

(No Model.)

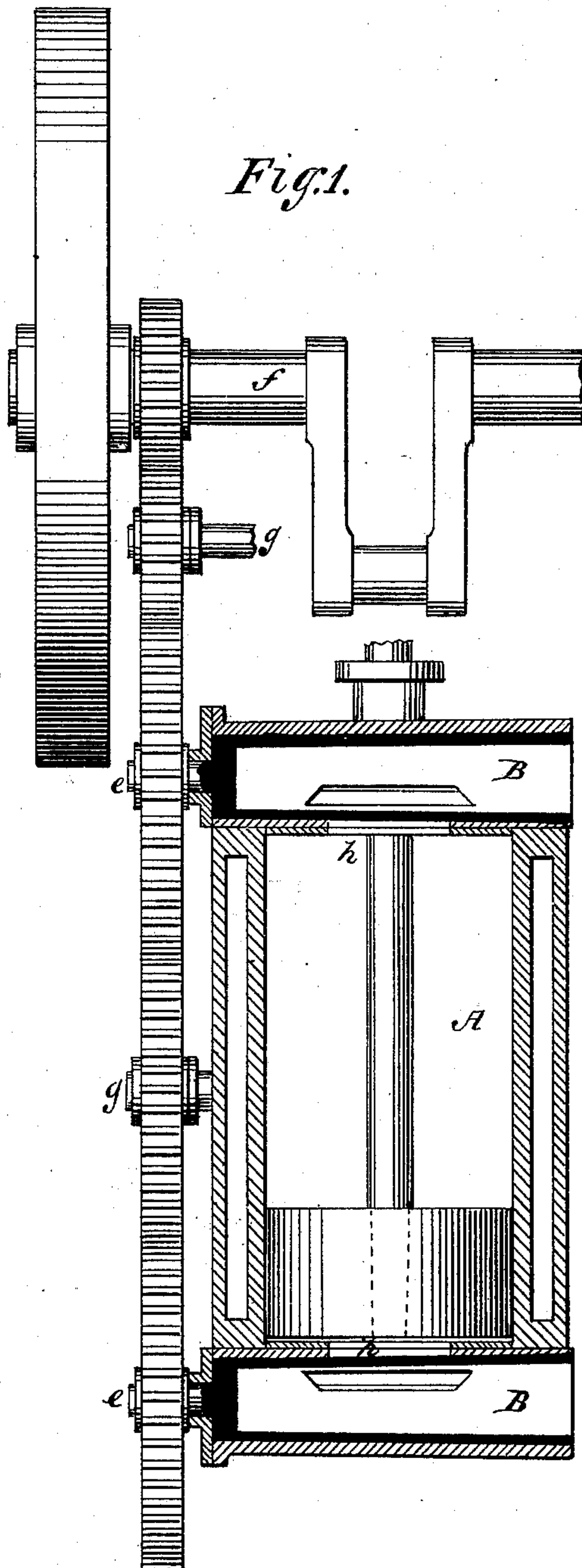
2 Sheets—Sheet 1.

D. B. OVERTON.

AIR COMPRESSOR.

No. 263,206.

Patented Aug. 22, 1882.



WITNESSES=

James W. Durant
William A. Barr

INVENTOR=

D. B. Overton
E. B. Dammann
att'y

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2 Sheets—Sheet, 2.

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Fig. 2.

