

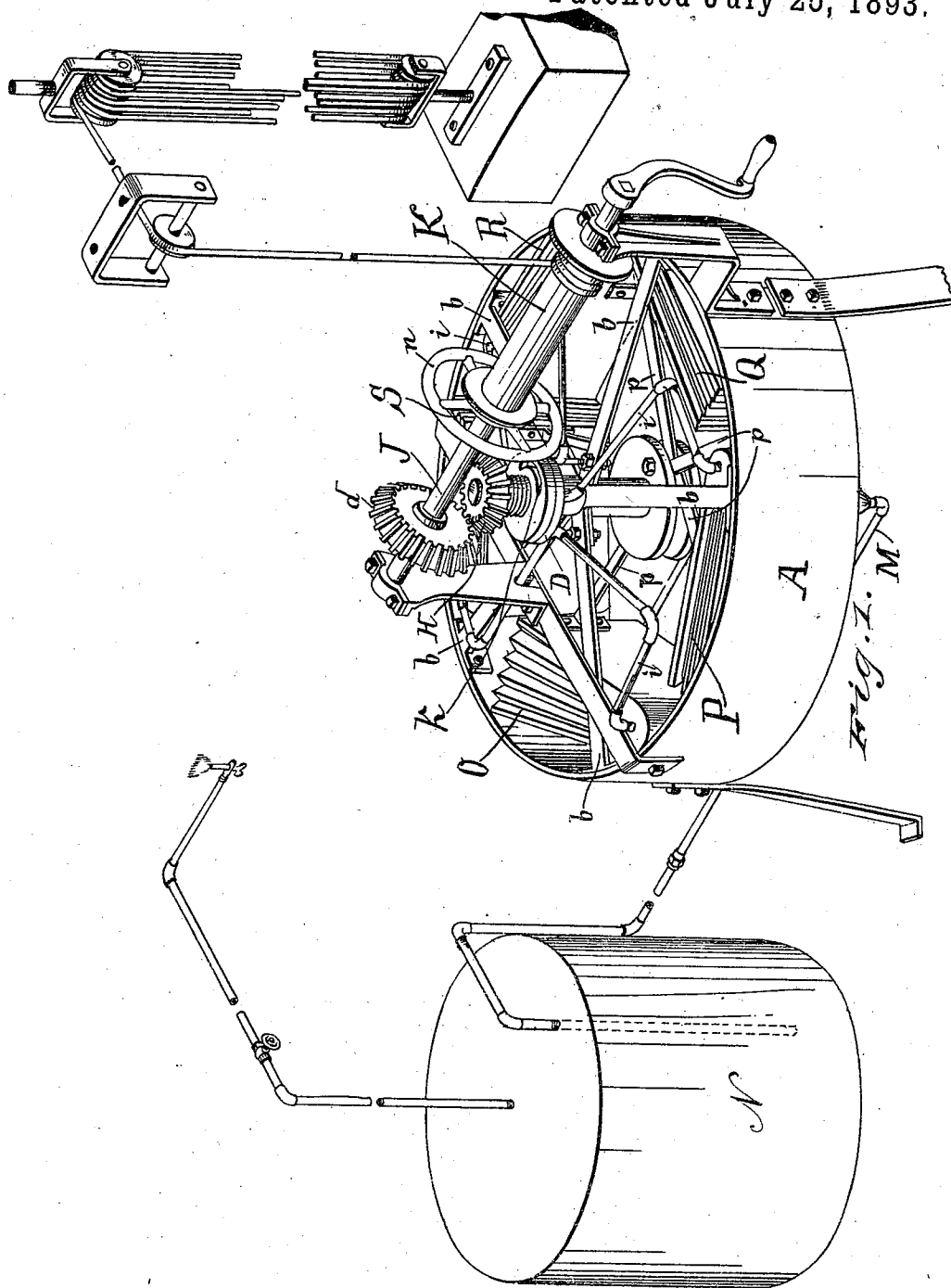
(No Model.)

