly mixed mud is a necessity in walling up a well. Several pits of mud should be kept on hand for emergencies, and there is no better way of mixing than with our mud mixer.

Part No.	Quantity	Name of Part	List, Each	Code
X 100		MUD MIXER COMPLETE, weight 600 lbs.....	\$ 85.00	XANTHATE
X 101	1	Mud mixer shaft, 2 $\frac{1}{8}$ " x 10'.....	25.00	XANTHIC
X 102	1	Mud mixer sprocket, 24 teeth, 103 chain.....	14.50	XANTHIN
X 103	1	Mud mixer sprocket key.....	.85	XANTHO
X 104	1	Mud mixer shaft collar.....	1.65	XEBEC
X 105	1	Mud mixer shaft collar screw.....	.10	XERES
X 106	8	Mud mixer paddle.....	2.00	XERIF
X 107	16	Mud mixer paddle bolt.....	.25	XYLENE
X 115	2	MUD MIXER BEARING BOX COMPLETE, composed of parts X116 to X119.....	8.50	XYLITE
X 116	1	Mud mixer bearing box.....	5.00	XYLO
X 117	1	Mud mixer bearing box cap.....	3.00	XYLOID
X 118	2	Bearing box cap bolt.....	.25	XYST

Prices given on bolts include the necessary nuts.

"PARKER ROTARIES — STANDARD OF THE WORLD"



Parker Trip Spear

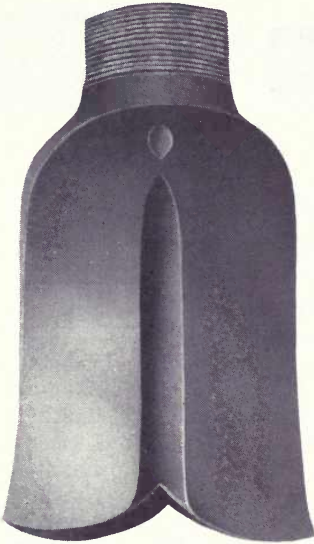
Parker Trip Spears

Part No.	Quantity	Name of Part	List, Each	Code
L 100		4" PARKER SPEAR COMPLETE, composed of parts L101 to L110 and L115, weight 110 lbs.	\$ 85.00	LADING
L 101	1	Body.....	13.35	LADINO
L 102	1	Mandrel.....	25.00	LADLE
L 103	2	Mandrel key.....	1.65	LADRONE
L 104	1	Top bushing.....	8.30	LADY
L 105	1	Coupling.....	8.30	LADYBUG
L 106	1	Bit.....	3.35	LADYDAY
L 107	1	Slip.....	10.00	LADYKIN
L 108	2	Dog.....	1.65	LAG
L 109	2	Dog spring.....	.40	LAGER
L 110	2	Spear screw.....	.05	LAGOON
L 115	1	SPEAR JAR COMPLETE, composed of parts L116 to L121....	5.80	LACTOSE
L 116	1	Upper stem.....	.35	LACUNA
L 117	1	Lower stem.....	.35	LAD
L 118	1	Stem coupling.....	.05	LADDER
L 119	1	Jar rod.....	1.65	LADDIE
L 120	1	Jar rod nut.....	.05	LADE
L 121	1	Jar mandrel or head.....	3.35	LADEN

Part No.	Quantity	Name of Part	List, Each	Code
L 200		6" PARKER SPEAR COMPLETE, composed of parts L201 to L210 and L115, weight 250 lbs.	\$100.00	LABEL
L 201	1	Body.....	20.00	LABIAL
L 202	1	Mandrel.....	36.00	LABIUM
L 203	2	Mandrel key.....	1.65	LABOR
L 204	1	Top bushing.....	10.00	LACE
L 205	1	Coupling.....	10.00	LACK
L 206	1	Bit.....	5.80	LACKER
L 207	1	Slip.....	13.35	LACKEY
L 208	2	Dog.....	2.50	LACTATE
L 209	2	Dog spring.....	.40	LACTIC
L 210	2	Spear screw.....	.05	LACTIN

The same spear jar used for the 4" Parker Spear is also used on the 6" Parker Spear.

Drilling Bits



Fish-Tail Bit



Diamond Point Bit

BIT, FISH-TAIL AND DIAMOND POINT

In ordering bits always give size of shank and width of bit desired. Price per inch of width. Fish-tail and diamond point bits furnished with tool joint pin shank upon request.

4" Shank Bits have 3 $\frac{3}{4}$ " x 4 $\frac{1}{2}$ " x 7 thd. pin.....\$1.70 per inch

6" Shank Bits have 5" x 6" x 7 thd. pin..... 2.10 per inch

Standard lengths

Top and Bottom Bailer



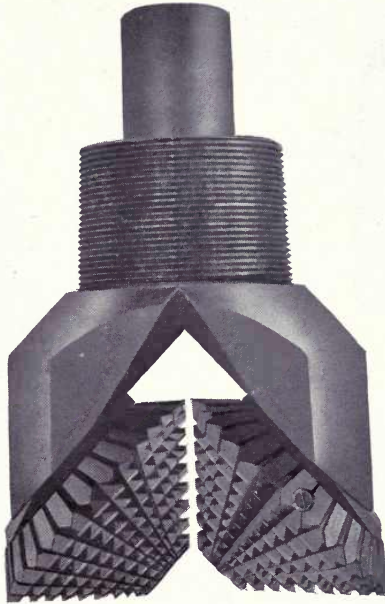
Top Bailer



Bottom Bailer

TOP AND BOTTOM BAILERS

4"	Top and bottom bailer	\$ 25.00	PACA
6"	Top and bottom bailer	40.00	PACATE
8"	Top and bottom bailer	50.00	PACIFIC
10"	Top and bottom bailer	60.00	PACK
12 $\frac{1}{2}$ "	Top and bottom bailer	75.00	PACKER



Sharp-Hughes Patent Rotary Rock Drill

It requires no special experience to drill with the Sharp-Hughes Bit, any driller can use it.

Speed in Drilling Through Hard Rock

Is only one of the many advantages in using the Sharp-Hughes Bit.

Here are Some of the Others

It makes a straight round hole.

Keeps liberal clearance.

Straightens bends, so the string of pipe to be set will go to the bottom of the hole.

Requires fewer strings of casing, making it possible to carry large or small diameter rotary holes to a greater depth than by any other method.

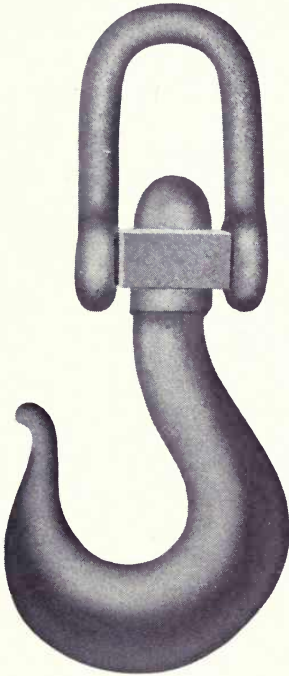
Reduces vibration in drill stem, thus eliminating fishing jobs and loss of holes from breaking of drill pipe.

Requires little power for operation, thereby doing away with twistoffs.

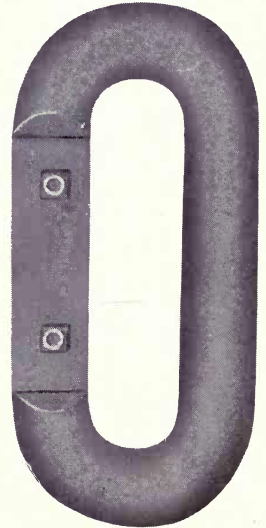
Will drill at least ONE FOOT PER HOUR, ANY SIZE HOLE IN THE ORDINARY HARD ROCK FORMATION found in Oil, Gas or Artesian wells.

Each set of cone cutters should make from 30 to 160 feet — depending on the rock — before resharpening, and at least two-thirds that amount after resharpening.

RENTAL OR OUTRIGHT SALE PRICES furnished on application.



Double Swivel Drilling Hook



Strapped "C" Hook

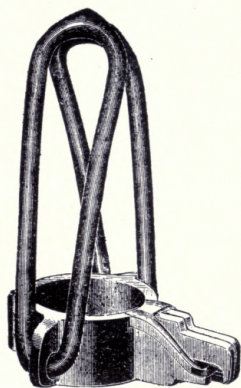
DOUBLE SWIVEL DRILLING HOOK

Size	Name of Part	Weight, Each	List, Each	Code
2½"	Double swivel drilling hook	60 lbs.	\$15.00	RABBET
3"	Double swivel drilling hook	100 lbs.	24.00	RABBI
3½"	Double swivel drilling hook	125 lbs.	35.00	RACA
4"	Double swivel drilling hook	160 lbs.	50.00	RACE
4½"	Double swivel drilling hook	205 lbs.	57.50	
5"	Double swivel drilling hook	290 lbs.	65.00	RACK
6"	Double swivel drilling hook	425 lbs.	85.00	RAG

STRAPPED "C" HOOKS

Size	Name of Part	Weight, Each	List, Each	Code
2"	Strapped "C" hook	40 lbs.	\$ 10.00	RAID
2½"	Strapped "C" hook	60 lbs.	14.50	RAKE
3"	Strapped "C" hook	100 lbs.	16.50	RALLY
3½"	Strapped "C" hook	136 lbs.	20.00	RAMIFY
4"	Strapped "C" hook	200 lbs.	25.00	RAMPART

Elevators — Fair Regular and Fair-Mannington Improved



Fair Regular Pattern

Size	Link	Weight	List per Set	Code
2 "	1½"	85	\$ 24.00	SPRUE
2½"	1⅛"	95	25.00	SPRY
3 "	1⅛"	100	26.00	SPUD
4 "	1¼"	118	26.50	SPUME
4½"	1¼"	110	29.00	SPURGE
6¼"	1¾"	250	49.50	SPURNER
6⅝"	1¾"	260	52.00	SPURRY
7⅝"	1¾"	300	61.00	SPURT
8¼"	1¾"	325	72.50	SPUTTER
9⅝"	1¾"	400	75.00	SPY
10 "	1¾"	420	78.00	SQUAB
11⅝"	2 "	460	84.00	SQUADRON
12½"	2 "	550	84.00	SQUALID

Fair-Mannington Improved Pattern

Size	Link	Weight	List per Set	Code
4½"	1¾"	350	91.00	SQUALL
6¼"	2 "	600	146.00	SQUALLER
6⅝"	2 "	600	146.00	SQUAMA
6⅝"	2¼"	640	158.00	SQUANDER
8 "	2¼"	740	176.00	SQUASH
8¼"	2¼"	740	176.00	SQUAT
10 "	2¼"	850	293.00	SQUAWK
12½"	2¼"	960	336.00	SQUEAK



Parker 2-quart Oil Country Lubricator

Parker Oil Country Lubricator

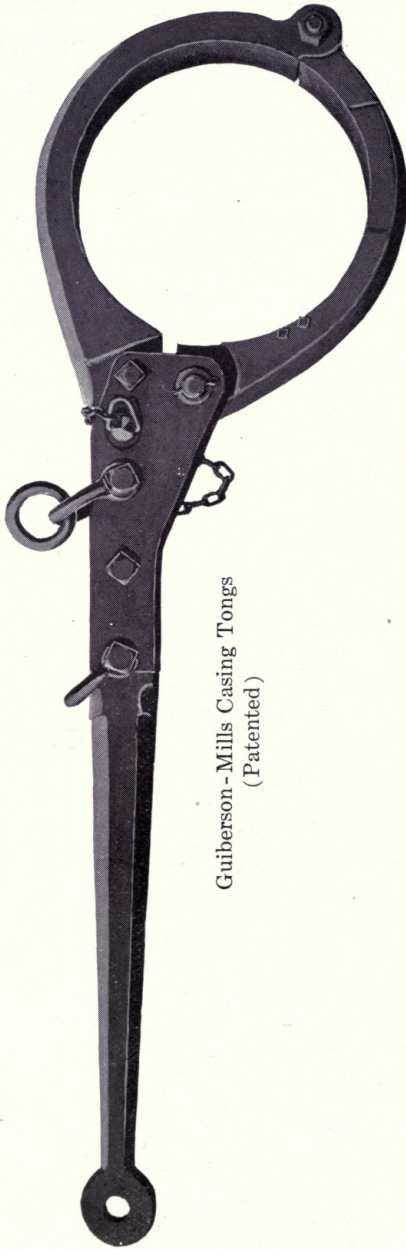
This lubricator is designed for drilling and pumping engines especially, but can be used advantageously on any steam engine.

The saving effected over the old style oil cups will soon pay the difference in price, and its use will assure copious lubrication at all times.

There are less parts in a PARKER lubricator than any other on the market.

