

No. 694,588.

Patented Mar. 4, 1902.

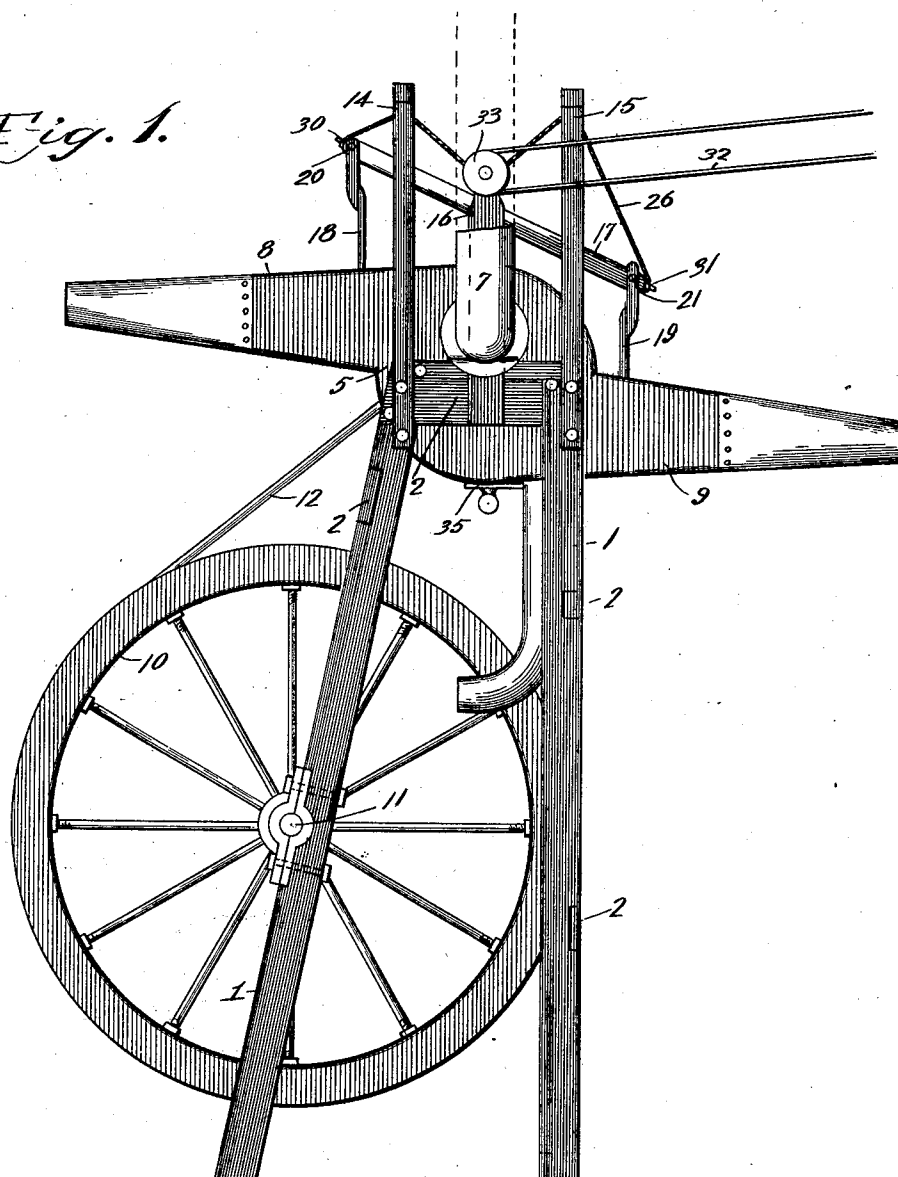
J. M. TYLER.
AIR BLAST APPARATUS.

(Application filed Feb. 18, 1901.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.



