

## Pumping Engines

This pump is designed for pumping against pressure into tanks for sprinkling, etc., and especially adapted to private water plants. The pump can be supplied separate or with engine, and either of the belted or direct geared type, where gears are used in place of belt. The belted type is more popular because the engine can be used for other purposes; such as driving a generator to charge storage batteries for lighting, etc. A 1½ h. p. engine is used to drive this pump.

### Specifications

Cylinder: 3-inch diameter, 5-inch stroke, lined with seamless brass tubes.  
 Valves: Metal faced with leather, brass valve seats.  
 Gears: All machine cut.  
 Plunger: Double cap leather.  
 Suction: Can be taken from either side, 1½-inch.  
 Pulley: 14-inch diameter.  
 Working pressure: 60 lbs.  
 Weight: 148 lbs. net, 190 lbs. gross.  
 Capacity: 900 gallons per hour.

The pump can be operated by hand by inserting the handle in the socket and disconnecting the yoke below, making it convenient at times when the engine is used for other purposes.

An air pump attachment can be fitted to this pump as shown, in case it is desired to pump air into a pneumatic tank, air lift water pump or any other purpose where compressed air is wanted. The air compressor is made of brass tubing. Has cutout inlet valve in case air is not wanted.

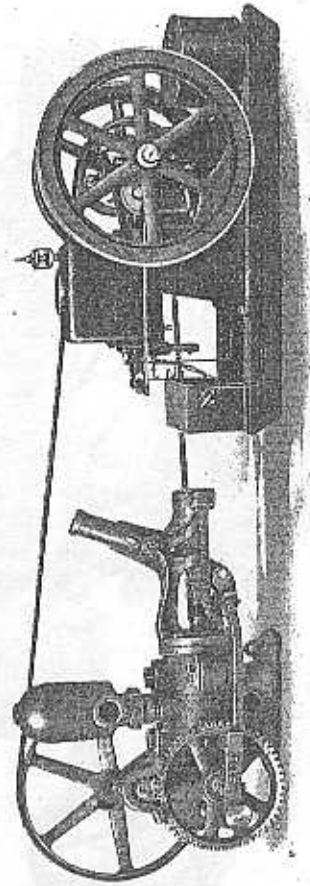


Fig. 511  
Plunger Pump Belted to Engine

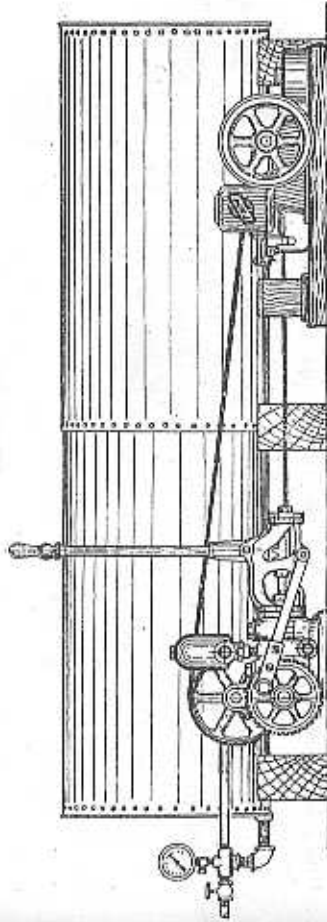


Fig. 513  
Private Water System with Pneumatic Tank, Engine and Pump

The pneumatic water supply system has become a standard type for private waterworks plants, residences and institutions where a supply of water under pressure is wanted at all times.

The advantage of this system is that the supply tank can be placed in the basement where it will be "frost proof." The pressure is obtained by compressing the air in the tank above the water. The mere pumping of the water into the tank will give sufficient pressure as the air, having no escape, is thereby compressed.