Part No.	Quantity	Name of Part	List, Each	Code
GA 100		PARKER 2-QUART OIL COUNTRY LUBRICATOR COMPLETE, weight 60 lbs.....	\$16.65	GRAVE
GA 101	1	Lubricator body.....	5.00	GRAVEL
GA 102	1	Lubricator sight feed.....	7.50	GRAVITY
GA 103	1	Angle valve.....	1.25	GRAZE
GA 104	1	Condenser pipe.....	1.00	GREASE
GA 105	1	Body yoke.....	.35	GREATLY
GA 107	1	Filler plug.....	.50	GREED
GA 108	1	Close nipple.....	.10	GREGAL
GA 109	1	Steam inlet long nipple.....	.10	GRENADE
GA 110	1	Bushing.....	.10	GRIEF
GA 111	2	Pet cock.....	.50	GRIN
GA 112	1	Union.....	.10	GRINDER
GA 113	1	Extension nipple.....	.10	GRIPE

Prices given on bolts and yokes include the necessary nuts and washers.



Guiberson - Mills Casing Tongs
(Patented)

Guiberson-Mills Casing Tongs

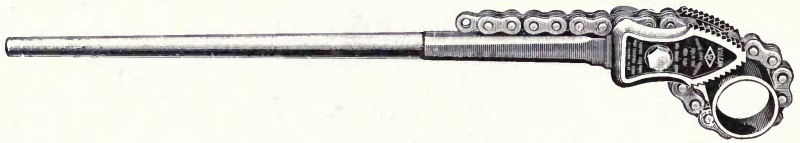
We illustrate herewith the most successful pipe tong now on the market.

It is IMPOSSIBLE TO CRUSH THE PIPE. These tongs grip the pipe with both a friction and die hold, insuring positive grip without slipping. One handle is used for all sizes of jaws. When ordering these tongs, order handle and jaws separately.

Part and Order Size	Takes Pipe	Weight	List, Each
Handle takes all size Jaws		142 lbs.	\$40.00
Jaw 18 "	18 "	180 lbs.	65.00
Jaw 15½"	15½"	150 lbs.	53.25
Jaw 14 "	14 " O. D.	138 lbs.	53.25
Jaw 12½"	12½"	125 lbs.	46.75
Jaw 11⅝"	11⅝"	130 lbs.	46.75
Jaw 10 "	10 "	105 lbs.	41.25
Jaw 9⅝"	9⅝"	114 lbs.	41.25
Jaw 8¼"	8¼"	90 lbs.	37.95
Jaw 7⅝"	7⅝"	90 lbs.	37.95
Jaw 6⅝"	6⅝"	75 lbs.	30.80
Jaw 6¼"	6¼"	75 lbs.	30.80
Jaw 5⅝"	5⅝"	80 lbs.	30.80
Jaw 5⅜"	5½" O. D.	65 lbs.	30.80
Jaw 5 " Drill	5⅞" O. D.	60 lbs.	30.80
Jaw 4½" Drive	5 " O. D.	60 lbs.	30.80
Jaw 4¼" No. 15	4¾" O. D.	60 lbs.	30.80
Jaw 4 " Drill	4½" O. D.	60 lbs.	30.80
Jaw 6 " Rotary Tool Joint	7¾" O. D.	90 lbs.	37.95
Jaw 5 " Rotary Tool Joint	7 " O. D.	75 lbs.	30.80
Jaw 4 " Rotary Tool Joint	5¾" O. D.	60 lbs.	30.80
Dies			.40
Hinge Pin No. 15			1.50
Latch Pin No. 10			1.50

In ordering give "Part and "Order Size"

Chain Pipe Wrenches

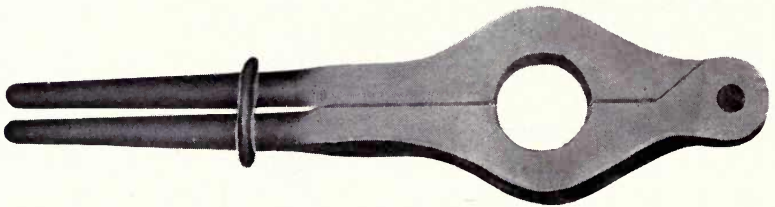


With Flat Link Chain — Vulcan

Number	10	11	12	13
Length, Inches	13 ³ / ₄	20	27	37
Takes Pipe, Inches	¹ / ₈ to ³ / ₄	¹ / ₈ to 1 ¹ / ₂	¹ / ₄ to 2 ¹ / ₂	³ / ₄ to 4
Weight, Pounds	1 ³ / ₄	4 ³ / ₄	8 ³ / ₄	16
With Flat Link Chain, each	\$2.50	\$3.50	\$5.00	\$7.00
With Cable Chain, each	2.25	3.25	4.50	6.25
Extra Handles, each	.75	1.00	1.50	2.25
Extra Flat Link Chains, each	.75	1.00	1.50	2.50
Extra Cable Chains, each	.50	.75	1.00	1.75
Extra Jaws, per pair	1.00	1.75	2.75	4.00
Extra Jaw Bolts, each	.10	.10	.10	.12
Extra Pins, each	.02	.02	.02	.03

With Flat Link Chain — Vulcan

Number	13 ¹ / ₂	14	15	16
Length, Inches	44 ¹ / ₂	50 ¹ / ₂	64 ¹ / ₂	87
Takes Pipe, Inches	1 to 6	1 ¹ / ₂ to 8	2 to 12	4 to 18
Weight, Pounds	21	29	49	130
With Flat Link Chain, each	\$9.00	\$11.00	\$18.00	\$40.00
With Cable Chain, each	7.75	9.50	16.00	40.00
Extra Handles, each	3.00	4.00	6.00	14.00
Extra Flat Link Chains, each	3.25	4.00	6.00	13.00
Extra Cable Chains, each	2.00	2.50	4.00	13.00
Extra Jaws, per pair	4.75	5.50	7.50	16.00
Extra Jaw Bolts, each	.15	.15	.25	.50
Extra Pins, each	.03	.03	.05	.05



Steel Slide Tongs

These slide tongs are for placing under the elevators when resting upon the rotary table. Extra heavy to withstand heavy weight.

Size	List, Each	Code	Size	List, Each	Code
2 "	\$10.00	PORT	6 "	\$25.00	PORTION
2 ¹ / ₂ "	10.00	PORTAGE	8 "	29.00	PORTLY
3 "	12.00	PORTAL	10 "	33.35	PORTRAIT
4 "	20.00	PORTEND	12 ¹ / ₂ "	40.00	PORTRAY
4 ¹ / ₂ "	20.00	PORTER	15 ¹ / ₂ "	58.50	PORTER

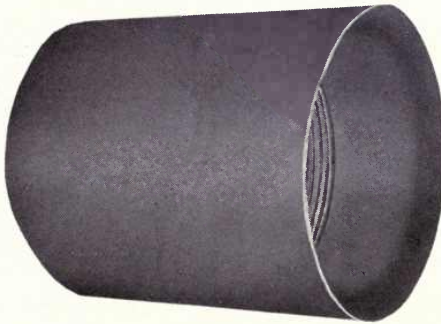
Saw Tooth
Rotary Shoe



Tool Steel

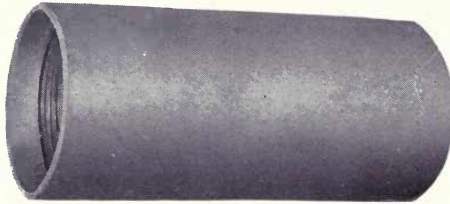
Part	Name of Part	List, Each	Code
3"	Rotary shoe $\frac{7}{8}$ " x 6"	\$ 10.00	PACT
4"	Rotary shoe $\frac{7}{8}$ " x 6"	16.65	PAD
4½"	Rotary shoe $\frac{7}{8}$ " x 6"	16.65	PADDLE
6"	Rotary shoe $\frac{7}{8}$ " x 6"	20.00	PADRONE
6¼"	Rotary shoe $\frac{7}{8}$ " x 6"	20.00	PAGAN
8"	Rotary shoe $\frac{7}{8}$ " x 6"	25.00	PAGE
8¼"	Rotary shoe $\frac{7}{8}$ " x 6"	25.00	PAGODA
10"	Rotary shoe 1" x 10"	41.65	PAIN
12"	Rotary shoe 1" x 12"	50.00	PALATE
12½"	Rotary shoe 1" x 12"	50.00	PALAUVER

Soft
Steel



Drive
Shoe

Part	Name of Part	List, Each	Code
3"	Drive shoe $\frac{7}{8}$ " x 6"	\$ 8.50	PALE
4"	Drive shoe $\frac{7}{8}$ " x 6"	10.00	PALFREY
4½"	Drive shoe $\frac{7}{8}$ " x 6"	11.00	PALING
6"	Drive shoe $\frac{7}{8}$ " x 6"	12.50	PADDY
6¼"	Drive shoe $\frac{7}{8}$ " x 6"	12.50	PADLOCK
8"	Drive shoe $\frac{7}{8}$ " x 8"	16.50	PAGANISM
8¼"	Drive shoe $\frac{7}{8}$ " x 8"	16.50	PALM
10"	Drive shoe 1" x 10"	24.00	PALPUS
12½"	Drive shoe 1" x 12"	35.00	PAMPER
15"	Drive shoe 1¼" x 15"	50.00	PANADE
16"	Drive shoe 1¼" x 16"	65.00	PANEL



Drill collars furnished with either standard pipe threads for straight shank bits or with tool joint boxes for bits with tool joint pin shanks. Same list applies to both.

Drill Collars

Size Pipe	Bit	Length	List, Each
2 1/2"	2 1/2"	10"	\$10.00
2 1/2"	2 1/2"	18"	15.00
4"	4"	10"	16.50
4"	4"	18"	28.50
4"	4"	24"	42.50
4"	4"	36"	50.00
6"	4"	10"	21.00
6"	4"	18"	35.70
6"	4"	36"	65.00
6"	6"	10"	21.00
6"	6"	18"	35.70
6"	6"	24"	50.00
6"	6"	36"	65.00



Water Head Bushing

When drill collars are made with tool joint box the following sizes prevail:

4" bit shank 3 3/4" x 4 1/2" x 7 threads 6" bit shank 5" x 6" x 7 threads

Steel Bushings for Setting Casing

Swivel Shank Size of Pipe	List, Each Cast Steel	List, Each Forged	Swivel Shank Size of Pipe	List, Each Cast Steel	List, Each Forged
4" x 2 1/2"	\$ 8.50	\$10.00	4" x 12 1/2"	\$22.00	\$28.00
4" x 4 1/2"	10.00	13.00	6" x 8"	16.00	25.00
4" x 6"	12.00	14.00	6" x 10"	20.00	30.00
4" x 8"	14.00	18.00	6" x 12"	25.00	33.00
4" x 10"	16.00	22.00	6" x 12 1/2"	25.00	33.00
4" x 12"	22.00	28.00	6" x 15 1/2"	35.00	40.00

NOTE: Always specify thread desired.

Forged Steel Bushings for Use on 3" Swivels

	List, Each
4" x 3" bottom bushing	\$12.00
4" x 4 1/2" bottom bushing	13.00
4" x 6" bottom bushing	14.00

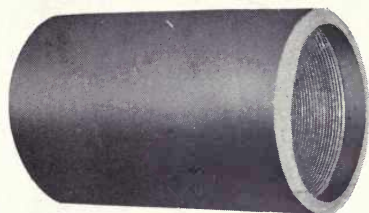
Forged Steel Bushings for Use on 4" Swivels

4" x 6" bottom bushing	14.00
4 1/2" x 6" bottom bushing	14.00

Forged Steel Bushings for Use on 5" Swivels

6" x 4" for 4" drill stem	14.00
6" x 4 1/2" for 4 1/2" drill stem	14.00
6" x 5" for 6" drill stem	16.65

Always specify thread of drill pipe used. If no thread specified, we will furnish 8 thread.



Tool Joint Box and Pin (Patented)

We recommend that tool joints be used at all times in rotary drilling. They are great savers of the drill pipe. 4" sizes made with 3 3/4" x 4 1/2" x 7 thread box and pin. 6" sizes made with 5" x 6" x 7 thread box and pin. Prices on application.



Hose Coupling



Hose Clamp



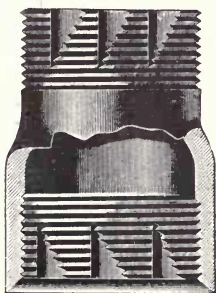
Hose Mender

Hose Fittings

	List, Each Iron	List, Each Brass
Hose coupling 2".....	\$2.00	\$3.50
Hose coupling 2 1/2".....	2.50	4.25
Hose clamp 2".....	1.40	3.25

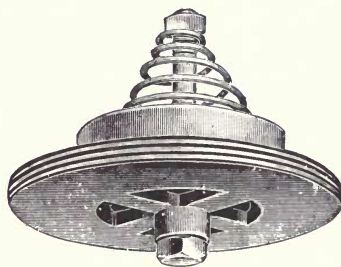
	List, Each Iron	List, Each Brass
Hose clamp 2 1/2".....	\$1.65	\$4.00
Hose mender 2".....	1.00	3.25
Hose mender 2 1/2".....	1.65	4.00

NOTE: One set hose couplings and clamps consists of 2 couplings and 2 clamps.



