(No Model.)

C. RUMLEY.

BLOWER.

No. 523,548. Patented July 24, 1894.

Fig: 1.

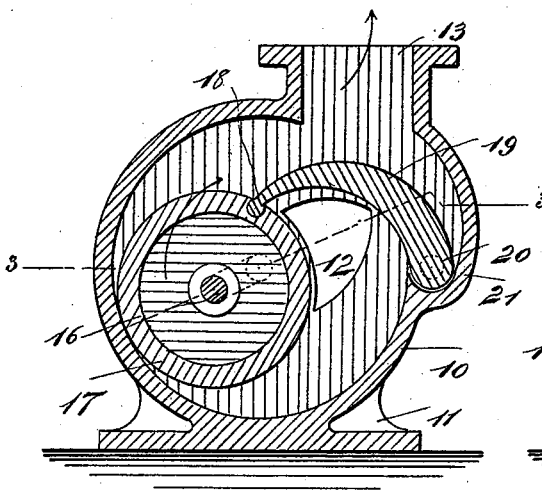


Fig: 2.

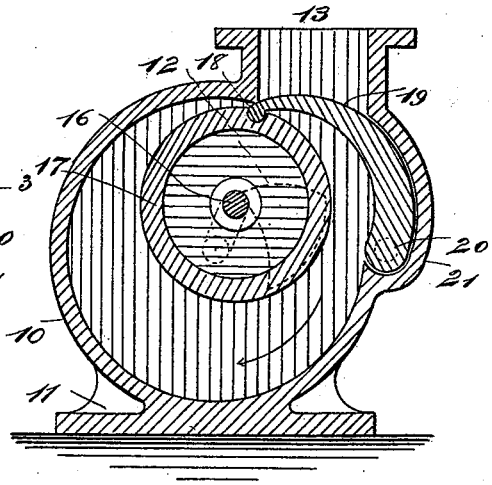
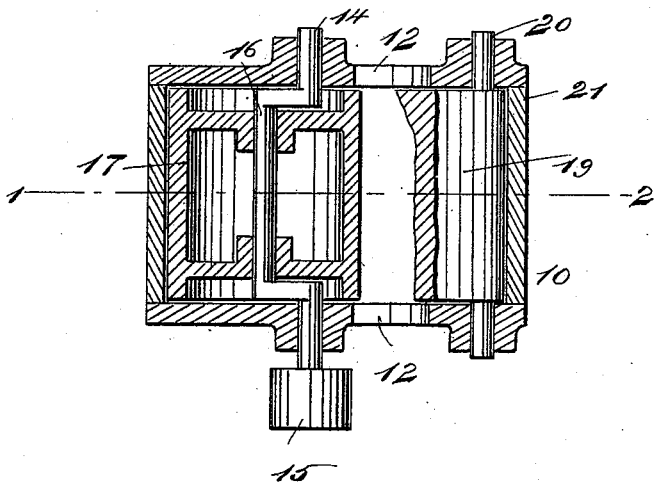


Fig: 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

CHARLES RUMLEY, OF HELENA, MONTANA.

BLOWER.

SPECIFICATION forming part of Letters Patent No. 523,548, dated July 24, 1894.

Application filed February 17, 1894. Serial No. 500,506. (No model.)

To all whom it may concern:

Be it known that I, CHARLES RUMLEY, of Helena, in the county of Lewis and Clarke and State of Montana, have invented a new and Improved Blower, of which the following is a full, clear, and exact description.

My invention relates to improvements in blowers; and the object of my invention is to produce a blower of the greatest simplicity, which is very durable and inexpensive, which is adapted to force through it a comparatively large volume of air, and which, being powerful, is well adapted to pump air into mines and other places and may also be used for pumping foul air and gases from mines and similar places.

To this end my invention consists of a blower, the construction of which will be hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a vertical section on the line 1—2 of Fig. 3, of the blower embodying my invention, showing the piston in position to admit air to the cylinder or case of the blower. Fig. 2 is a similar view, but with the inlet ports closed; and Fig. 3 is a sectional plan on the line 3—3 of Fig. 1.

The blower is provided with a case 10 of generally cylindrical shape, which rests on a suitable base 11, which has at the ends inlet ports 12 and which has at the top a discharge port 13, although this port may be located in any other suitable part of the case. Mounted longitudinally in the case is a shaft 14, which is driven by a pulley 15 or equivalent driving gear, and this shaft has a crank 16 which extends entirely across the case, as shown in Fig. 2, and the crank carries a cylindrical piston 17 which is adapted to rotate within the case 10. Arranged in one side of the case, adjacent to the inlet ports 12, is a valve 19 one end of which is pivoted to the piston 17, as shown at 18, and the other end of which is pivoted, as shown at 20, in an offset 21 in one side of the case 10, this offset being provided to make room for the swing of the valve 19 which is curved so that its convex surface corresponds to the curvature of the case 10, and this valve extends entirely across the case lengthwise, as shown in Fig. 3, so as to act as a cut-off and separate the inlet and discharge ports.

When the piston is set in motion in the direction of the arrows in Figs. 1 and 2, it travels up one side of the case 10, lifting as it does so the valve 19 and forcing the air in front of it out through the discharge port 13, while at the same time it moves, as shown in Fig. 1, so as to open the inlet ports 12 to permit air to enter the case, this air being shut off from the discharge by the valve, as the drawings clearly show. As the piston continues to move it turns to the position shown in Fig. 2, carrying the valve upward so as to close the discharge port, and the piston closes the inlet ports and immediately begins to descend and travel around the case again, thus forcing out the air which has just been admitted and opening the ports again for a new supply of air.

It will be seen that provision is made for admitting a comparatively large body of air and that the air is forced out in an equally large volume. It will also be observed that there are very few parts to the blower, that consequently it may be made very cheaply, and that it is little likely to get out of order.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a blower, the combination with a case having inlet ports in its ends, and a discharge port in one side, of a crank shaft mounted in the case, a cylindrical piston on the crank of the said shaft and adapted to close the inlet ports, and a valve having one end pivoted to the case and the other to the piston, the said valve being arranged in one side of the case and adapted to swing across the discharge port to close the same, substantially as described.

2. In a blower, the combination with a case having inlet ports in its ends, a discharge port at its top, and an offset in one side, of a crank shaft mounted in the case, a cylindrical piston on the crank of the said shaft, and a curved valve having one end pivoted in the said recess and its other end pivoted to the piston, the said valve being adapted to swing across the discharge port to close the same substantially as described.

CHARLES RUMLEY.

Witnesses:
JUNIUS G. SANDERS,
CLARA B. RUMLEY.