A. K. HERR.

Fan-Blower Machine.

No. 203,340. Patented May 7, 1878.

Fig. 1

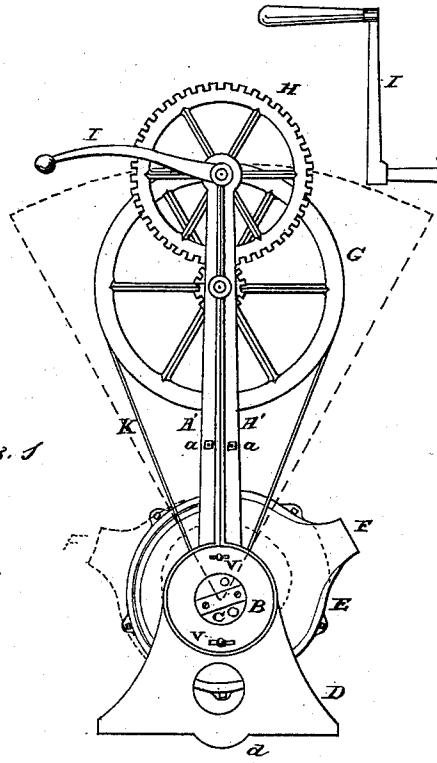


Fig. 2.

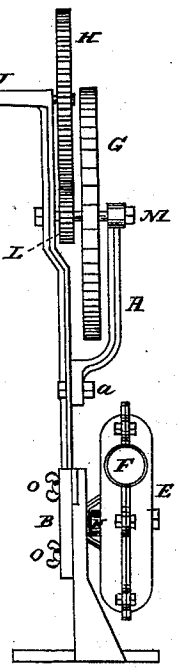


Fig. 3.

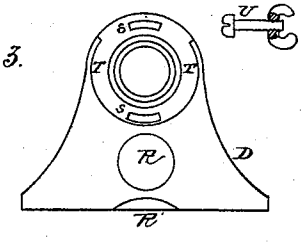
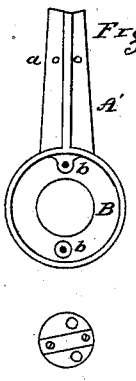




Fig. 4.



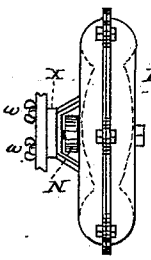


Fig. 5.

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Jacob Hauffer

WITNESSES:

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UNITED STATES PATENT OFFICE.

ABRAHAM K. HERR, OF LAMPETER, PENNSYLVANIA.

IMPROVEMENT IN FAN-BLOWER MACHINES.

Specification forming part of Letters Patent No. **203,340**, dated May 7, 1878; application filed February 25, 1878.

To all whom it may concern:

Be it known that I, ABRAHAM K. HERR, of Lampeter P. O., in the county of Lancaster, State of Pennsylvania, have invented certain Improvements in Fan-Blowing Machines, of which the following is a specification:

The improvements in this class of fan-blowers relate to the manner of adjusting the upright shaft which supports the ordinary gearing, as also in reversing the nozzle of the fan-case from one side to the other, the case being turned on a common center with that of the upright shaft.

The accompanying drawings, with the letters of reference marked thereon, and a brief explanation, will enable those skilled in the art to make and use the same, in which—

Figure 1 is a front elevation of the machine; Fig. 2, a side elevation of the same. Fig. 3 shows the base, with the upright shaft detached. Fig. 4 shows the circular or lower portion of said shaft; Fig. 5, a side view of the fan-case detached, and minor details.

The foot or base D, Fig. 3, has an annular sunken disk, R. The raised outer face or flange formed around the one-fourth of the upper circumference of the annular flat groove R′ is left off in the casting, leaving raised shoulders T on each side, between which the annular disk R, on the lower end of the shaft A′, has a vibrating motion, indicated by the dotted lines on Fig. 1. Circular slots S are shown for the headed screw-bolts U. By means of a thumb-screw, V, or handled nut, the two disks R and B are combined. The perforated raised lugs *b* form the seat for the binding-nuts V, (seen on the outer disk B or lower end of the upright shaft A′,) the upper end of which terminates with a sleeve, J, at right angles, having a bore to receive the spindle of the spur-wheel H, giving it a long bearing, the outer end of the spindle being connected to a crank-handle, I. The pinion L and strap-wheel G are on the spindle M, held in bearings in the upright shaft A′ and branch arm A, bolted together at *a a*.

I may mention that on the inner side of the disk B of the shaft A′ there is also a shallow annular groove, the outer flange above being higher, to form abutting shoulders against those marked T in the base-disk R, to allow of the desired extent of vibration between the two.

The fan-case E has on its inner face a raised cap or bearing, X, for the fan-shaft or spindle, which also supports the strap-pulley N, the strap K or belt passing freely between the arms connected to the case and circular head or bearing X, (shown with the screws *w*,) that enters through the plate W in the central disk C, which sets firmly against and has its motions upon the inner annular flange of the disk R of the base, in connection with its attachment to X of the fan-case, while the open or annular disk B of the upright shaft A′ embraces the disk C, having its movement to the right and left, for adjustment upon the common center of the fan-case.

By this simple combination and arrangement two important and desirable objects are attained. The fan-blower can be set to any smith or forge fire, right or left hand side, as the outlet F can be turned to either side. By relaxing the nuts V the upright shaft A′ can be inclined to or from the hand when working with or without a helper—a desirable feature, which is accomplished by other devices, as in the Patent No. 158,092, December 22, 1874, in which the driving or spur wheel is shifted, differing substantially from the device herein specified.

I am not aware of any blower connected with the upright shaft which supports the gearing so as to have a common center of motion on the base-portion D, to which both are connected, substantially as and for the purpose mentioned; therefore,

What I deem novel, and desire to secure by Letters Patent in a fan-blower, is—

1. The upright shaft A′, provided with an annular disk, B, for shifting, in combination with the base D, having an annular flat groove, R, with shouldered sides T T, curved slots S for the screw-bolts, and nuts U V, as and for the purpose specified.

2. The central circular plate or disk C W, forming a pivot for the annular disk B, and covering the inner annular flange of the base D, on which it sets, and is secured by screws *w* to the cap X, connected with the fan-case E, combined to form a common center for the motions of the shaft and fan-case, as and for the purpose set forth.

ABRAHAM K. HERR.

Witnesses:
H. G. BOOK,
JACOB STAUFFER.