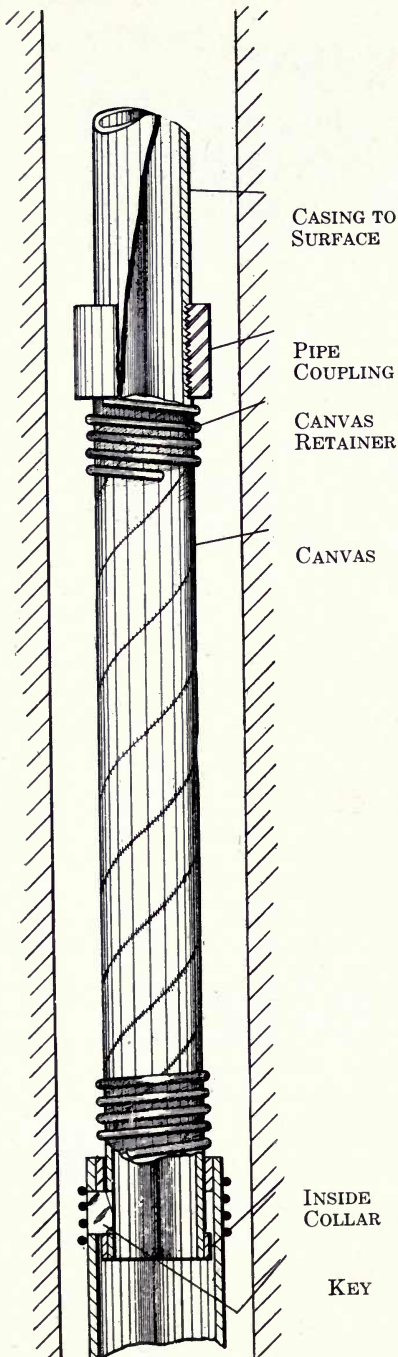
Male and Female Nipple

Size	List, Each
2 1/2"	\$12.00
3" - 3 1/4" - 3 1/2"	15.00
4" - 4 1/2"	20.00
5"	25.00
6 1/4"	30.00
6 5/8"	33.00
8 1/4"	38.00
10"	42.00
12" - 12 1/2"	60.00



Back Pressure Valve

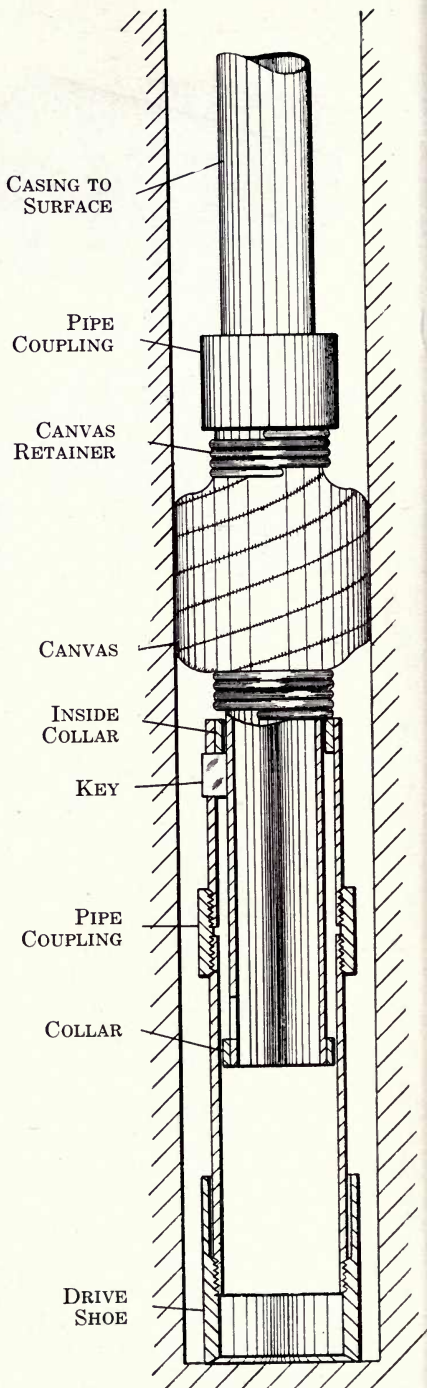
Size	List, Each
2"	\$2.00
2 1/2"	2.50
4"	3.00
4 1/2"	3.50
6"	4.16
8"	5.00
10"	6.00
12 1/2"	6.65



Position of Packer Before Setting



Parker Canvas Packer



Position of Packer After Setting

Parker Canvas Packer

The cut on opposite page illustrates the PARKER canvas packer and method of use, the cuts being self-explanatory.

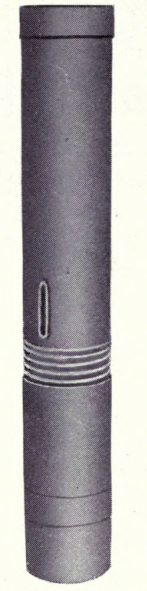
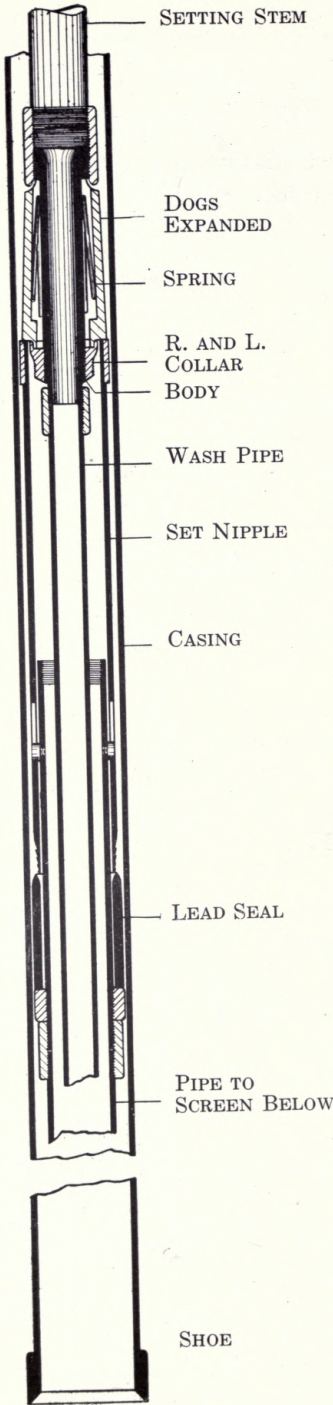
The importance of perfectly shutting out water in an oil well is appreciated by all producers.

The PARKER Canvas Packer is the most successful device of its kind, and its use has always been attended with gratifying results.

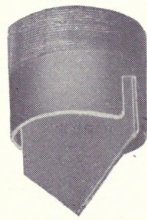
The Packer is wound right hand and after being lowered into the hole is turned to the left, which unwinds the canvas covering, at the same time forcing it against the walls. Simple in construction and efficient in use.

Parker Canvas Packer

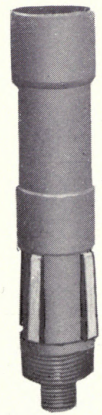
Sizes	List, Each
4" x 6" x 5".....	\$ 32.50
4" x 6" x 6".....	36.00
4" x 6" x 8".....	42.50
4" x 6" x 10".....	53.50
6" x 8" x 5".....	42.85
6" x 8" x 8".....	54.00
6" x 8" x 10".....	65.00
8" x 10" x 10".....	85.00
10" x 12 $\frac{1}{2}$ " x 10".....	100.00



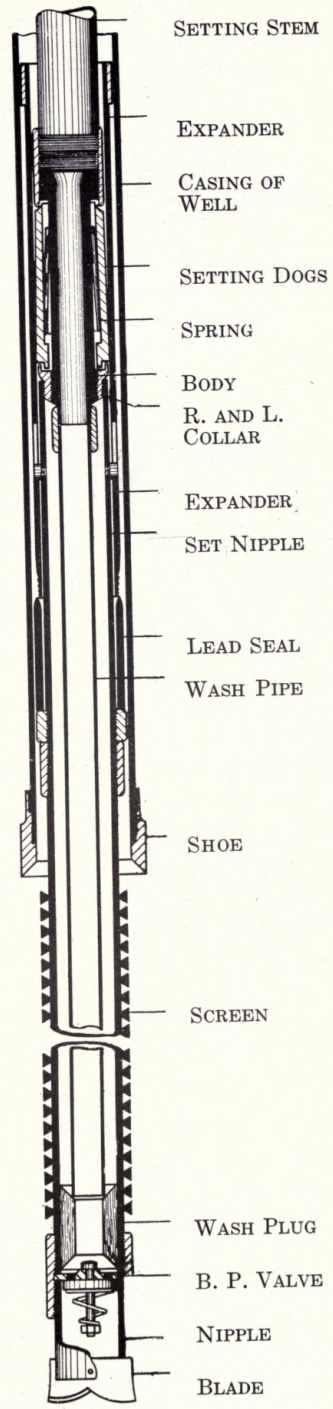
Jennings Seal



Wash Blade Nipple



Setting Tool



Jenning's Type Seal

To secure a tight joint and at the same time prevent sand and gas from blowing into the upper portion of the casing, several types of seals have been developed, as the Beaumont and Batson types, but the results were always of a doubtful nature until the development of the Jennings seal.

In many cases where the gas pressure is very high, it is impossible to set a strainer, wash out the well, and then run back in to set the seal, due to the danger of a blowout in the meantime. All these conditions have been overcome in the Jennings type of seal, which consists of a swedge nipple connecting the wash pipe, and also a right and left-hand threaded nipple for screwing into the collar of the KEYSTONE screen or strainer.

After setting the strainer and washing out the mud from the sand the pipe used for setting the strainer is rotated to the right, which unscrews the left hand thread used in setting; then by raising and lowering the pipe a few times, the lead seal is hammered into a tight joint between the casing of the well and the collar at the top of the KEYSTONE strainer with the swedging sleeve; the entire operation of setting strainer, washing out the mud, and swedging the seal being performed in one operation.

The setting tools illustrated herein are a permanent equipment and can be used many times before wearing out. Of course a separate lead seal is required for each setting, as it is left in the well. See page 7.

Prices of the Jennings' Seal

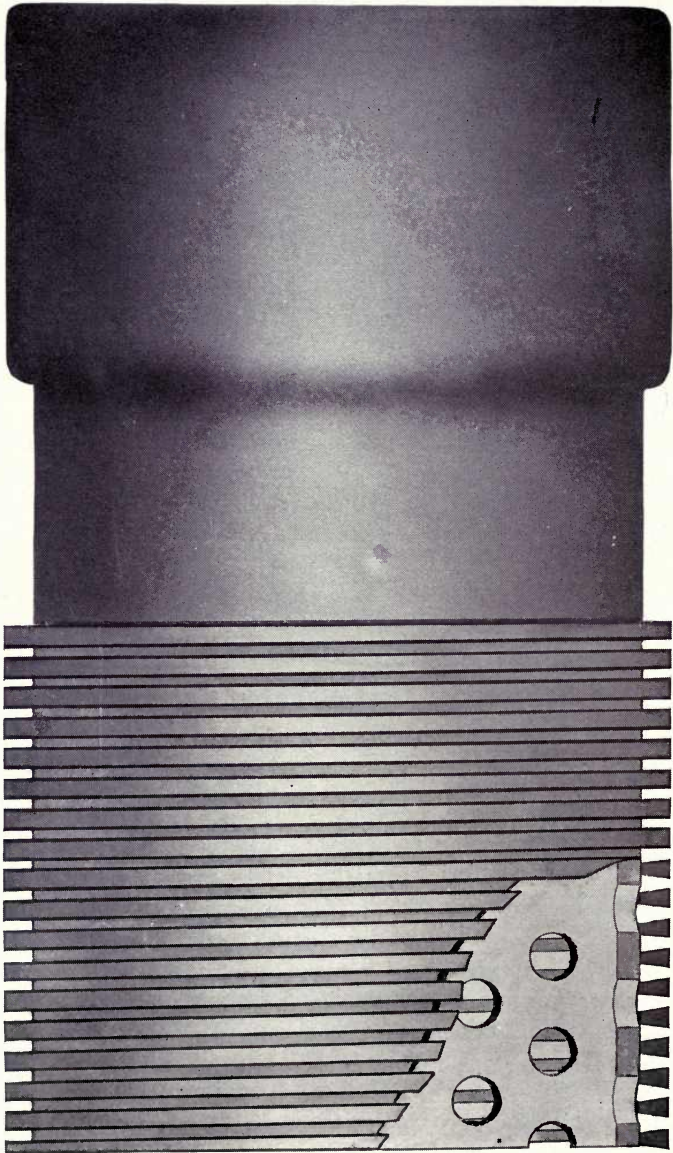
Size	Seal Only	Code	Setting Tool	Code
3 " to 4½"	\$28.50	LUCK	\$42.85	LUMBAGO
4 " to 6 "	31.00	LUCKILY	42.85	LUMBAL
4½" to 6 "	31.00	LUFF	42.85	LUMPISH
6 " to 8 "	31.00	LUGGER	57.00	LUNA
8 " to 10 "	35.00	LUGSAIL	64.00	LUNACY
10 " to 12 "	42.85	LUGWORM	85.00	LUNATE
10 " to 12½"	42.85	LUKE	85.00	LUNATIC

Wash Blade and Nipple

Size	List, Each	Code
4 "	\$ 3.50	LUNETTE
4½"	3.75	LUNNY
6 "	4.00	LUPINE
8 "	4.50	LURCH
10 "	7.00	LURCHER
12½"	12.00	LURE

Wash Plug

Size	List, Each	Code
4 "	\$.85	LURID
4½"	.85	LURKER
6 "	1.10	LUSH
8 "	1.45	LUSTER
10 "	2.15	LUTING
12½"	4.00	LUXURY



Parker Keystone Wedge-shaped Wire Screen — Made by our own Patent Machines

Keystone Screen

To order screen, where we have not previously shipped into an oil section, it is absolutely necessary that a sample of sand be mailed us in order that we can determine the proper size openings for the first screen.