C. V. BEST.
BLOWER FOR CARBURETORS.

3 Sheets—Sheet 1.

No. 502,244.

Patented July 25, 1893.



Witnesses

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Chas. A. Miller

Inventor

Chas. V. Best

By W. K. Miller

Attorney

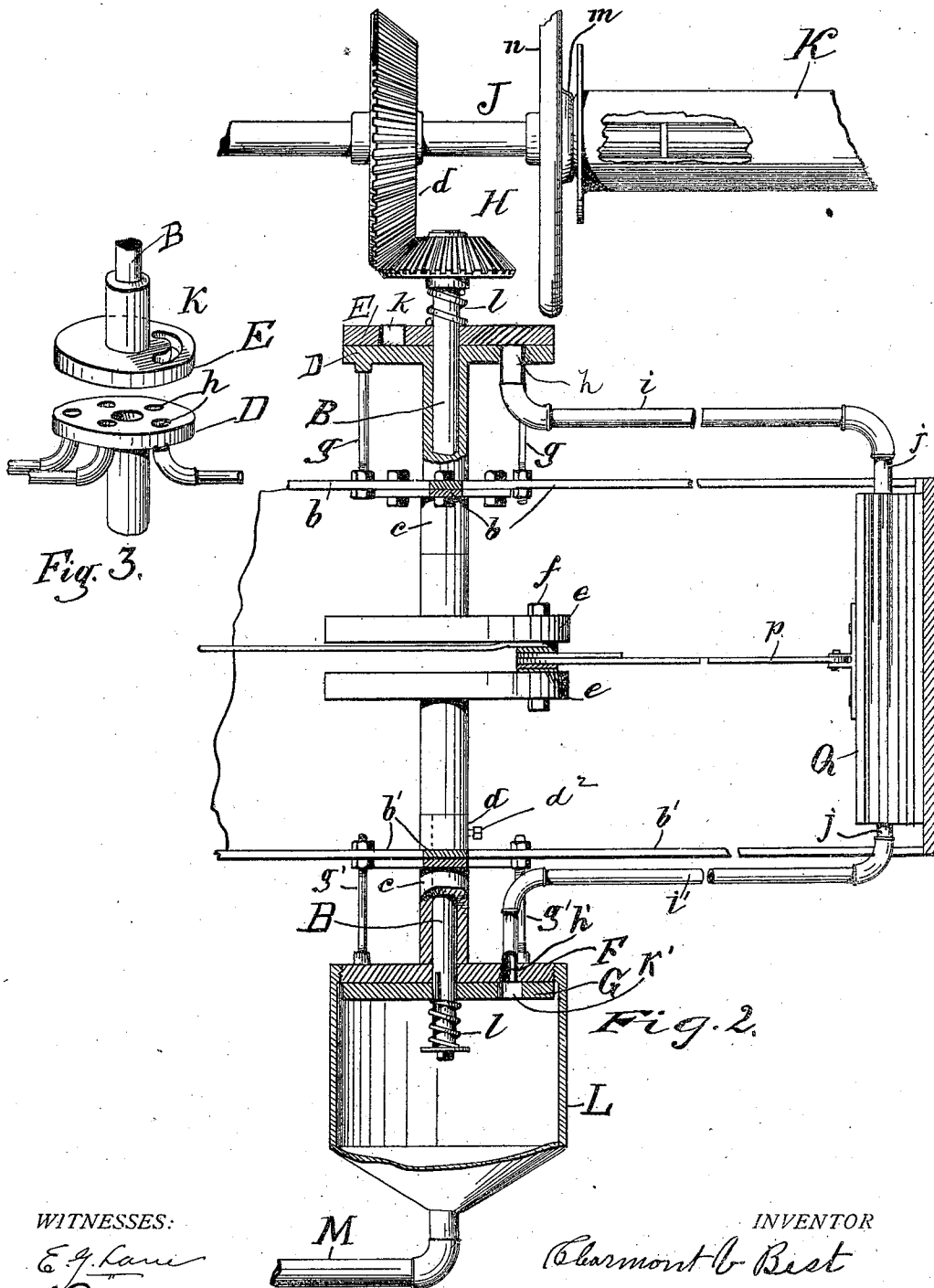
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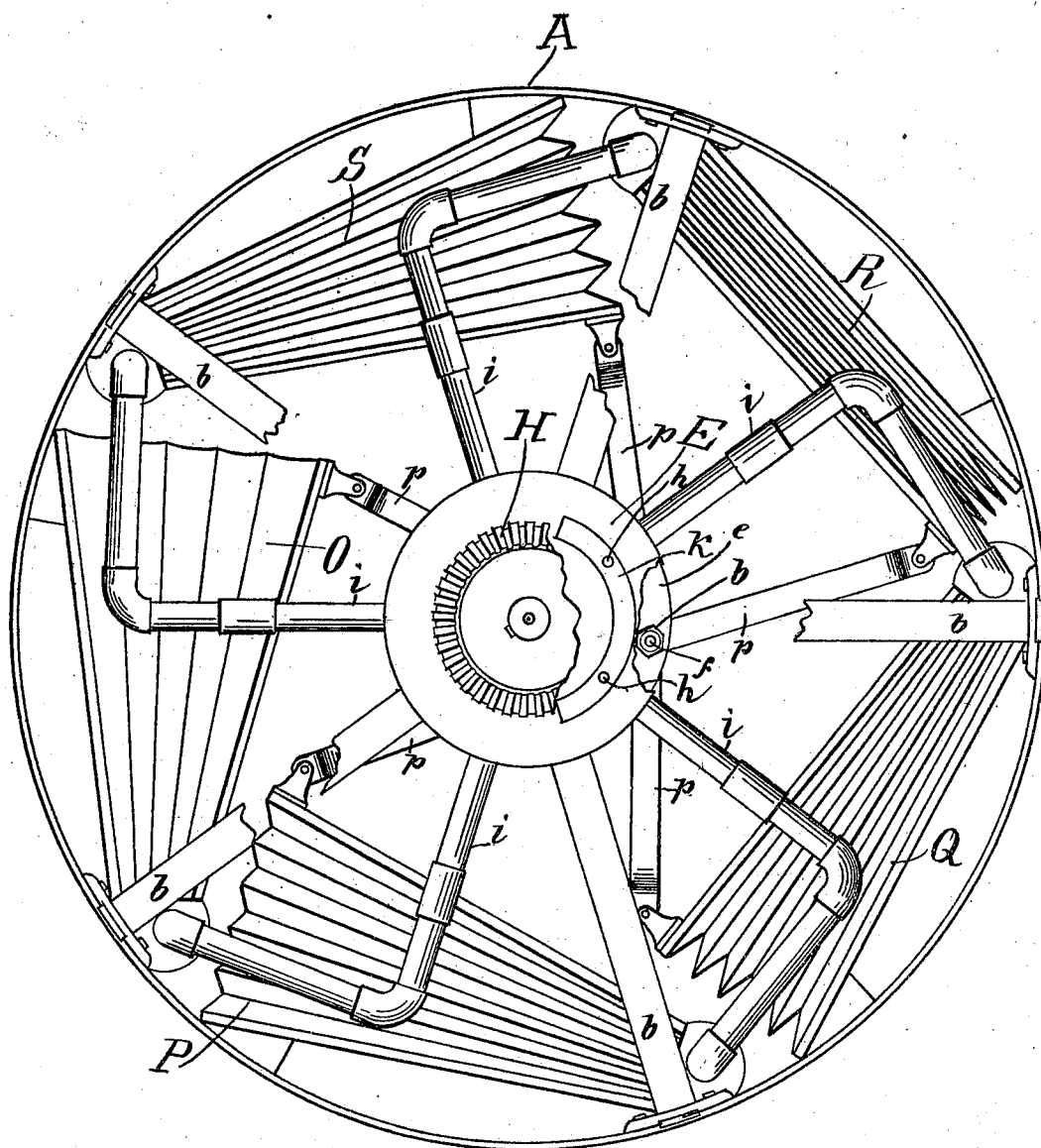


Fig 4.

