A. J. KLINGINSMITH.

BLOWERS.

No. 182,833. Patented Oct. 3, 1876.

Fig. 1.

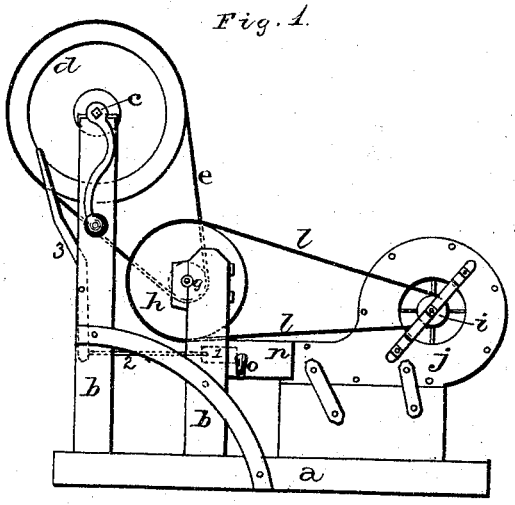
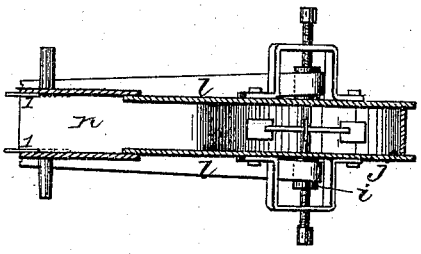


Fig. 2.



WITNESSES.

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ALBERT J. KLINGINSMITH, OF LATROBE, PENNSYLVANIA.

IMPROVEMENT IN BLOWERS.

Specification forming part of Letters Patent No. **182,833**, dated October 3, 1876; application filed May 24, 1876.

To all whom it may concern:

Be it known that I, A. J. KLINGINSMITH, of Latrobe, in the county of Westmoreland and State of Pennsylvania, have invented certain new and useful Improvements in Blower; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in blowers; and it consists in the arrangement and combination of parts, which will be more fully described hereinafter, whereby the air from the blower can be sent in any desired direction so as to supply one or more forges, and so that an accumulation of explosive gas can be prevented from gathering in the blower.

The accompanying drawings represent my invention, in which—

Figure 1 is a side elevation of the blower complete; Fig. 2, a detail view.

a represents a suitable base, from which rise four standards, *b*, for the support of the driving mechanism. On the top of the outer and higher standards is journaled the cranked driving-shaft *c*, on which is placed the wheel *d*. From this wheel *d* passes the belt *e* over the small wheel or pulley *g*, on an adjoining shaft, and from this shaft the motion is transmitted through the wheels or pulleys *h i* and belt *l* to the blower in the case *j*. This blower is made double-acting, so as to force the air, whether turned forward or back, into the air-chest *n*, from which extend one or any desired number of pipes *o*, which pipes conduct the air away to the forges where it is to be used. In this chest, over each pipe, is placed a valve of any desired form, shape, or construction, which close the pipes and prevent the passage of air or gas in either direction. To these valves 1 are attached spring connecting-rods 2, and lever 3, so that either or all the valves can be opened at once to let the air pass in any desired direction, and then, as soon as released, the valves will instantly close. These valves and air-chest form a safety attachment to the blower, so as to prevent explosions. Carbonic-acid gas and sulphureted hydrogen from the fire on the forge sink into the pipes that convey the air from the blower, and accumulate in them and the blower while the blower is at rest. Oxygen of the air mingling with these gases forms an explosive compound that is very dangerous, and which explodes very readily. As long as the gases are kept in the pipes, and oxygen is prevented from mingling with them, there is not so much danger of an explosion, and it is for this purpose the valves are used. As soon as the valves are opened, and the blower started, the gas is at once driven out of the pipes into the fire.

Having thus described my invention, I claim—

As a safety attachment to a blower, the combination of the air-chest *n*, one or more pipes, *o*, spring-valves 1, and levers 3, whereby explosive gases are prevented from accumulating in the pipes and blower, substantially as shown.

In testimony that I claim the foregoing, I have hereunto set my hand this 18th day of May, 1876.

ALBERT JOSEPH KLINGINSMITH.

Witnesses:
W. F. WHITE,
W. H. KLINGINSMITH.