The gravity of the oil should also be given.

On oil where the gravity runs from 16 to 40 the opening between the wires varies from .005" to .014".

The great benefit derived from the use of screens in an oil well is but little appreciated with exception of the Texas and Louisiana oil fields in this country, in which section all the oil obtained, with very few exceptions, is from a very loose sand, which if bailed out would eventually cause caving or settling from above and the admission of water into the casing.

If the oil fields of Russia and other sections could be induced to use screen, as we do in America, the life of a well would be preserved very much longer, and instead of the wells having to be bailed on account of sand, they could be pumped at much less expense and very much less danger to the oil field.

Where there is an acid in the oil, that would tend to corrode a galvanized wire, especially where the sand is very fine, it is absolutely desirable, even at the increased cost, to use brass wire; where the spaces between the wires are very small the brass screen will not corrode or close up from acid effects, nor from salt water, which is more or less prevalent in all oil sands.

All screens for oil well purposes should be made as we make them; of standard weight line pipe, not only to resist any tendency to crushing from the weight of the pipe itself, but for durability.

Size of Pipe	Approx. Weight per Foot	Price per Foot Galvanized	Price per Foot Brass	Code
2 1/2"	15 pounds	\$ 1.85	\$ 2.50	WABBLE
3" or 3 1/4"	18 pounds	2.00	2.75	WACKY
3 1/2"	20 pounds	2.10	2.85	WAD
4 "	24 pounds	2.25	3.00	WAFER
4 1/2"	28 pounds	2.50	3.50	WAGER
5 "	32 pounds	2.75	3.60	WAGTAIL
6" or 6 1/4"	35 pounds	3.00	4.40	WAILER
7 5/8"	44 pounds	3.65	4.50	WAIST
8" or 8 1/4"	48 pounds	3.80	5.70	WAITER
9 5/8"	52 pounds	4.00	6.00	WALKER
10" or 10 5/8"	65 pounds	4.50	6.50	WALLET
11 5/8"	70 pounds	5.00	7.00	WALLEYE
12 1/2"	90 pounds	5.50	7.50	WALLOP
14 "	110 pounds	7.00	8.50	WALLOW
15 "	140 pounds	9.00	10.00	WALNUT
16 "	160 pounds	11.00	14.00	WALTZ

NOTE: Above prices are based on Standard weights of Line Pipe as listed in National Tube Co.'s 1913 book of standards. When heavier pipe is required, same will be at additional cost to cover difference in cost of pipe.

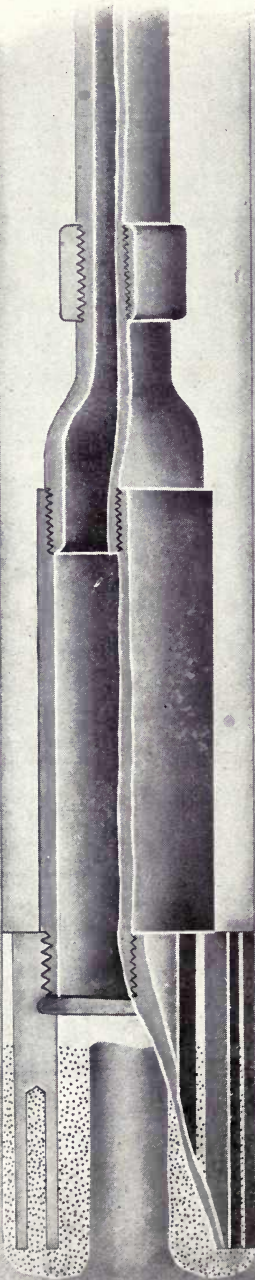
When using code, specify galvanized or brass.

Adamantine Core Barrel

This cut illustrates an adamantine core barrel in use. Adamantine or chilled shot is dropped into the hole and the core barrel revolved, causing the adamantine or chilled shot to be carried into the grooves on the inside and outside of the barrel, cutting any hard formation or making a core. Adamantine is a superior material to use and cuts faster than chilled shot.

When having work to do that requires a core barrel please give us as full information as possible, and we will take pleasure in giving all inquirers the benefit of our knowledge in these lines.

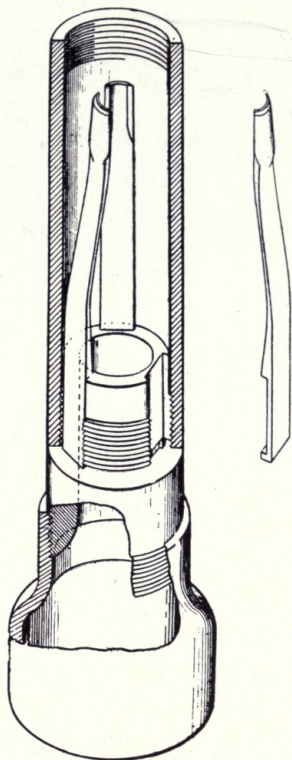
Prices on Application



“PARKER ROTARIES —
STANDARD OF THE WORLD”



Parker Overshot



Kammerer & Schneider Overshot
Patented

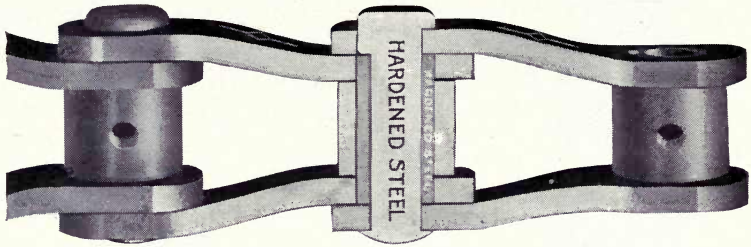
Overshots

These tools are used for recovering pipe that has been dropped into well or twisted off, tools and other material which interfere with drilling.

Full information furnished on request.

The list on the Kammerer & Schneider overshot is net. PARKER overshots carry the same list, but are subject to discount.

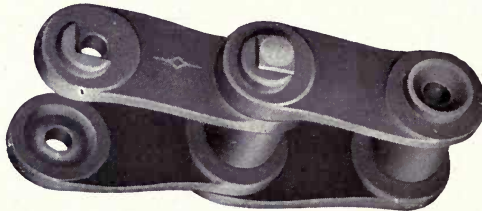
12½" to run on 10 " Casing to catch 6" Pipe	\$95.00
10 " to run on 8¼" Casing to catch 6" Pipe	75.00
8 " to run on 6¼" Casing to catch 4" Pipe	65.00
6 " to run on 4½" Casing to catch 3" Pipe	52.50
4½" to run on 3 " Tubing to catch 2" Pipe	45.00
3 " to run on 2 " Tubing to catch Sucker Rods	20.00
Bowls for 10" Overshot to run in 12½"	20.00
Bowls for 10" Overshot to run in 15½"	27.00
Bowls for 8" Overshot to run in 10 "	17.50
Bowls for 8" Overshot to run in 12½"	22.50



Chabelco Rotary Chain

The above chain is especially made for Rotary Drilling. It is of the roller type which greatly reduces wear and thereby prolongs the life of both chain and sprockets.

Description	List
No. 525 Chabelco Roller Chain for Rotary Drive.....	\$2.00 per foot
No. 2061 Chabelco Roller Chain for Engine Drive.....	2.00 per foot
No. 2053 Chabelco Roller Chain for Drum Drive.....	4.25 per foot



Description	List
No. 103 Malleable Detachable Chain.....	\$.50 per foot
No. 103 Ductile Steel Bolted Chain.....	.80 per foot
No. 1030 Malleable Bolted Chain.....	1.50 per foot
No. 1240 Malleable Bolted Chain.....	3.50 per foot

“PARKER ROTARIES — STANDARD OF THE WORLD”

Telegraphic Words for General Phrases

DECKER	Referring to your letter of—
DECLAIM	Referring to your telegram of—
DECLARE	In reply to your letter of—
DECLINE	Freight by rail, in carloads, per hundred pounds is—
DECOCT	Freight by rail, in less than carloads, per hundred pounds is—
DECOLOR	We are justified in selling—
DECORATE	Cannot get through rate to—
DECOY	We're not justified in selling—
DECREE	To hold trade—
DECRY	Advise selling—
DEDICATE	Advise not selling—
DEDUCE	Ascertain and advise full particulars—
DEED	Might be able to reduce figures—
DEFACE	To enable you to secure order—
DEFAULT	Keep us fully advised—
DEFEAT	Ascertain prices talked of—
DEFEND	See our letter of—
DEFICIT	See our telegram of—
DEFILE	We have telegraphed—
DEFINER	We will telegraph—
DEFLECT	Letter not received in time—
DEFORM	Telegram not received in time—
DEFRAUD	Prices on brass goods advanced—
DEFRAY	Prices on iron goods advanced—
DEFY	Prices on cast-iron fittings advanced—
DEGRADE	Prices on malleable iron fittings have advanced—
DEGREE	New prices on brass valves—
DEHORN	New prices on iron body valves—
DEJECT	New prices on cast-iron fittings—
DEJURE	New prices on malleable-iron fittings—
DELAPSE	New prices on nipples—
DELATOR	Cents per foot net—
DELETE	Cents per foot less—
DELIGHT	Cents per pound net—
DELL	Pounds per foot—
DELPHIC	Free on board at—
DELTA	Have entered your order for—
DELTOID	We will accept order—
DELUDE	We will not accept order
DELVE	We will accept offer—
DEMARCH	We will not accept offer—
DEMEAN	We cannot accept your order—
DEMENT	We cannot duplicate order at less than—
DEMERIT	We cannot do better—
DEMERSE	Use your best judgment—
DEMIGOD	Use your best judgment and take order—
DEMISE	The price of pipe is today advanced to—
DEMIT	We will hold offer open—

Telegraphic Words for General Phrases (Continued)

DEMON	We hereby withdraw all quotations—
DEMONIC	We do not make—
DEMOTIC	We cannot make—
DEMUR	Will commence making—
DEMY	We cannot hold offer open—
DEN	If necessary to take order—
DENARY	We can make length wanted by joining pieces together—
DENAY	In less than—
DENIM	Not less than—
DENNET	Specify quantity wanted—
DENOTE	Specifications undesirable—
DENSE	What kind of joint is wanted—
DENT	Telegraph particulars at once—
DENTAL	Send particulars by mail—
DENTIST	Telegraph tomorrow early—
DENTOID	Your telegram is unintelligible. Please repeat—
DENUDE	Telegraph in plain language—
DEPRESS	If so enter order—
DEPRIVE	Will send particulars by mail—
DEPUTE	See letter of—
DEPUTY	Particulars go by mail—
DERAIL	If unsatisfactory, telegraph—
DERBY	Reply at once by telegraph—
DERIDE	Must have an answer by—
DERM	Answer our letter of—
DERNIER	Answer our telegram of the—