Witnesses

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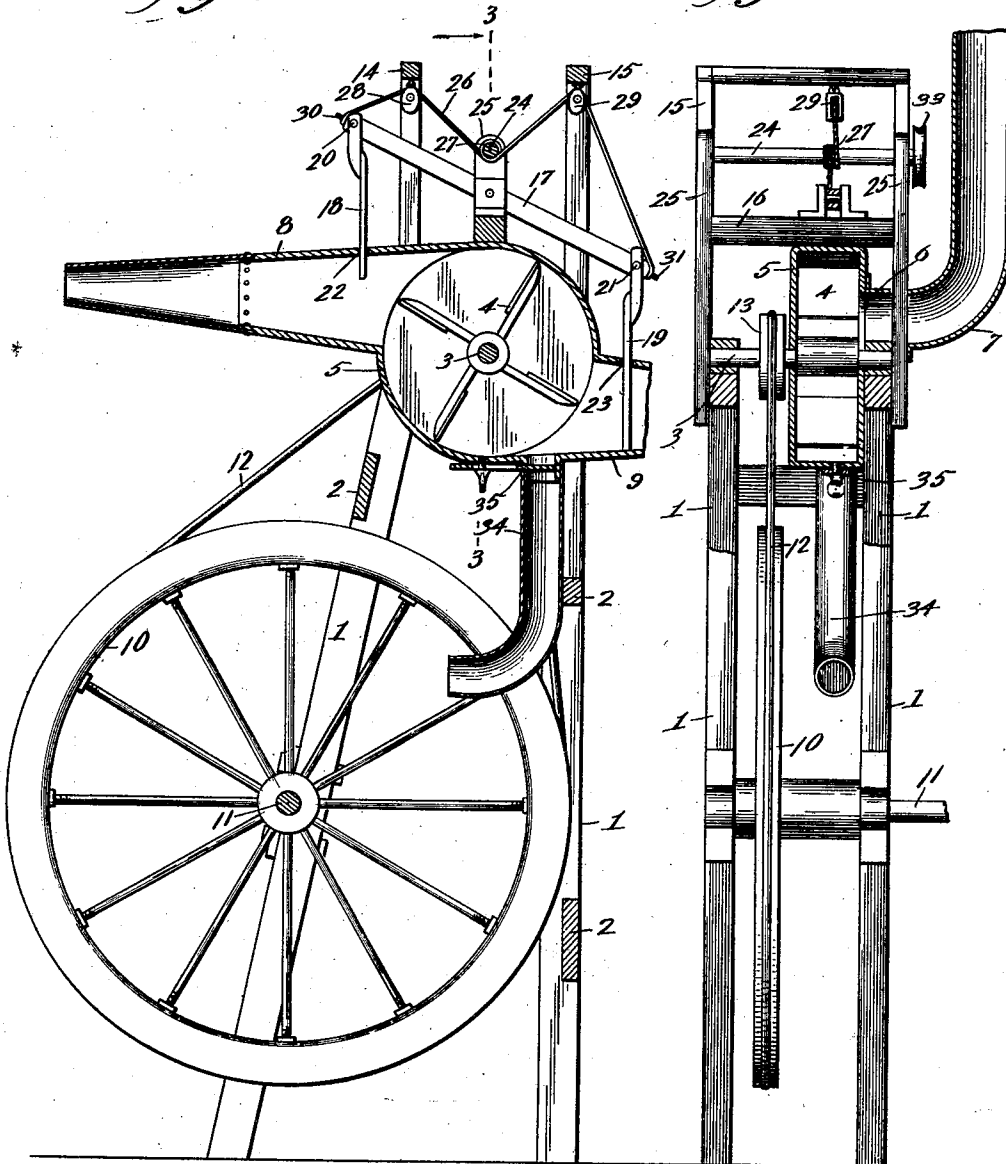
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2 Sheets—Sheet 2.

Fig. 2.

Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

JAMES M. TYLER, OF BAY ST. LOUIS, MISSISSIPPI.

AIR-BLAST APPARATUS.

SPECIFICATION forming part of Letters Patent No. 694,588, dated March 4, 1902.

Application filed February 18, 1901. Serial No. 47,795. (No model.)

To all whom it may concern:

Be it known that I, JAMES M. TYLER, a citizen of the United States, residing at Bay St. Louis, in the county of Hancock and State of Mississippi, have invented a new and useful Air-Blast Apparatus, of which the following is a specification.

This invention relates to air-blast apparatus, and has for its object to provide an improved device of this character which may be readily set up for use wherever desired and also arranged for directing the blast in different directions, so as to accommodate the apparatus to its particular application. It is furthermore designed to have the apparatus under complete control, so that the blast may be conveniently cut off from one direction and applied in another direction without stopping or slowing down the blast-generating means.

With these and other objects in view the present invention consists in the combination and arrangement of parts, as will be hereinafter more fully described, shown in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that changes in the form, proportion, size, and minor details may be made within the scope of the claims without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a side elevation of an apparatus constructed in accordance with the present invention. Fig. 2 is a vertical central longitudinal sectional view thereof. Fig. 3 is a transverse sectional view on the line 3 3 of Fig. 2, parts of the device being in elevation.

Like characters of reference designate corresponding parts in all of the figures of the drawings.

