

ILLUSTRATED
CATALOGUE

SMITH & WINCHESTER

BOSTON,
MASS.
U.S.A.

SMITH & WINCHESTER,

ILLUSTRATED CATALOGUE

OF

STEEL, IRON AND WOOD

Wind Engines

WOOD, IRON, BRASS AND COPPER

Pumps

Artesian Well Tools and Supplies

STEAM BOILERS AND ENGINES, STEAM PUMPS,

WROUGHT IRON PIPE ^{AND} FITTINGS,

BRASS GOODS, HOSE, BELTING, ETC., ETC.

19 TO 31 WENDELL STREET, 2 TO 12 HARTFORD STREET,

Boston, Mass., U. S. A.

1890.

The Rider & Erickson Hot Air Engines.

FOR PUMPING.

THERE is an old and common saying that "what will suit one person won't another," and this is well applied to the different ways of handling water. While many of our customers prefer wind as a motive power, others are favorably inclined to Kerosene Engines, others to Steam and Hot Air Engines. Of the latter class none are so favorably and well-known as the celebrated RIDER or ERICKSON HOT AIR

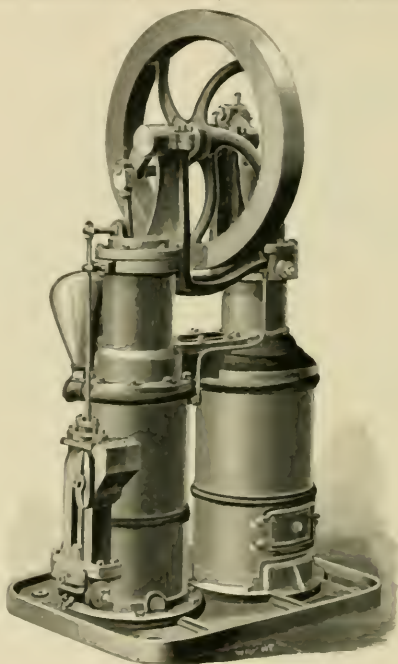


FIG. 975.
RIDER HOT AIR ENGINE

ENGINES, which we are pleased to offer them at the manufacturer's price, together with all necessary attachments for a complete water supply. The many advantages of running water for suburban residences, also for stock and farm use, are plainly stated in the wind engine department of our catalogue, to which we refer. No motive power is better adapted for this work than Hot Air Engines, and to all interested parties we would be pleased to mail special circulars.

FUEL.

One very important feature of these machines is the fact that they may be successfully operated with almost any kind of fuel.

COAL.—The most economical fuel for these engines is anthracite coal of small size (chestnut). The amount of this fuel necessary to run one of them all day is exceedingly small. Coke makes capital fuel also.

SOFT COAL AND WOOD.—When, however, hard coal cannot be had and soft coal or wood only are available, special furnaces adapted to such fuel must be used.

This subject has been given considerable attention by the manufac-

turers who have perfected these special furnaces, and are now prepared to furnish these engines with furnaces for burning either hard coal, soft coal or wood, with the best of satisfaction.

GAS.—We are also prepared to furnish the 4-inch, 4½ inch, 5-inch and 6-inch, with furnaces for burning gas—either coal gas or gas made from gasoline, there are a number of these engines running very successfully, using natural gas for fuel.

In ordering a pumping engine state what kind of fuel is to be used, *as we invariably furnish the anthracite or hard coal furnace unless otherwise ordered* (except the 4-inch and 4½-inch which are arranged for gas only).

ADVANTAGES.

Absolute safety. No steam. Valveless. Practically noiseless. No exhaust. Economical. No licensed or experienced engineer required—gardeners and ordinary domestic help can operate them. Do not affect insurance. Extremely simple. Can be used where steam would be objectionable. All parts of engine and pump can be examined without difficulty. Can replenish the fire without stopping the engine. Can be arranged to pump out of deep wells, either dug or artesian, or driven wells.

The Rider & Erickson Hot Air Engines.

We furnish with every machine printed directions how to set up and operate.

All the Pump Cylinders are made of brass and will not rust.

The pump rods are made either of phosphor-bronze or compressed steel, as the circumstances may require.

SIZE OF PIPE AND QUANTITY OF FUEL.

4-inch Engine,	1	inch	suction and discharge	uses gas only.
4 $\frac{1}{4}$ -inch "	1	inch	" " "	" " "
5-inch "	1 $\frac{1}{4}$	inch	" " "	about 3 lbs. coal per hour.
6-inch "	1 $\frac{1}{2}$	inch	" " "	" 5 " "
8-inch "	2	inch	" " "	" 7 " "
10-inch "	2 $\frac{1}{2}$	inch	" " "	" 9 " "

These Engines will pump, approximately, the number of gallons specified to a height of 50 feet, but they will pump more water to a lesser height, or less water to a greater height.

PRICE LIST.—Fig. 975.

Showing Dimensions, Weight, Number of Gallons per Hour, Etc.

SIZE OF CYLINDERS, INCHES.	FLOOR SPACE.	HEIGHT TO TOP OF FLY WHEEL.	REVOLUTIONS PER MINUTE.	WEIGHT, POUNDS.	GALLONS PER HOUR, 50 FEET HIGH.	PRICE WITH ROLLING VALVE PUMP ATTACHED TO COOLER OF ENGINE.
4	1 ft. 6 in. x 2 ft. 2 in.	3 ft. 9 in.	120 to 200	490	200	\$200.00
4 $\frac{1}{4}$	1 ft. 6 in. x 2 ft. 2 in.	3 ft. 9 in.	120 to 200	520	250	225.00
5	2 ft. 2 in. x 2 ft. 10 in.	4 ft. 10 in.	100 to 160	1,050	350	300.00
6	2 ft. 5 in. x 3 ft. 4 in.	5 ft. 11 in.	80 to 120	1,800	1,000	400.00
8	2 ft. 5 in. x 3 ft. 11 in.	6 ft. 11 in.	80 to 120	2,700	2,000	550.00
10	2 ft. 8 in. x 4 ft. 4 in.	7 ft. 9 in.	80 to 110	3,600	3,000	700.00

Arranged for deep well pumping: 5-inch and 6-inch Engines are \$25 extra; 8-inch and 10-inch are \$30 extra.

The prices named above include Engine, furnace, copper air and vacuum chambers; printed directions in book form how to set and operate; wrench, shovel and poker; oil and oil can; everything complete, ready for suction and discharge pipe.

When ordering a Pumping Engine please answer the following questions from actual measurements and careful estimates:

What is the greatest quantity of water needed per day?

What is the extreme depth of well?

What is the depth of water in well in dry season?

What is the usual depth of water in well?

What is the diameter of well?

What is the vertical suction from the proposed foundation of engine?

What is the horizontal length of suction pipe?

What is the vertical discharge from top of well?

What is the horizontal length of discharge pipe?

If the water is to be pumped from city mains, state the height from the engine to the top of tank, and also how high the water rises naturally above where the engine is to be placed.

GUARANTEE.

Every Pumping Engine sold is guaranteed by the manufacturers to be in every respect as represented in this catalogue. If an Engine fails in any particular they agree to make the same fully satisfactory or refund the amount paid for it, on return of the engine to them.