Questions for Purchasing

DENY	At what price can you furnish—
DEPART	At what price and how soon can you furnish—
DEPEND	How soon can you furnish—
DEPICT	Can you furnish from stock? If not, how long will it take to make—
DEPLANT	Have you in stock? If not all, how many (or much)—
DEplete	How long will it take you to make and ship—
DEPLORE	When will you ship order—
DEPLOY	Can you ship by—
DEPLUME	Can you furnish us promptly—
DEPONE	What discount will you sell—
DEPORT	What discount for cash—
DEPOSE	What is the lowest contract rate of freight you can obtain to —
DEPOT	What terms are required—
DEPRAVE	Are we (or I) justified in—

Answers for Purchasing

DESCEND	We can ship—
DESERT	We can ship today—
DESERVE	We can ship tomorrow—
DESK	We have in stock and can furnish at—
DESMAN	We have all in stock and can furnish at once—
DESMOID	We cannot ship—
DESPAIR	We cannot ship before—
DESPISE	We have no— but will ship other sizes promptly—
DESPOIL	We have none in stock—
DESPOND	We can ship— from stock and the balance—
DESPOT	We can furnish—
DESTINE	We can furnish promptly—
DESTROY	We have none in stock, but can make and ship—
DETACH	None of the goods you order are in stock—
DETAIN	We shipped—
DETECT	We cannot furnish—
DETENT	Impossible for us to fill your order in time specified—
DETER	If ordered by telegraph at once we could ship in—
DETEST	If ordered immediately—
DETOUR	If ordered immediately by wire—
DETRACT	Immediately on receipt of order—
DETRAIN	On receipt of order—
DETRUDE	After receipt of order—
DEUCE	Will ship earlier if possible—
DEVEST	We cannot promise definitely—
DEVICE	We quote you — discount on—
DEVIL	We quote—
DEVOID	Cannot change present discount—
DEVOLVE	F. O. B. cars our plant—
DEVOTE	F. O. B. your city—
DEW	F. O. B.—
DEWLAP	For acceptance within—

Telegraphic Code Words for Dates

DAB.....	First—
DABBER.....	Second—
DABBLE.....	Third—
DABSTER.....	Fourth—
DACOIT.....	Fifth—
DADDY.....	Sixth
DADO.....	Seventh—
DAFF.....	Eighth—
DAGGER.....	Ninth—
DAGLOCK.....	Tenth—
DAILY.....	Eleventh—
DAINTY.....	Twelfth—
DAISY.....	Thirteenth—
DAM.....	Fourteenth—
DAMAGE.....	Fifteenth—
DAMASK.....	Sixteenth—
DAMPEN.....	Seventeenth—
DAMSEL.....	Eighteenth—
DANCE.....	Nineteenth—
DANDIE.....	Twentieth—
DANGER.....	Twenty-first—
DANGLE.....	Twenty-second—
DARE.....	Twenty-third—
DARKEN.....	Twenty-fourth—
DARLING.....	Twenty-fifth—
DASH.....	Twenty-sixth
DASHER.....	Twenty-seventh—
DASHPOT.....	Twenty-eighth—
DASTARD.....	Twenty-ninth—
DAUB.....	Thirtieth—
DAUBER.....	Thirty-first—

Telegraphic Code Words for Discounts

DAUPHIN.....	2 per cent—
DAVIT.....	5 per cent—
DAWN.....	6 per cent—
DAY.....	10 per cent—
DAZZLE.....	15 per cent—
DEACON.....	20 per cent—
DEAD.....	25 per cent—
DEAFEN.....	30 per cent—
DEARTH.....	35 per cent
DEBAR.....	40 per cent—
DEBASE.....	50 per cent—
DEBATER.....	55 per cent—
DEBAUCH.....	60 per cent—

Telegraphic Code Words for Terms

DEBIT.....	Ten days—
DEBRIS.....	Thirty days—
DECADE.....	Sixty days—
DECANT.....	Ninety days—
DECAY.....	Four months—
DECEIT.....	Interest added after—
DECHARM.....	Discount for spot cash—
DECK.....	Discount for cash ten days—

General Information

1. A United States gallon of fresh water weighs $8\frac{1}{3}$ pounds and contains 231 cubic inches.

2. A cubic foot of water weighs $62\frac{1}{2}$ pounds and contains 1,728 cubic inches, or $7\frac{1}{2}$ gallons.

3. A "miner's inch" of water is approximately equal to a supply of $11\frac{1}{2}$ gallons per minute.

4. The friction of water in pipes increases with the square of its velocity.

5. The discharging power of pipes increases with the square root of the fifth power of their diameters, thus doubling the diameter increases the discharge quantity 5.66 times.

6. To find the area of a piston, square the diameter and multiply by .7854.

7. In calculating horsepower of tubular boilers, 15 square feet of heating surface is equivalent to one nominal horsepower. The Centennial standard is 30 pounds of water evaporated per hour from 100 degrees Fahr., at 70 pounds pressure.

8. The mean pressure of the atmosphere is usually estimated at 14.7 pounds per square inch at sea level, so that with a perfect vacuum it will sustain a column of mercury 30 inches, or a column of water 34 feet high.

9. To find the capacity of a cylinder in gallons: Multiplying the area in inches by the stroke in inches will give the total number of cubic inches; divide this amount by 231 (which is the cubical contents of a gallon in inches), and the quotient is the capacity in gallons.

10. To find the pressure in pounds per square inch of a column of water, multiply the height of the column in feet by .434. To find the head in feet, multiply the pressure by 2.31.

11. The area of the steam piston, multiplied by the steam pressure of water per square inch gives the resistance. A margin of from 25 to 50 per cent. must be added to move the piston at the required speed, and to compensate for variations in steam pressure.

12. To find the net pump end horsepower exerted in pumping a given quantity of water against a given total head: Multiply United States gallons pumped per minute by $8\frac{1}{3}$; multiply the product by the total head in feet, and divide by 33,000.

Comparative Equivalents of Liquid Measures and Weights

Measures and Weights for Comparison	MEASURE AND WEIGHT EQUIVALENTS OF ITEMS IN FIRST COLUMN									
	U. S. Gallon	Imperial Gallon	Cubic Inch	Cubic Foot	Cubic Metre	Litre	*Vedro	*Pood	U. S. Gallon	Imperial Gallon
U. S. Gallon	1	.833	231	.1337	.00378	3.785	.308	.231	8.33	
Imperial Gallon	1.20	1	277.27	.1604	.00454	4.542	.369	.277	10	
Cubic Inch	.0043	.00358	1	.00057	.000016	.0163	.00132	.001	.0358	
Cubic Foot	7.48	6.235	1728	1	.02827	28.312	2.304	1.728	62.355	
Cubic Metre	264.17	220.05	61023	35.319	1	1000	81.364	61.023	2200.54	
Litre	26417	2200	61.023	.0353	.001	1	.08136	.06102	2.2005	
* Vedro	3.249	2.706	750.1	.4344	.01228	12.29	1	.7501	27.06	
} Pood	4.328	3.607	1000	.578	.01636	16.381	1.333	1	36.07	
Pound	.12	.1	27.72	.016	.00045	.454	.0369	.0277	1	

*Vedro and Pood are a Russian measure and weight respectively.

CONVENIENT TO KNOW { A common water pail holds 19 pounds, or 2.272 U. S. gallons.
 { A miner's inch of water equals approximately 11½ U. S. gallons per minute.
 { One metre equals 39.37 inches, or 3.281 feet.

Water Required per Minute to Feed Boilers

(Using the "Centennial Standard" — 30 pounds or 3.6 gallons of water per horsepower per hour, evaporated from 100° F. to 70 pounds steam pressure per square inch.)

H. P. Boiler	Feed Water Gallons	H. P. Boiler	Feed Water Gallons	H. P. Boiler	Feed Water Gallons	H. P. Boiler	Feed Water Gallons
20	1.2	60	3.6	110	6.6	190	11.4
25	1.5	65	3.9	120	7.2	200	12.0
30	1.8	70	4.2	130	7.8	225	13.5
35	2.1	75	4.5	140	8.4	250	15.0
40	2.4	80	4.8	150	9.0	275	16.5
45	2.7	85	5.1	160	9.6	300	18.0
50	3.0	90	5.4	170	10.2	325	19.5
55	3.3	100	6.0	180	10.8	350	21.0
						400	24.0
						450	27.0
						500	30.0
						600	36.0
						700	42.0
						800	48.0
						900	54.0
						1000	60.0

Power Required to Lift Water

The figures in the body of the table are for the theoretical horsepower. In ordinary practice these amounts SHOULD BE DOUBLED, that is, for one horsepower in the table there should be two horsepower represented in the engine that is to drive the pump.

Gallons of Water Raised per Minute	Miners' Inches	HEIGHT IN FEET TO WHICH WATER IS RAISED										HORSEPOWER	
		5	10	15	20	25	30	40	50	60	70		80	100
20	2.22	.025	.050	.075	.100	.125	.150	.20	.25	.30	.35	.40	.50
30	3.33	.037	.075	.112	.150	.187	.225	.30	.37	.45	.52	.60	.75
40	4.44	.050	.100	.150	.200	.250	.300	.40	.50	.60	.70	.80	1.00
50	5.55	.06	.13	.19	.25	.32	.38	.50	.60	.76	.88	1.01	1.26
75	8.33	.09	.19	.28	.37	.47	.57	.76	.95	1.14	1.33	1.52	1.90
100	11.11	.12	.25	.38	.50	.63	.76	1.01	1.26	1.52	1.77	2.02	2.53
150	16.66	.19	.38	.57	.76	.95	1.14	1.52	1.90	2.27	2.65	3.03	3.79
200	22.22	.25	.50	.76	1.01	1.26	1.52	2.02	2.53	3.03	3.54	4.04	5.05
250	27.27	.32	.63	.95	1.26	1.58	1.90	2.27	3.03	3.79	4.42	5.05	6.32
300	33.33	.38	.76	1.14	1.52	1.90	2.27	3.03	3.79	4.55	5.31	6.06	7.58
350	38.88	.44	.88	1.33	1.77	2.21	2.65	3.54	4.42	5.30	6.19	7.08	8.84
400	44.44	.50	1.01	1.52	2.02	2.53	3.03	4.04	5.05	6.06	7.08	8.09	10.11
450	50.55	.63	1.26	1.90	2.53	3.16	3.79	5.05	6.32	7.58	8.84	10.11	12.64
500	55.55	.76	1.52	2.27	3.03	3.79	4.55	6.06	7.58	9.10	10.61	12.13	15.16
600	66.66	1.01	2.02	3.03	4.04	5.05	6.06	8.09	10.11	12.13	14.15	16.18	20.22
800	88.88	1.52	3.03	4.55	6.06	7.58	9.10	12.13	15.16	18.20	21.23	24.26	30.32
1000	111.1	2.02	4.04	6.06	8.09	10.11	12.13	15.16	18.20	21.23	24.26	30.32	37.90
1200	133.	2.53	5.05	7.58	10.11	12.63	15.16	18.20	21.23	24.26	30.32	37.90	50.54
1500	166.	3.16	6.32	9.48	12.63	15.80	18.95	25.27	31.59	37.91	44.23	50.54	63.18
2000	222.	4.42	8.84	13.27	18.95	25.27	31.59	45.49	53.07	60.65	68.24	75.82	94.74
2500	277.	5.69	11.37	17.06	22.74	28.43	34.12	45.49	56.86	68.24	79.61	90.98	113.72
3000	333.	6.95	13.90	20.22	27.27	34.12	41.46	54.41	66.76	80.98	94.74	109.09	137.88
3500	388.	8.33	16.66	24.26	31.59	39.59	48.14	62.18	76.44	91.46	107.41	124.26	156.18
4000	444.	9.70	19.40	28.43	37.91	47.03	57.03	72.81	89.66	107.41	126.32	146.18	184.18
4500	500.	11.11	22.22	32.59	42.86	53.07	63.88	82.43	102.13	123.78	147.52	173.72	218.18
5000	555.	12.64	25.27	37.91	50.54	63.18	76.44	98.48	123.78	150.54	178.72	210.90	266.18