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UNITED STATES PATENT OFFICE.

CLEARMONT V. BEST, OF CANTON, OHIO, ASSIGNOR OF ONE-HALF TO THE
SUN VAPOR STREET LIGHT COMPANY, OF SAME PLACE.

BLOWER FOR CARBURETORS.

SPECIFICATION forming part of Letters Patent No. 502,244, dated July 25, 1893.

Application filed November 7, 1892. Serial No. 451,175. (No model.)

To all whom it may concern:

Be it known that I, CLEARMONT V. BEST, a citizen of the United States, and a resident of Canton, county of Stark, State of Ohio, have invented a new and useful Improvement in Blowers for Carburetors, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification.

My invention relates to improvements in blowers for carburetors, and consists of certain features of construction and combination of parts as will be hereinafter described and pointed out in the claims.

Figure 1, of the accompanying drawings is a perspective of a blower illustrating my invention, and a carburetor. Fig. 2 is a vertical section through the center of the blower; Fig. 3, a perspective of the valves, and Fig. 4, a plan view from above.

Similar letters of reference indicate corresponding parts in all of the figures of the drawings.

A, represents the supporting frame having cross bars *b* and *b'*, that support journal boxes *c*, central to the frame A in which is placed a vertical shaft B, on which is placed an adjustable collar *d*, held in place by means of a set screw *d'*, by which the vertical movement of said shaft is limited.

For the purpose of this application I have made the shaft B in two sections having mounted thereon, crank plates *e* secured together by the crank or wrist pin *f*. To the cross bars *b*, is secured by the adjusting or leveling bolts *g*, a stationary valve plate D, in which is provided a series of apertures *h*, from each of which is projected a pipe *i*, connecting its valve aperture *h*, with a bellows pipe *j*, of which for the purpose of this application, I have used five as shown in Fig. 4.

E represents a rotatable valve plate secured by a spline to the shaft B; in this valve is provided an elongated aperture *k*, of sufficient length to uncover two of the apertures *h*, the other three being covered by the unapertured portion of the plate.

To the lower cross bars *b'* is secured a stationary valve plate F, similar to valve plate D, heretofore described, having supporting and leveling bolts *g'* and apertures *h'*, from

which pipes *i'* are extended and connected to the bellows, see Fig. 2.

A rotating valve plate G, is secured to the lower end portion of the shaft B, which is similar to valve plate E, hereinbefore described, having an elongated aperture *k'* of such length as to uncover or expose two of the apertures, *h'* in the valve plate F, the remaining apertures being covered or closed by the unapertured portion of the plate. The valve plates E and G are secured to the shaft B by a spline, to allow the plates to be moved longitudinally on the shafts by the springs *l* and held to rotate with the shafts.

On the upper end of shaft B is mounted a bevel wheel H that engages a similar wheel, on a horizontal cross shaft J, and this shaft is divided and coupled in the spool K as shown in Fig. 2: one portion of said shaft having thereon as before stated, a bevel wheel that engages the bevel wheel H, on the vertical shaft B. The other portion is secured to the spool K, which has a ratchet engagement with the hub *m*, of the hand wheel *n*, and on the free end of said portion is provided a hand crank by which the spool is rotated to wind about it a rope to which a weight is applied to rotate the spool in the usual way to rotate the shaft J.

Referring to Fig. 2, a hood L is secured to the valve plate F, having a pipe connection M with the carburetor N, see Fig. 1.