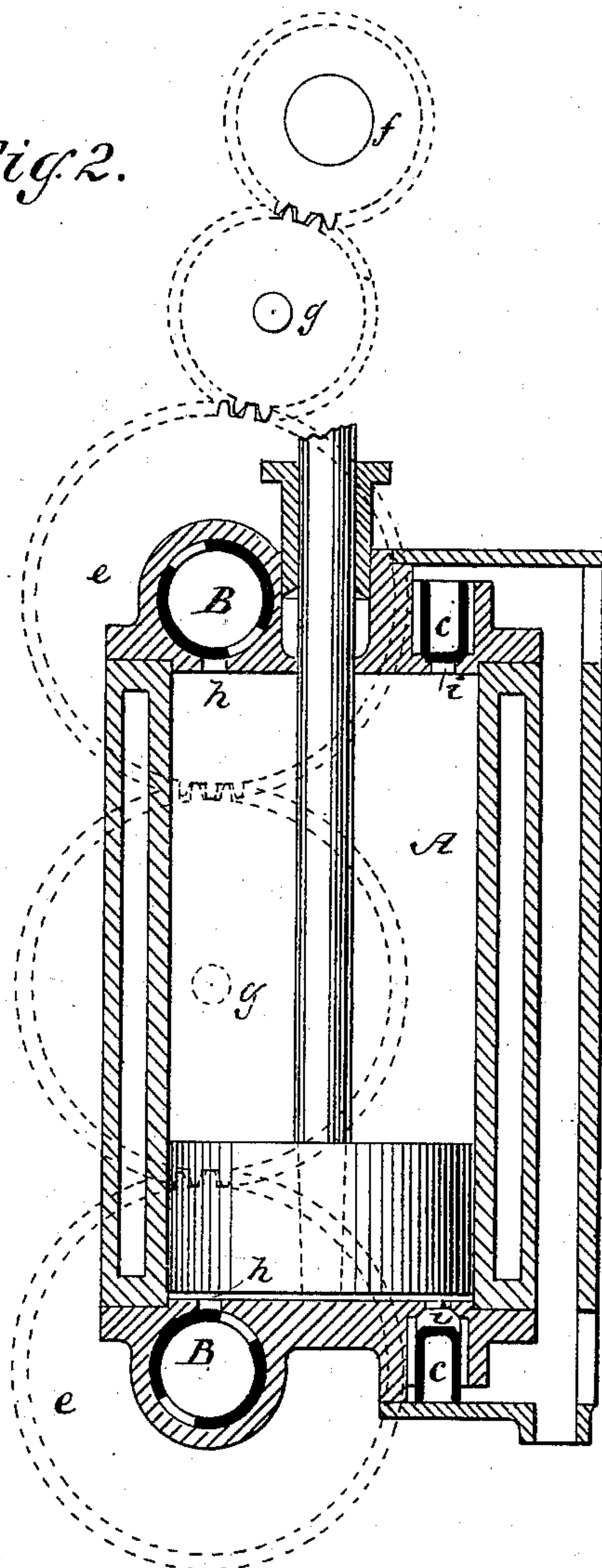
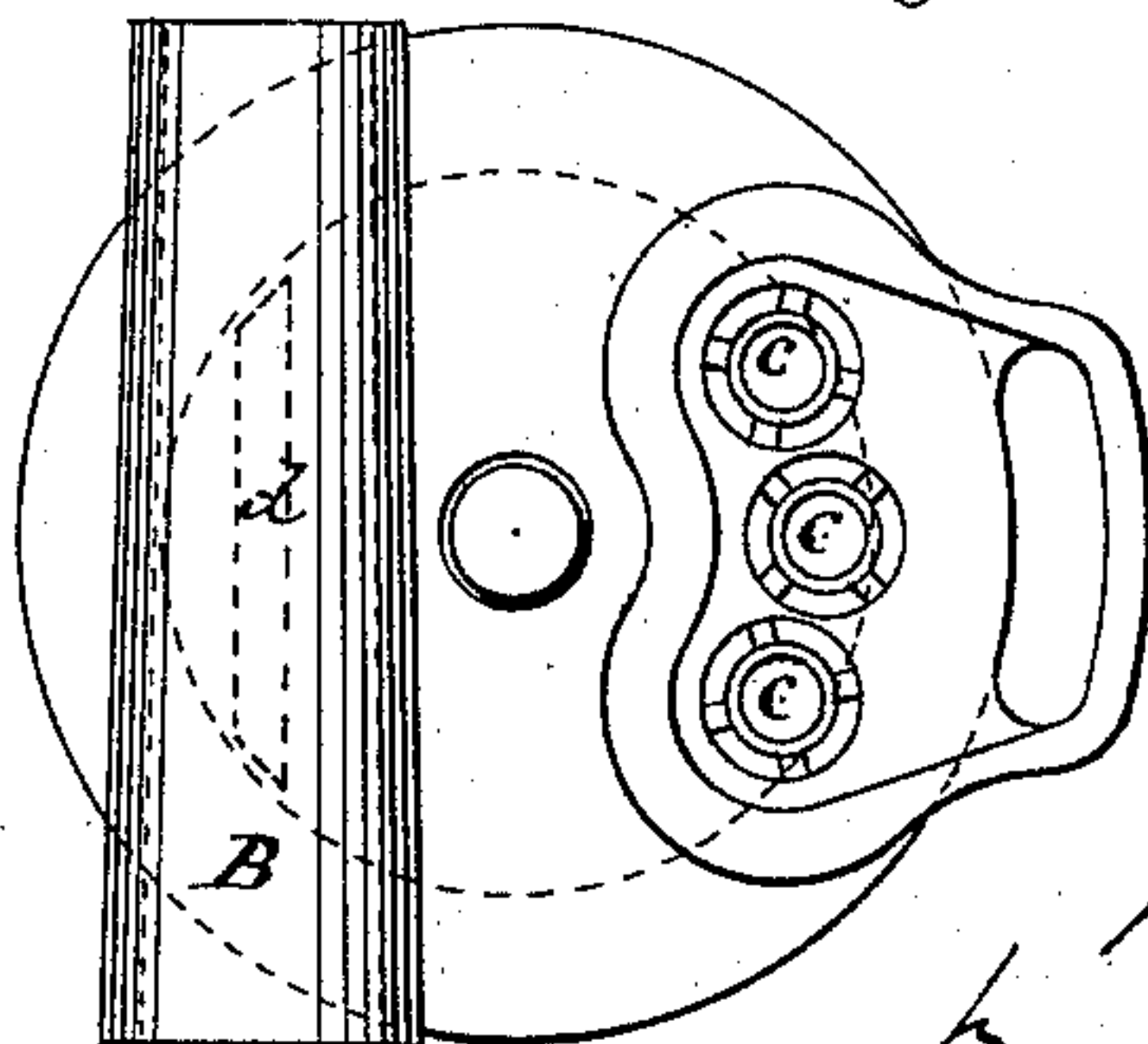