Table Showing Capacity of Pumps per Stroke

Diam. of Cylinder Inches	Area Square Inches	LENGTH OF STROKE IN INCHES AND CAPACITY IN GALLONS							
		2	3	4	6	8	10	12	14
$\frac{3}{4}$	.442	.004	.006	.008	.011	.015	.019	.023	.027
$\frac{7}{8}$	.601	.005	.008	.01	.016	.021	.026	.031	.036
1	.785	.007	.01	.014	.02	.027	.034	.041	.048
$1\frac{1}{8}$	.994	.009	.013	.017	.026	.034	.043	.052	.06
$1\frac{1}{4}$	1.227	.011	.016	.021	.032	.043	.053	.064	.074
$1\frac{3}{8}$	1.485	.013	.019	.026	.039	.051	.064	.077	.089
$1\frac{1}{2}$	1.767	.015	.023	.031	.046	.061	.077	.092	.107
$1\frac{3}{4}$	2.405	.021	.031	.042	.063	.083	.104	.125	.149
2	3.142	.027	.041	.054	.082	.109	.136	.163	.19
$2\frac{1}{4}$	3.976	.034	.052	.069	.103	.138	.172	.206	.241
$2\frac{1}{2}$	4.909	.043	.064	.085	.128	.17	.213	.255	.298
$2\frac{3}{4}$	5.94	.051	.077	.103	.154	.206	.257	.309	.36
3	7.069	.061	.092	.122	.184	.245	.306	.367	.428
$3\frac{1}{4}$	8.296	.072	.108	.144	.215	.287	.359	.431	.503
$3\frac{1}{2}$	9.621	.083	.125	.167	.25	.333	.417	.5	.583
$3\frac{3}{4}$	11.045	.095	.143	.191	.287	.382	.478	.574	.669
4	12.566	.109	.163	.218	.326	.435	.544	.653	.762
$4\frac{1}{4}$	14.186	.123	.184	.246	.368	.491	.614	.737	.86
$4\frac{1}{2}$	15.904	.138	.207	.275	.413	.551	.689	.826	.964
$4\frac{3}{4}$	17.721	.153	.23	.307	.46	.614	.767	.92	1.073
5	19.635	.17	.255	.34	.51	.68	.85	1.02	1.19
$5\frac{1}{4}$	21.648	.187	.281	.375	.562	.75	.937	1.124	1.311
$5\frac{1}{2}$	23.758	.206	.309	.411	.617	.823	1.029	1.234	1.44
$5\frac{3}{4}$	25.967	.225	.337	.45	.674	.899	1.124	1.348	1.573
6	28.274	.245	.367	.49	.734	.979	1.224	1.469	1.714
$6\frac{1}{4}$	30.68	.266	.398	.531	.797	1.062	1.328	1.593	1.859
$6\frac{1}{2}$	33.183	.287	.431	.574	.861	1.149	1.436	1.796	2.011
$6\frac{3}{4}$	35.785	.309	.465	.62	.929	1.239	1.549	1.858	2.168

Doubling the DIAMETER of a pipe or cylinder increases its capacity four times.

Water Pressure

The pressure of still water in pounds per square inch against the sides of any pipe or vessel of any shape is due alone to the head or height of the surface of the water above the point pressed upon, and is equal to 0.434 pounds per square inch for every foot of head, the fluid pressure being equal in all directions. For example: the pressure in pounds per square inch at the bottom of well tubing 1,000 feet deep and filled with water would be $0.434 \times 1000 = 434$ pounds pressure.

Table Showing Head in Feet and Pressure in Pounds

HEAD OF WATER AND EQUIVALENT PRESSURE

Feet Head	Lbs. Press.	Feet Head	Lbs. Press.	Feet Head	Lbs. Press.
5	2.17	70	30.3	200	86.6
10	4.33	80	34.6	250	108.2
15	6.50	90	39.0	300	129.9
20	8.66	100	43.3	350	151.5
25	10.83	110	47.6	400	173.2
30	12.99	120	52.0	500	216.5
35	15.16	130	56.3	600	259.8
40	17.32	140	60.6	700	303.1
45	19.49	150	65.0	800	346.4
50	21.65	160	69.2	900	389.7
60	26.09	180	78.0	1000	434.0

Table Showing Head in Feet and Pressure in Pounds

PRESSURE OF WATER AND EQUIVALENT HEAD

Lbs. Press.	Feet Head	Lbs. Press.	Feet Head	Lbs. Press.	Feet Head
5	11.5	70	161.6	180	415.6
10	23.0	80	184.7	190	438.9
15	34.6	90	207.8	200	461.7
20	46.2	100	230.9	225	519.5
25	57.7	110	253.9	250	577.2
30	69.3	120	277.0	275	643.0
35	80.8	130	300.1	300	692.7
40	92.3	140	323.2	325	750.4
45	103.9	150	346.3	350	808.1
50	115.4	160	369.4	400	922.6
60	138.5	170	392.5	500	1154.5

Relative Quantities of Water

Delivered in 24 Hours, in 1 Hour, and in 1 Minute

Gallons in 24 Hours	Gallons in 1 Hour	Gallons in 1 Min.	Gallons in 24 Hours	Gallons in 1 Hour	Gallons in 1 Min.	Gallons in 24 Hours	Gallons in 1 Hour	Gallons in 1 Min.	Gallons in 24 Hours	Gallons in 1 Hour	Gallons in 1 Min.
250000	104166.0	1736.0	650000	27083.3	451.3	150000	6250.0	104.1			
2000000	83333.3	1388.0	600000	25000.0	416.7	100000	4166.6	69.4			
1500000	62500.0	1041.7	550000	22916.6	381.9	75000	3125.0	52.9			
1000000	41666.6	694.3	500000	20833.3	347.2	60000	2500.0	41.6			
950000	39583.3	659.7	450000	18750.0	312.5	50000	2083.3	34.7			
900000	37500.0	625.0	400000	16666.6	277.7	25000	1041.6	17.3			
850000	35416.6	590.2	350000	14583.3	243.0	20000	833.3	13.8			
800000	33333.3	555.5	300000	12500.0	208.3	15000	625.0	10.4			
750000	31250.0	520.8	250000	10416.7	173.6	10000	416.6	6.9			
700000	29166.6	486.1	200000	8333.3	138.8	5000	208.3	3.4			

Deep Well Pump Plunger Loads — in Pounds

Lift in Feet	DIAMETER OF CYLINDERS AND LOAD IN POUNDS											
	2 3/4	3 1/4	3 3/4	4 1/4	4 3/4	5 3/4	6 3/4	7 1/2	8 1/2	9	9 1/2	10
50	129	180	240	307	384	562	775	956	1228	1377	1535	1700
75	195	270	360	460	576	845	1162	1435	1840	2065	2300	2550
100	260	360	480	615	770	1125	1550	1910	2455	2755	3070	3400
125	320	450	600	770	960	1405	1940	2390	3070	3440	3835	4250
150	385	540	720	920	1150	1685	2325	2870	3685	4130	4600	5100
200	515	720	960	1230	1535	2250	3100	3825	4910	5510	6135	6800
250	645	900	1200	1535	1920	2810	3875	4780	6140	6885	7670	8500
300	775	1080	1440	1840	2305	3370	4650	5740	7370	8260	9200	10200
350	900	1260	1680	2150	2690	3935	5425	6690	8600	9640	10740	11900
400	1030	1440	1920	2455	3075	4500	6200	7650	9825	11015	12270	13600
500	1290	1800	2400	3070	3840	5620	7750	9560	12280	13770	15340	17000

Contents of Round Tanks in U. S. Gallons for Each Foot in Depth

Inside Diameter Ft. In.	Gallons One Foot in Depth	Inside Diameter Ft. In.	Gallons One Foot in Depth
1 0	5.87	10 6	647.74
1 3	9.18	10 9	678.95
1 6	13.22	11 0	710.90
1 9	17.99	11 3	743.58
2 0	23.50	11 6	776.99
2 3	29.74	11 9	811.14
2 6	36.72	12 0	846.03
2 9	44.43	12 3	881.65
3 0	52.88	12 6	918.00
3 3	62.06	12 9	955.09
3 6	71.97	13 0	992.91
3 9	82.62	13 3	1031.50
4 0	94.00	13 6	1070.80
4 3	106.12	13 9	1110.80
4 6	118.97	14 0	1151.50
4 9	132.56	14 3	1198.00
5 0	146.88	14 6	1235.30
5 3	161.93	14 9	1278.20
5 6	177.72	15 0	1321.90
5 9	194.25	15 3	1366.40
6 0	211.51	15 6	1411.50
6 3	229.50	15 9	1457.40
6 6	248.23	16 0	1504.10
6 9	267.69	16 3	1551.40
7 0	287.88	16 6	1599.50
7 3	308.81	16 9	1648.40
7 6	330.48	17 0	1697.90
7 9	352.88	17 3	1748.20
8 0	376.01	17 6	1799.30
8 3	399.88	17 9	1851.10
8 6	424.48	18 0	1903.60
8 9	449.82	18 3	1956.80
9 0	475.89	18 6	2010.80
9 3	502.70	18 9	2065.50
9 6	530.24	19 0	2120.90
9 9	558.51	19 3	2177.10
10 0	587.52	19 6	2234.00
10 3	617.26	20 0	2350.08

Doubling the diameter increases the capacity four times.

Standard, Extra and Double Extra Strong Wrought-Iron Pipe Sizes, Weights, Etc.

STANDARD PIPE

Nominal Size Inches	Price per Foot Black or Galvanized	Actual Outside Diameter	Nominal Weight per Foot Pounds	Number Threads per Inch
$\frac{1}{8}$	.055	.405	.24	27
$\frac{1}{4}$	.055	.54	.42	18
$\frac{3}{8}$	.055	.675	.56	18
$\frac{1}{2}$	.085	.84	.84	14
$\frac{3}{4}$	.115	1.05	1.12	14
1	.165	1.315	1.67	11 $\frac{1}{2}$
1 $\frac{1}{4}$	.225	1.66	2.24	11 $\frac{1}{2}$
1 $\frac{1}{2}$	.27	1.9	2.68	11 $\frac{1}{2}$
2	.36	2.37	3.61	11 $\frac{1}{2}$
2 $\frac{1}{2}$	.575	2.87	5.74	8
3	.755	3.5	7.54	8
3 $\frac{1}{2}$	.95	4.0	9.00	8
4	1.08	4.5	10.66	8
4 $\frac{1}{2}$	1.30	5.0	12.49	8
5	1.45	5.56	14.5	8
6	1.88	6.62	18.76	8
7	2.35	7.62	23.27	8
8	2.82	8.62	28.18	8

X STRONG PIPE

Nominal Size Inches	Price per Foot	Actual Outside Diameter	Nominal Inside Diameter	Nominal Weight per Foot Pounds
$\frac{1}{8}$	.11	.405	.205	.29
$\frac{1}{4}$	.11	.54	.294	.54
$\frac{3}{8}$	.11	.675	.421	.74
$\frac{1}{2}$	.12	.84	.542	1.09
$\frac{3}{4}$	.15	1.05	.736	1.39
1	.22	1.315	.951	2.17
1 $\frac{1}{4}$	.30	1.66	1.27	3.00
1 $\frac{1}{2}$	.36	1.9	1.49	3.63
2	.50	2.37	1.93	5.02
2 $\frac{1}{2}$	.81	2.87	2.31	7.67
3	1.05	3.5	2.89	10.25
3 $\frac{1}{2}$	1.33	4.0	3.35	12.47
4	1.50	4.5	3.81	14.97
4 $\frac{1}{2}$	1.95	5.0	4.28	18.22
5	2.16	5.56	4.81	20.54
6	2.90	6.62	5.75	28.58
7	3.80	7.62	6.62	37.67
8	4.80	8.62	7.62	43.0

Standard, Extra and Double Extra Strong Wrought-Iron Pipe

Sizes, Weights, Etc.

XX STRONG PIPE

Nominal Size Inches	Price per Foot	Actual Outside Diameter	Nominal Inside Diameter	Nominal Weight per Foot Pounds
$\frac{1}{8}$	.....	.....	.....	.....
$\frac{1}{4}$	.....	.....	.....	.....
$\frac{3}{8}$	.....	.....	.....	.....
$\frac{1}{2}$	.25	.84	.224	1.70
$\frac{3}{4}$	.30	1.05	.422	2.44
1	.37	1.315	.587	3.65
$1\frac{1}{4}$	.52	1.66	.885	5.20
$1\frac{1}{2}$	.65	1.9	1.08	6.40
2	.95	2.37	1.49	9.02
$2\frac{1}{2}$	1.37	2.87	1.75	13.68
3	1.92	3.5	2.28	18.56
$3\frac{1}{2}$	2.45	4.0	2.71	22.75
4	2.85	4.5	3.13	27.48
$4\frac{1}{2}$	3.30	5.0	3.56	32.53
5	3.80	5.56	4.06	38.12
6	5.30	6.62	4.87	53.11
7	6.25	7.62	5.87	62.38
8	7.20	8.62	6.87	71.62

Tapers per Foot and Corresponding Angles

Taper Per Ft.	Included Angle	Angle with Centre Line	Taper Per Ft.	Included Angle	Angle with Centre Line
1-8"	0°-36'	0°-18'	1"	4°-46'	2°-23'
1-4"	1°-12'	0°-36'	$1\frac{1}{2}$ "	7°-9'	3°-35'
5-16"	1°-30'	0°-45'	$1\frac{3}{4}$ "	8°-20'	4°-10'
3-8"	1°-47'	0°-54'	2"	9°-31'	4°-46'
7-16"	2°-5'	1°-2'	$2\frac{1}{2}$ "	11°-54'	5°-57'
1-2"	2°-23'	1°-12'	3"	14°-15'	7°-8'
3-4"	3°-35'	1°-47'	$3\frac{1}{2}$ "	16°-36'	8°-18'
15-16"	4°-28'	2°-14'	4"	18°-55'	9°-28'

Information for Motor Users

VOLT—The unit of electrical motive force. Force required to send one ampere of current through one ohm of resistance.