In carrying out the present invention there is provided a supporting-frame comprising corner uprights or standards 1, which are connected by means of suitable cross-bars 2. Upon the top of the frame there is provided a transverse shaft 3, which carries a rotary fan 4, housed within a suitable fan-casing 5, which has a lateral inlet-opening 6, to which is connected an induction-pipe 7, that rises to a suitable height above the apparatus or extends to any suitable point for conducting

the air to the fan. The exhaust from the fan is carried off through the opposite outlet-pipes 8 and 9, which communicate with the top and bottom portions of the peripheral edge of the fan-casing and extend outwardly in opposite directions. It is designed to connect suitable pipe-sections to the respective outlet-pipes, so as to convey the air-blast generated by the fan to any desired point at a distance from the generator.

For the operation of the rotary fan there is provided a drive-wheel 10, located below the fan and mounted upon a transverse shaft 11, journaled upon the supporting-frame and driven from any suitable source of power. (Not shown in the drawings.) This wheel has a grooved periphery for the reception of a drive-belt 12, which also passes around a pulley 13, fixed to the fan-shaft, whereby the latter is driven.

Rising above the supporting-frame and straddling the fan-casing are the opposite end arch-frames 14 and 15, and between the same is an intermediate arch-frame 16, upon which is fulcrumed the middle portion of a rocking lever 17, that carries at its opposite terminals the pendent cut-offs or sliding valves 18 and 19, that are pivotally swung from the lever, as indicated at 20 and 21, respectively. These cut-offs work vertically through the respective slots 22 and 23, formed transversely through the upper sides of the respective outlets 8 and 9, and are designed to alternately open and close said outlets, one of the latter being open when the other is closed. For convenience in controlling these cut-offs there is provided a rock-shaft 24, extending transversely above the lever and terminally journaled in the opposite standards 25, rising from opposite sides of the intermediate arch-frame. A cord or cable 26 has its middle portion wrapped or coiled tightly around the intermediate portion of the rock-shaft, as at 27, and then passed in opposite directions outwardly through the respective guides 28 and 29, formed by pulley-blocks hung from the tops of the end arch-frames, which rise above the intermediate frame and also above the rock-shaft. The terminals of the cord are connected to the adjacent ends of the rocking lever, as shown at 30 and 31, so that by rocking the shaft 24 the opposite portions of the

cord will be coiled and uncoiled upon the rock-shaft, thereby raising one end of the lever and lowering the other to open and close the respective outlet-pipes by means of the cut-offs.

5 The rock-shaft is manipulated by means of an endless belt or cord 32, passed around a grooved pulley 33, fixed to one end of the shaft, the belt or cord being extended to any desired place remote from or adjacent to the
10 apparatus. By this arrangement it is apparent that the direction of the blast may be instantly reversed without stopping the fan, which is an important feature of the present invention.

15 To provide a current of air for ventilating purposes when the main exhaust is employed for power, there is provided a pendent pipe 34, extended from the bottom of the fan-casing and adapted to exhaust directly into the
20 adjacent space or to be connected to branch pipes for conducting the air to different points. A suitable valve or cut-off 35 is provided at the inner end of the pipe for the purpose of controlling the escape of air there-
25 through.

It will be understood that a plurality of these devices may be coupled to the same source of power or independently operated and connected by branch pipes to a single
30 main discharge-pipe for the purpose of increasing the power of the apparatus.

What is claimed is—

1. The combination with a frame, of a blower supported thereon, and having oppo-
35 site outlets, slide-valves for the respective outlets, a rocking lever fulcrumed intermediate

of its ends upon the frame and located between the valves, the latter being pivotally connected to the respective ends of the lever, a transverse rock-shaft mounted between the
40 valves, a cord or cable having its intermediate portion wrapped or coiled upon the rock-shaft, and its ends connected to the respective ends of the lever, and guides located be-
45 tween the rock-shaft and the respective ends of the lever, the opposite portions of the cable being passed through the guides, and means for rocking the shaft.

2. The combination with a blower, having opposite outlets, and controlling-valves there-
50 for, of opposite end arch-frames straddling the blower, an intermediate arch-frame also straddling the blower, a lever fulcrumed intermediate of its ends upon the intermediate arch-frame, and having its opposite ends in
55 operative relation to the respective valves, a rock-shaft mounted upon the intermediate arch-frame and extending transversely across the lever, guides carried by the end arch-
60 frames, a cable having its intermediate portion wrapped or coiled upon the shaft, and its opposite ends connected to the respective ends of the lever, the opposite portions of the cable being passed through the respective guides,
65 and means for rocking the shaft.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JAMES M. TYLER.

Witnesses:

J. H. A. SYLVESTER,
H. M. GRAHAM.