Fig. 3.



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UNITED STATES PATENT OFFICE.

DANIEL B. OVERTON, OF DOVER, N. J., ASSIGNOR OF THREE-EIGHTHS TO
EDMUND B. BARNUM AND JOHN ASHCROFT, OF BROOKLYN, N. Y.

AIR-COMPRESSOR.

SPECIFICATION forming part of Letters Patent No. 263,206, dated August 22, 1882.

Application filed September 16, 1881. (No model.)

To all whom it may concern:

Be it known that I, DANIEL B. OVERTON, of Dover, Morris county, New Jersey, have invented a new and useful Improvement in Air-Compressors, of which the following is a specification, reference being had to the accompanying drawings, wherein—

Figure 1 is a horizontal section of the air-cylinder and gearing, taken through the center of the valve. Fig. 2 is a vertical section of the air-cylinder, taken through the center thereof; and Fig. 3 is a back view of the cylinder-head, with the valve in section, showing one of its induction-ports in dotted lines, together with the exhaust-ports.

The object of my invention is to provide an air-compressor with such valves and connections that, first, the motion of the valves shall be positive and governed immediately by the prime motor, and, second, that the induction and exhaust ports shall be of the least possible cubic area.

The nature of my invention consists in the application of rotary valves upon the heads of the cylinder.

In the drawings, in which the same letters indicate similar parts, A is a jacketed cylinder containing a piston and rod to be operated by a main shaft, *f*. From this shaft, by gear-wheels *g g*, I drive the wheels *e e* on either end of the cylinder, by which the valves B B are revolved. The valve B is a hollow thimble, with a stem to attach it to the wheel *e*, and with longitudinal slots opposite each other, which I prefer to make about one and a half inch in width and eight inches long. As I cast the cylinder-head I cast a chamber with it to receive the valve, with an opening through the head into the cylinder, the depth of which is about one inch. The diameters of the valve and chamber are gradually, but slightly, increased from

the stem to the outer end for facilitating tightening up in case of leakage. With and on the cylinder-heads are also cast at the bottom valve-seats to receive check-valves *c c c*, from the bottom of which the exhaust-ports *i i* extend into the cylinder, the orifice being an inch or less in depth from the inside surface of the cylinder to the seat of the check-valves.

In operation the air is admitted at full atmospheric pressure through the rotary valves, which are geared with relation to each other so that as one opens the other closes, and when compressed the air is discharged through the ports *i i*.

In the gearing, as shown in the drawings, the wheel *g* may be dispensed with and a crank connecting the drawing-wheels *e e* be substituted, as the valves may be revolved in the same direction.

Having described my invention, what I claim to be new is—

1. In an air-compressing cylinder, a rotary valve at each end of the cylinder, constructed substantially as described, for the admission of air to the compressing-cylinder, in combination with a train of gearing from the main shaft, substantially as shown.

2. In an air-compressor, a rotary valve at each end of the air-compressing cylinder, in combination with discharge-ports *i i* and check-valves *c c*, constructed and arranged substantially as described.

3. In an air-compressing cylinder, a cylinder-head provided with a chamber on the outside thereof, arranged to receive and support a hollow rotary valve, substantially as described.

D. B. OVERTON.

Witnesses:

JAMES DEMAREST,
WILLIAM H. BARR.