OHM—Unit of resistance. The resistance offered to the passage of one ampere, when impelled by one volt.

AMPERE—Unit of current. The current which one volt can send through a resistance of one ohm.

WATT—The unit of electrical energy, and is the product of ampere and volt. That is, one ampere of current flowing under a pressure of one volt gives one watt of energy.

ELECTRICAL EQUIVALENTS

ONE WATT

- A RATE of doing work.
- 1. ampere per sec. at one volt.
 - .7373 foot-pounds per second.
 - 44.238 foot-pounds per minute.
 - 2654.28 foot-pounds per hour.
 - .5027 mile-pounds per hour.
 - .00134 Horsepower
 - $\frac{1}{746}$ Horsepower

ONE KILOWATT

- A RATE of doing work.
- 737.3 foot-pounds per second.
 - 44238. foot-pounds per minute.
 - 502.7 mile-pounds per hour.
 - 1.34 Horsepower.

ONE HORSEPOWER

- A RATE of doing work.
- 550. foot-pounds per second.
 - 33000. foot-pounds per minute.
 - 375. mile-pounds per hour.
 - 746. watts.
 - .746 kilowatt.

ONE WATT-HOUR

- A QUANTITY of work.
- 2654.28 foot-pounds.
 - .503 mile-pounds.
 - 1. ampere hour \times one volt.
 - .00134 Horsepower-Hour.

ONE HORSEPOWER HOUR

- A QUANTITY of work.
- 1,980,000. foot-pounds.
 - 375. mile-pounds.
 - 746. watt-hour.
 - .746 kilowatt-hour.

ONE AMPERE-HOUR

- A QUANTITY of current.
- One ampere flowing for one hour irrespective of the voltage.
 - Watt-hour \div volts.

TORQUE

- Force moving in a circle.
- A force of one pound at a radius of one foot.

OHM'S LAW

$$\text{Amperes} = \frac{\text{Volts}}{\text{Ohms}}$$

$$\text{Volts} = \text{Amperes} \times \text{Ohms}$$

$$\text{Ohms} = \frac{\text{Volts}}{\text{Amperes}}$$

$$\text{Volts} \times \text{Amperes} = \text{Watts}$$

$$\text{H. P.} = \frac{\text{Watts}}{746}$$

$$\text{Or watts} = \text{H. P.} \times 746$$

EXAMPLES

1. To find the Amperes (Volts and Resistance being known).
For instance, an ordinary incandescent lamp at 110 Volts and 220 Ohms resistance.

$$\text{Amperes} = \frac{\text{Volts}}{\text{Ohms}} \text{ or } \frac{110}{220} = \frac{1}{2} \text{ Ampere}$$

2. To find Volts (Amperes and Ohms being known).
Volts = Amperes \times Ohms or $\frac{1}{2} \times 220 = 110$ Volts
3. To find resistance in Ohms (Volts and Amperes being known).

$$\text{Ohms} = \frac{\text{Volts}}{\text{Amperes}} \text{ or } \frac{110}{\frac{1}{2}} = 220$$

4. To find H. P. of a motor (Volts and Amperes being known).
(Volts \times Amperes) \times % efficiency

$$\text{H. P.} = \frac{\text{Volts} \times \text{Amperes} \times \% \text{ efficiency}}{746}$$

5. To find H. P. required to drive a generator (Volts and Amperes being known).

$$\text{H. P.} = \frac{\text{Volts} \times \text{Amperes}}{746 \times \% \text{ efficiency}}$$

NOTE — Efficiency will vary according to size of machine and amount of load.

French or Metric Measures

The metric unit of length is the metre = 39.37 inches.

The metric unit of weight is the gram = 15.432 grains.

The following prefixes are used for sub-divisions and multiples: Milli = $\frac{1}{1000}$, Centi = $\frac{1}{100}$, Deci = $\frac{1}{10}$, Deca = 10, Hecto = 100, Kilo = 1000, Myria = 10,000.

French and British (and American) Equivalent Measures

MEASURES OF LENGTH

FRENCH	BRITISH AND U. S.
1 metre is equivalent to	39.37 inches, or 3.28083 ft., or 1.09361 yds.
.3048 metre is equivalent to	1 foot.
1 centimetre is equivalent to . . . . .	.3937 inch.
2.54 centimetres is equivalent to	1 inch.
1 millimetre is equivalent to . . . . .	.03937 inch, or nearly 1-25 inch.
25.4 millimetres is equivalent to	1 inch.
1 kilometre is equivalent to	1093.61 yards, or 0.62137 mile.

OF WEIGHT

FRENCH	BRITISH AND U. S.
1 gramme is equivalent to	15.432 grains.
.0648 gramme is equivalent to	1 grain.
28.35 grammes is equivalent to	1 ounce avoirdupois.
1 kilogramme is equivalent to	2.2046 pounds.
.4536 kilogramme is equivalent to	1 pound.
1 tonne or metric ton is equivalent to } . . . . .	.9842 ton of 2240 pounds. 19.68 cwt. 2204.6 pounds.
1000 kilogrammes is equivalent to }	
1.016 metric tons is equivalent to }	1 ton of 2240 pounds.
1016 kilogrammes }	

OF CAPACITY

FRENCH	BRITISH AND U. S.
1 litre (= 1 cubic decimetre) is equivalent to	61.023 cubic inches. .03531 cubic feet. .2642 gal. (American). 2.202 lbs. of water at 62° F.
28.317 litres is equivalent to	
4.543 litres is equivalent to	
3.785 litres is equivalent to	

Table of Decimal Equivalents of Millimetres and Fractions of Millimetres

mm.	Inches	mm.	Inches	mm.	Inches
$\frac{1}{100}$	is equivalent to .00039	$\frac{43}{100}$	is equivalent to .01693	$\frac{85}{100}$	is equivalent to .03346
$\frac{2}{100}$	is equivalent to .00079	$\frac{45}{100}$	is equivalent to .01732	$\frac{86}{100}$	is equivalent to .03386
$\frac{3}{100}$	is equivalent to .00118	$\frac{46}{100}$	is equivalent to .01772	$\frac{87}{100}$	is equivalent to .03425
$\frac{4}{100}$	is equivalent to .00157	$\frac{47}{100}$	is equivalent to .01811	$\frac{88}{100}$	is equivalent to .03465
$\frac{5}{100}$	is equivalent to .00197	$\frac{48}{100}$	is equivalent to .01850	$\frac{89}{100}$	is equivalent to .03504
$\frac{6}{100}$	is equivalent to .00236	$\frac{49}{100}$	is equivalent to .01890	$\frac{90}{100}$	is equivalent to .03543
$\frac{7}{100}$	is equivalent to .00276	$\frac{50}{100}$	is equivalent to .01929	$\frac{91}{100}$	is equivalent to .03583
$\frac{8}{100}$	is equivalent to .00315	$\frac{51}{100}$	is equivalent to .01969	$\frac{92}{100}$	is equivalent to .03622
$\frac{9}{100}$	is equivalent to .00354	$\frac{52}{100}$	is equivalent to .02008	$\frac{93}{100}$	is equivalent to .03661
$\frac{10}{100}$	is equivalent to .00394	$\frac{53}{100}$	is equivalent to .02047	$\frac{94}{100}$	is equivalent to .03701
$\frac{11}{100}$	is equivalent to .00433	$\frac{54}{100}$	is equivalent to .02087	$\frac{95}{100}$	is equivalent to .03740
$\frac{12}{100}$	is equivalent to .00472	$\frac{55}{100}$	is equivalent to .02126	$\frac{96}{100}$	is equivalent to .03780
$\frac{13}{100}$	is equivalent to .00512	$\frac{56}{100}$	is equivalent to .02165	$\frac{97}{100}$	is equivalent to .03819
$\frac{14}{100}$	is equivalent to .00551	$\frac{57}{100}$	is equivalent to .02205	$\frac{98}{100}$	is equivalent to .03858
$\frac{15}{100}$	is equivalent to .00591	$\frac{58}{100}$	is equivalent to .02244	$\frac{99}{100}$	is equivalent to .03898
$\frac{16}{100}$	is equivalent to .00630	$\frac{59}{100}$	is equivalent to .02283	1	is equivalent to .03937
$\frac{17}{100}$	is equivalent to .00669	$\frac{60}{100}$	is equivalent to .02323	2	is equivalent to .07874
$\frac{18}{100}$	is equivalent to .00709	$\frac{61}{100}$	is equivalent to .02362	3	is equivalent to .11811
$\frac{19}{100}$	is equivalent to .00748	$\frac{62}{100}$	is equivalent to .02402	4	is equivalent to .15748
$\frac{20}{100}$	is equivalent to .00787	$\frac{63}{100}$	is equivalent to .02441	5	is equivalent to .19685
$\frac{21}{100}$	is equivalent to .00827	$\frac{64}{100}$	is equivalent to .02480	6	is equivalent to .23622
$\frac{22}{100}$	is equivalent to .00866	$\frac{65}{100}$	is equivalent to .02520	7	is equivalent to .27559
$\frac{23}{100}$	is equivalent to .00906	$\frac{66}{100}$	is equivalent to .02559	8	is equivalent to .31496
$\frac{24}{100}$	is equivalent to .00945	$\frac{67}{100}$	is equivalent to .02598	9	is equivalent to .35433
$\frac{25}{100}$	is equivalent to .00984	$\frac{68}{100}$	is equivalent to .02638	10	is equivalent to .39370
$\frac{26}{100}$	is equivalent to .01024	$\frac{69}{100}$	is equivalent to .02677	11	is equivalent to .43307
$\frac{27}{100}$	is equivalent to .01063	$\frac{70}{100}$	is equivalent to .02717	12	is equivalent to .47244
$\frac{28}{100}$	is equivalent to .01102	$\frac{71}{100}$	is equivalent to .02756	13	is equivalent to .51181
$\frac{29}{100}$	is equivalent to .01142	$\frac{72}{100}$	is equivalent to .02795	14	is equivalent to .55118
$\frac{30}{100}$	is equivalent to .01181	$\frac{73}{100}$	is equivalent to .02835	15	is equivalent to .59055
$\frac{31}{100}$	is equivalent to .01220	$\frac{74}{100}$	is equivalent to .02874	16	is equivalent to .62992
$\frac{32}{100}$	is equivalent to .01260	$\frac{75}{100}$	is equivalent to .02913	17	is equivalent to .66929
$\frac{33}{100}$	is equivalent to .01299	$\frac{76}{100}$	is equivalent to .02953	18	is equivalent to .70866
$\frac{34}{100}$	is equivalent to .01339	$\frac{77}{100}$	is equivalent to .02992	19	is equivalent to .74803
$\frac{35}{100}$	is equivalent to .01378	$\frac{78}{100}$	is equivalent to .03032	20	is equivalent to .78740
$\frac{36}{100}$	is equivalent to .01417	$\frac{79}{100}$	is equivalent to .03071	21	is equivalent to .82677
$\frac{37}{100}$	is equivalent to .01457	$\frac{80}{100}$	is equivalent to .03110	22	is equivalent to .86614
$\frac{38}{100}$	is equivalent to .01496	$\frac{81}{100}$	is equivalent to .03150	23	is equivalent to .90551
$\frac{39}{100}$	is equivalent to .01535	$\frac{82}{100}$	is equivalent to .03189	24	is equivalent to .94488
$\frac{40}{100}$	is equivalent to .01575	$\frac{83}{100}$	is equivalent to .03228	25	is equivalent to .98425
$\frac{41}{100}$	is equivalent to .01614	$\frac{84}{100}$	is equivalent to .03268	26	is equivalent to 1.02362
$\frac{42}{100}$	is equivalent to .01654				