We are prepared to supply the complete equipment as given in our price list. The tanks are built of high grade boiler steel and perfectly airtight. The engine is our 1½ h. p. hopper cooled type, belted to a No. 377, 3x5 heavy geared power pump. The pump is connected to the well and to the bottom opening of the tank. A hand lever is provided so the pump can be worked by hand if desired, or in case the engine is taken away for other work. This makes a very economical plant to install, and with occasional pumping, pressure water is on hand at all times.

We can furnish pumps with air compressor attached, as shown on the previous page. The extra air that may be needed when the water is low in the tank, may be had by opening an air valve in the suction part of the water pump.

TABLE OF SIZES OF TANKS

Diameter Inches	Length Feet	Thickness of Shell	Thickness of Head	Weight	Capacity Gallons
24	6	15-100	5-16	370	140
24	8	15-100	5-16	450	190
24	10	15-100	5-16	525	235
30	8	18-100	5-16	680	295
30	10	9-16	5-16	800	365.
36	8	9-16	5-16	950	420
36	10	1-4	5-16	1120	525
36	12	1-4	5-16	1300	630
42	10	1-4	5-16	1700	720
42	12	1-4	5-16	1950	865
42	14	1-4	3-8	2200	1000



## Pump Jacks

Belted Type—For Deep and Shallow Wells

One of the most popular methods of water pumping is by a pumping jack attached to an ordinary well pump as shown in Fig. 518. We can supply jacks with our engines, attachable to any well pump as shown, and operated from the engine by belt. Our

1 h. p., 1 1/2 h. p. and 2 1/2 h. p. are well suited to this work. The 1 h. p. will do for ordinary wells, but if the pump is large or the well deep, our 1 1/2 h. p. or 2 1/2 h. p. should be used. The

4 h. p. can be used on pump jack where engine is used for other work, as it is easily moved about, but where left at the pump, smaller sizes will answer. However, the 4 h. p. engine will use no more gasoline than the small ones for pumping the same amount of water.

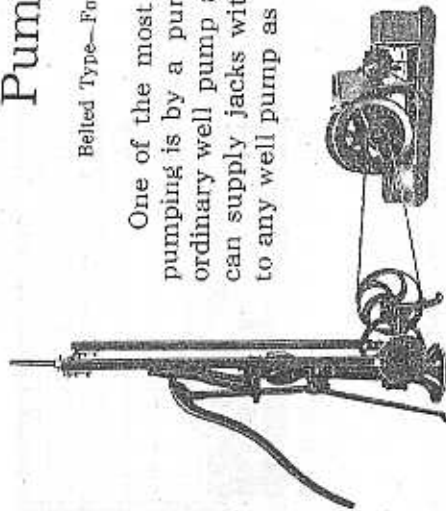


Fig. 518  
Belted Pump Jack

Do Your Pumping  
with a T & M Engine  
and Save Your Crops

We build a direct connected outfit as shown by Fig. 515. Specially designed for deep well and outdoor work. There is no belt required.

The 1 1/2 h. p. engine will operate a cylinder 2 inches in diameter, 10-inch stroke, in wells 100 feet in depth or less. The jack is built on a large frame. Makes a snug and compact outfit, consisting of 1 1/2 h. p. engine, uprights and cross head, but no pump or cylinder.

Gear can be disconnected so engine can be used for other work when desired.

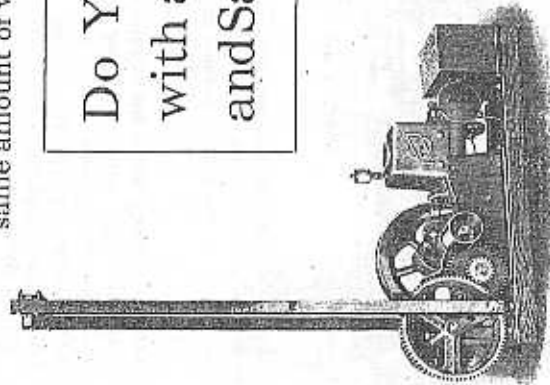


Fig. 515  
Direct Geared Pump Jack

Centrifugal pumps are particularly adapted where a large volume of water must be handled at low cost; but are not so well adapted to pressure systems as the plunger pumping outfits described on page 14. For irrigating, trench work, or any other use that involves large volumes, the centrifugal pump is the type to use.