As shown in Fig. 4, the bellows O, P, Q, R, S, are secured to the supporting frame A, each having a link *p*, connecting the bellows with the wrist or crank pin *f*, so that the bellows will be opened or collapsed in the order of arrangement, by the links *p*, as the crank pin *f* is rotated about the shafts B; as shown the bellows R is almost closed, S partly closed, O beginning to close, P almost open, Q partly open. By this arrangement a continuous flow of air is passed through the pipe *i*, *j* and M, to the carburetor N, and thence to the place of consumption.

In operation the spool K is rotated by the rope, and weight, and the crank plates rotated by the gear wheels, and the crank having a link connection with each of the five bellows, there will be a continuous opening and closing of the bellows, in the order ar-

ranged, so that there may at all times be two or more of the bellows blowing. As the valve E is moved, the aperture *k*, is moved over the apertures *h*, and as the bellows open, air will flow through the pipes *i*, connected with the uncovered apertures *h* into the bellows, and when a bellows begins to close, the aperture *h* connected with that bellows will be closed by the plate E, and the air will be driven out through the pipe *i'*, and apertures *h'* and *k'*, in valve plates F and G, and on through pipe M, to the carburetor N, by the closing of the bellows, that is when aperture *h* is open to bellows Q, the exhaust aperture *h'*, will be closed by the valve G, see Fig. 2, and vice versa, the apertures *h* and *h'* alternately opening and closing to allow the air to flow into and out of the bellows as they are opened and collapsed, by the links *p* connecting them with the crank *f*, by which a continuous current of air is forced into the carburetor, and thence to the place of consumption.

Having thus described the nature and object of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination with the supporting frame, the shaft B, journaled therein, provided with cranks *e* and a crank pin *f*, the apertured valve plates D and F secured to said frame and the rotatable apertured valve plates E and G secured to said shaft, of the series of bellows secured to said frame the pipes *i* and *i'*, connecting said bellows and valve plates, and means, substantially as described for rotating said shaft to alternately open and close the bellows.

2. The combination with the supporting frame and a series of bellows, of the valve plates D and F, having a series of apertures *h* and *h'* to correspond with the bellows, and pipes *i* and *i'* connecting said apertures with the bellows, valve plates E and G having elongated apertures *k* and *k'*, and means for rotating

said valve plates E and G, to alternately open and close the apertures *h* and *h'*, and thereby open and close the inlet and outlet to the bellows, as the bellows are correspondingly opened and closed, by the crank pin *f* and link P, substantially as described and for the purpose set forth.

3. The combination with a carburetor of a series of bellows O, P, Q, R, and S, the stationary valve plates, D and F, having a series of apertures *h* and *h'* to correspond with the bellows, pipes *i* and *i'* to connect the apertures with the bellows, valves E and G having elongated apertures *k* and *k'*, to alternately open and close the apertures *h* and *h'* to allow air to flow to and from the bellows, a hood L to inclose the valve G, and pipe M to connect the hood with the carburetor, substantially as set forth.

4. The combination of the supporting frame A, a series of bellows secured thereto, cross bars *b* and *b'*, the shaft supported thereby, provided with cranks and a crank pin, links *p* connecting said cranks with the bellows, non-rotatable valve plates D and F having apertures *h* and *h'*, bolts *g*, *g'* to level and support said plates, pipes connecting said valve plates with the bellows, hood L, and pipe M connecting said hood with a carburetor, rotatable valve plates E and G, having apertures *k* and *k'*, to alternately open and close the apertures *h* and *h'*, springs *l* to seat the valve plates E and G, and means for rotating the crank shaft and valve plates to alternately open and close the apertures *h* and *h'* and to distend and collapse the bellows, substantially as herein described.

In testimony whereof I have hereunto set my hand this 29th day of October, A. D. 1892.

CLEARMONT V. BEST.

Witnesses:

W. K. MILLER,
CHAS. R. MILLER.