Decimal Equivalents of Parts of an Inch

$\frac{1}{64}$ inch is equivalent to01563 inch	$\frac{33}{64}$ inch is equivalent to51563 inch
$\frac{1}{32}$ inch is equivalent to03125 inch	$\frac{17}{32}$ inch is equivalent to53125 inch
$\frac{3}{64}$ inch is equivalent to04688 inch	$\frac{35}{64}$ inch is equivalent to54688 inch
$\frac{1}{8}$ inch is equivalent to0625 inch	$\frac{9}{16}$ inch is equivalent to5625 inch
$\frac{5}{64}$ inch is equivalent to07813 inch	$\frac{37}{64}$ inch is equivalent to57813 inch
$\frac{3}{32}$ inch is equivalent to09375 inch	$\frac{19}{32}$ inch is equivalent to59375 inch
$\frac{7}{64}$ inch is equivalent to10938 inch	$\frac{39}{64}$ inch is equivalent to60938 inch
$\frac{1}{8}$ inch is equivalent to125 inch	$\frac{5}{8}$ inch is equivalent to625 inch
$\frac{9}{64}$ inch is equivalent to14063 inch	$\frac{41}{64}$ inch is equivalent to64063 inch
$\frac{5}{32}$ inch is equivalent to15625 inch	$\frac{21}{32}$ inch is equivalent to65625 inch
$\frac{11}{64}$ inch is equivalent to17188 inch	$\frac{43}{64}$ inch is equivalent to67188 inch
$\frac{3}{8}$ inch is equivalent to1875 inch	$\frac{1}{2}$ inch is equivalent to6875 inch
$\frac{13}{64}$ inch is equivalent to20313 inch	$\frac{45}{64}$ inch is equivalent to70313 inch
$\frac{7}{32}$ inch is equivalent to21875 inch	$\frac{23}{32}$ inch is equivalent to71875 inch
$\frac{15}{64}$ inch is equivalent to23438 inch	$\frac{47}{64}$ inch is equivalent to73438 inch
$\frac{1}{4}$ inch is equivalent to25 inch	$\frac{3}{4}$ inch is equivalent to75 inch
$\frac{17}{64}$ inch is equivalent to26563 inch	$\frac{49}{64}$ inch is equivalent to76563 inch
$\frac{9}{32}$ inch is equivalent to28125 inch	$\frac{25}{32}$ inch is equivalent to78125 inch
$\frac{19}{64}$ inch is equivalent to29688 inch	$\frac{51}{64}$ inch is equivalent to79688 inch
$\frac{5}{16}$ inch is equivalent to3125 inch	$\frac{1}{2}$ inch is equivalent to8125 inch
$\frac{21}{64}$ inch is equivalent to32813 inch	$\frac{53}{64}$ inch is equivalent to82813 inch
$\frac{11}{32}$ inch is equivalent to34375 inch	$\frac{27}{32}$ inch is equivalent to84375 inch
$\frac{23}{64}$ inch is equivalent to35938 inch	$\frac{55}{64}$ inch is equivalent to85938 inch
$\frac{3}{8}$ inch is equivalent to375 inch	$\frac{7}{8}$ inch is equivalent to875 inch
$\frac{25}{64}$ inch is equivalent to39063 inch	$\frac{57}{64}$ inch is equivalent to89063 inch
$\frac{13}{32}$ inch is equivalent to40625 inch	$\frac{29}{32}$ inch is equivalent to90625 inch
$\frac{27}{64}$ inch is equivalent to42188 inch	$\frac{59}{64}$ inch is equivalent to92188 inch
$\frac{7}{16}$ inch is equivalent to4375 inch	$\frac{1}{2}$ inch is equivalent to9375 inch
$\frac{29}{64}$ inch is equivalent to45313 inch	$\frac{61}{64}$ inch is equivalent to95313 inch
$\frac{15}{32}$ inch is equivalent to46875 inch	$\frac{31}{32}$ inch is equivalent to96875 inch
$\frac{31}{64}$ inch is equivalent to48438 inch	$\frac{63}{64}$ inch is equivalent to98438 inch
$\frac{1}{2}$ inch is equivalent to5 inch	1 inch is equivalent to1.00000 inch

Different Standards for Wire Gauge in Use in the United States

Dimensions of Sizes in Decimal Parts of an Inch

Number of Wire Gauge	American or Brown & Sharpe	Birming- ham, or Stubs' Wire	Washburn & Moen Mfg. Co. Worcester, Mass.	Imperial Wire Gauge	Stubs' Steel Wire	U. S. Stand. for Plate	Number of Wire Gauge
000000	.....	....	.....	.464	....	.46875	000000
00000	.....	....	.....	.432	....	.4375	00000
0000	.46	.454	.3938	.400	....	.40625	0000
000	.40964	.425	.3625	.372	....	.375	000
00	.3648	.38	.3310	.348	....	.34375	00
0	.32486	.34	.3065	.324	....	.3125	0
1	.2893	.3	.2830	.300	.227	.28125	1
2	.25763	.284	.2625	.276	.219	.265625	2
3	.22942	.259	.2437	.252	.212	.25	3
4	.20431	.238	.2253	.232	.207	.234375	4
5	.18194	.22	.2070	.212	.204	.21875	5
6	.16202	.203	.1920	.192	.201	.203125	6
7	.14428	.18	.1770	.176	.199	.1875	7
8	.12849	.165	.1620	.160	.197	.171875	8
9	.11443	.148	.1483	.144	.194	.15625	9
10	.10189	.134	.1350	.128	.191	.140625	10
11	.090742	.12	.1205	.116	.188	.125	11
12	.080808	.109	.1055	.104	.185	.109375	12
13	.071961	.095	.0915	.092	.182	.09375	13
14	.064084	.083	.0800	.080	.180	.078125	14
15	.057068	.072	.0720	.072	.178	.0703125	15
16	.05082	.065	.0625	.064	.175	.0625	16
17	.045257	.058	.0540	.056	.172	.05625	17
18	.040303	.049	.0475	.048	.168	.05	18
19	.03589	.042	.0410	.040	.164	.04375	19
20	.031961	.035	.0348	.036	.161	.0375	20
21	.028462	.032	.03175	.032	.157	.034375	21
22	.025347	.028	.0286	.028	.155	.03125	22
23	.022571	.025	.0258	.024	.153	.028125	23
24	.0201	.022	.0230	.022	.151	.025	24
25	.0179	.02	.0204	.020	.148	.021875	25
26	.01594	.018	.0181	.018	.146	.01875	26
27	.014195	.016	.0173	.0164	.143	.0171875	27
28	.012641	.014	.0162	.0149	.139	.015625	28
29	.011257	.013	.0150	.0136	.134	.0140625	29
30	.010025	.012	.0140	.0124	.127	.0125	30
31	.008928	.01	.0132	.0116	.120	.0109375	31
32	.00795	.009	.0128	.0108	.115	.01015625	32
33	.00708	.008	.0118	.0100	.112	.009375	33
34	.006304	.007	.0104	.0092	.110	.00859375	34
35	.005614	.005	.0095	.0084	.108	.0078125	35
36	.005	.004	.0090	.0076	.106	.00703125	36
37	.004453	....	....	.0068	.103	.006640625	37
38	.003965	....	....	.0060	.101	.00625	38
39	.003531	....	....	.0052	.099	.....	39
40	.003144	....	....	.0048	.097	.....	40

It is preferable to give sizes in decimals when ordering wire and plate.

Troy Weight

Grains	Pennyweights	Ounces	Pounds
24	1		
480	20	1	
5,760	240	12	1

Apothecaries' Weight

Grains	Scruples	Drachms	Ounces	Pound
20	1			
60	3	1		
480	24	8	1	
5,760	288	96	12	1

Avoirdupois Weight

Drachms	Ounces	Pounds	Quarters	Cwt.	Ton
16	1				
256	16	1			
6,400	400	25	1		
25,600	1,600	100	4	1	
512,000	32,000	2,000	80	20	1

Long or Linear Measure

Inches	Feet	Yards	Rods	Furlongs	Mile
12	1				
36	3	1			
198	16½	5½	1		
7,920	660	220	40	1	
63,360	5,280	1,760	320	8	1

Surveyors' Measure

Inches	Links	Chains	Mile
7.92	1		
792	100	1	
63,360	8,000	80	1

Circular Measure

Seconds	Minutes	Degrees	Segments	Circle
60	1			
3,600	60	1		
108,000	1,800	30	1	
1,296,000	21,600	360	12	1

Cubic Measure

Cubic Inches	Cubic Feet	Cubic Yards	Cord Feet	Cord
1,728	1			
46,656	27	1		
27,648	16		1	
221,184	128		8	1

Liquid Measure

Gills	Pints	Quarts	Gallons	Barrels	Hogsheads	Pipes	Tun
4	1						
8	2	1					
32	8	4	1				
1,008	252	126	31½	1			
2,016	504	252	63	2	1		
4,032	1,008	504	126	4	2	1	
8,064	2,016	1,008	252	8	4	2	1

Beer Measure

Pints	Quarts	Gallons	Barrels	Hogshead
2	1			
8	4	1		
288	144	36	1	
432	216	54	1½	1

Dry Measure

Pints	Quarts	Pecks	Bushels	Caldron
2	1			
16	8	1		
64	32	4	1	
2,304	1,152	144	36	1

Square Measure

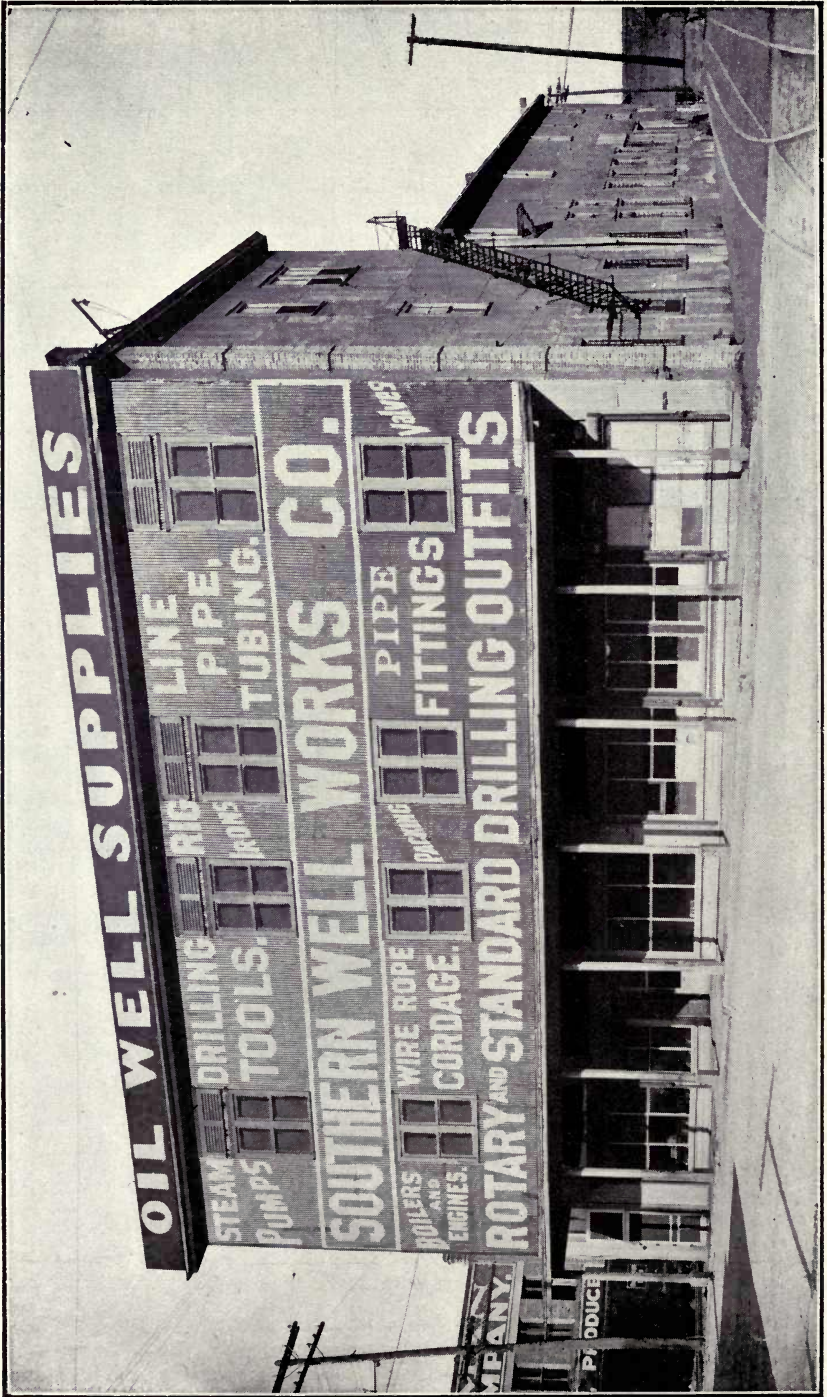
Sq. Inches	Sq. Feet	Sq. Yards	Sq. Rods	Acres	Sq. M.
141	1				
1,296	9	1			
39,204	272 $\frac{1}{4}$	30 $\frac{1}{4}$	1		
1,568,160	10,890	1,210	40		
7,272,640	43,560	4,840	160	1	
4,014,489,600	27,878,400	3,097,600	102,400	640	1

Paper Measure

Sheets	Quires	Reams	Bundles	Bale
24	1			
480	20	1		
960	40	2	1	
4,800	200	10	5	1

Collection Measure

Units	Dozens	Gross	Great Gross
12	1		
144	12	1	
1,728	144	12	1



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