We can supply centrifugal pumps in various sizes, both belted and direct connected.

The belted type is the most convenient because the engine can be used for other purposes when desired. In addition to this advantage the outfit is less expensive than the direct-connected unit. However, we can supply them in either type. The following table gives the sizes and capacities.

### BELTED OUTFITS

For shallow wells of 25 feet or less in depth.

No. 1.	C.	2 1/2	h. p.	Engine and 2-in. pump for 30-ft. head
No. 2.	C.	4	h. p.	Engine and 3-in. pump for 25-ft. head
No. 3.	C.	6	h. p.	Engine and 4-in. pump for 25-ft. head
No. 4.	C.	9	h. p.	Engine and 5-in. pump for 30-ft. head
No. 5.	D.	4	h. p.	Engine and 2-in. pump for 50-ft. head
No. 6.	D.	6	h. p.	Engine and 3-in. pump for 50-ft. head
No. 7.	D.	9	h. p.	Engine and 4-in. pump for 50-ft. head
No. 8.	D.	12	h. p.	Engine and 5-in. pump for 50-ft. head

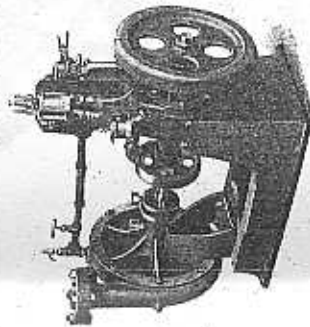


Fig. 514  
Two Cycle Centrifugal  
Pumping Outfit

### DIRECT CONNECTED OUTFITS

Four Cycle—Hopper Cooled

Two Cycle—Vertical

No. 10	B-1 1/2	h. p.	Engine, 2-in. pump, 20-ft. head	No. 13	A-1 1/2	h. p.	Engine, 2-in. pump, 20-ft. head
No. 11	B-2 1/2	h. p.	Engine, 3-in. pump, 20-ft. head	No. 14	A-3	h. p.	Engine, 3-in. pump, 20-ft. head
No. 12	B-4	h. p.	Engine, 4-in. pump, 20-ft. head	No. 15	A-5	h. p.	Engine, 4-in. pump, 20-ft. head

The capacity of the pumps are as follows:

2-inch.	120 gallons per minute	3-inch.	230 gallons per minute
4-inch.	450 gallons per minute	5-inch.	700 gallons per minute

The weights of centrifugal pumps separate

2-inch pump	145 lbs. net	170 lbs. gross	6 cubic feet
3-inch pump	230 lbs. net	275 lbs. gross	8 cubic feet
4-inch pump	380 lbs. net	440 lbs. gross	10 cubic feet
5-inch pump	680 lbs. net	790 lbs. gross	12 cubic feet

NOTE.—By foot head is meant the total height from the water-level to the point of outlet. See Telegraph Code.

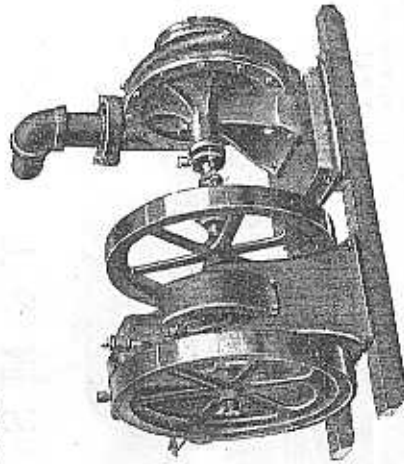


Fig. 512  
Centrifugal Pumping Outfit

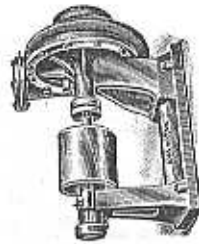


Fig. 515

Direct Geared Pump Jack