

(No Model.)

2 Sheets—Sheet 1.

W. SEBURN.  
PNEUMATIC STRAW STACKER.

No. 577,117.

Patented Feb. 16, 1897.

Fig. 1.

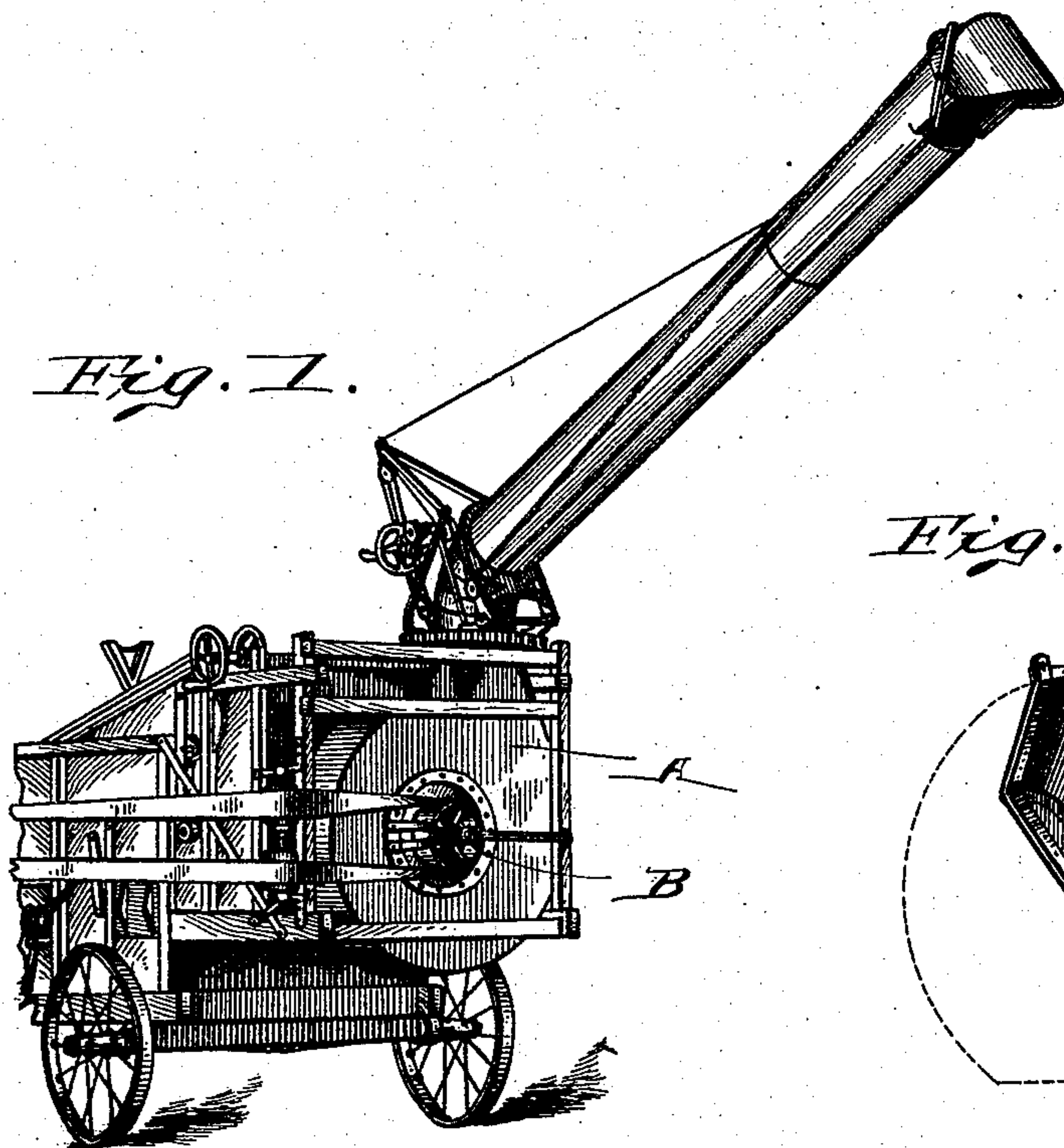


Fig. 4.

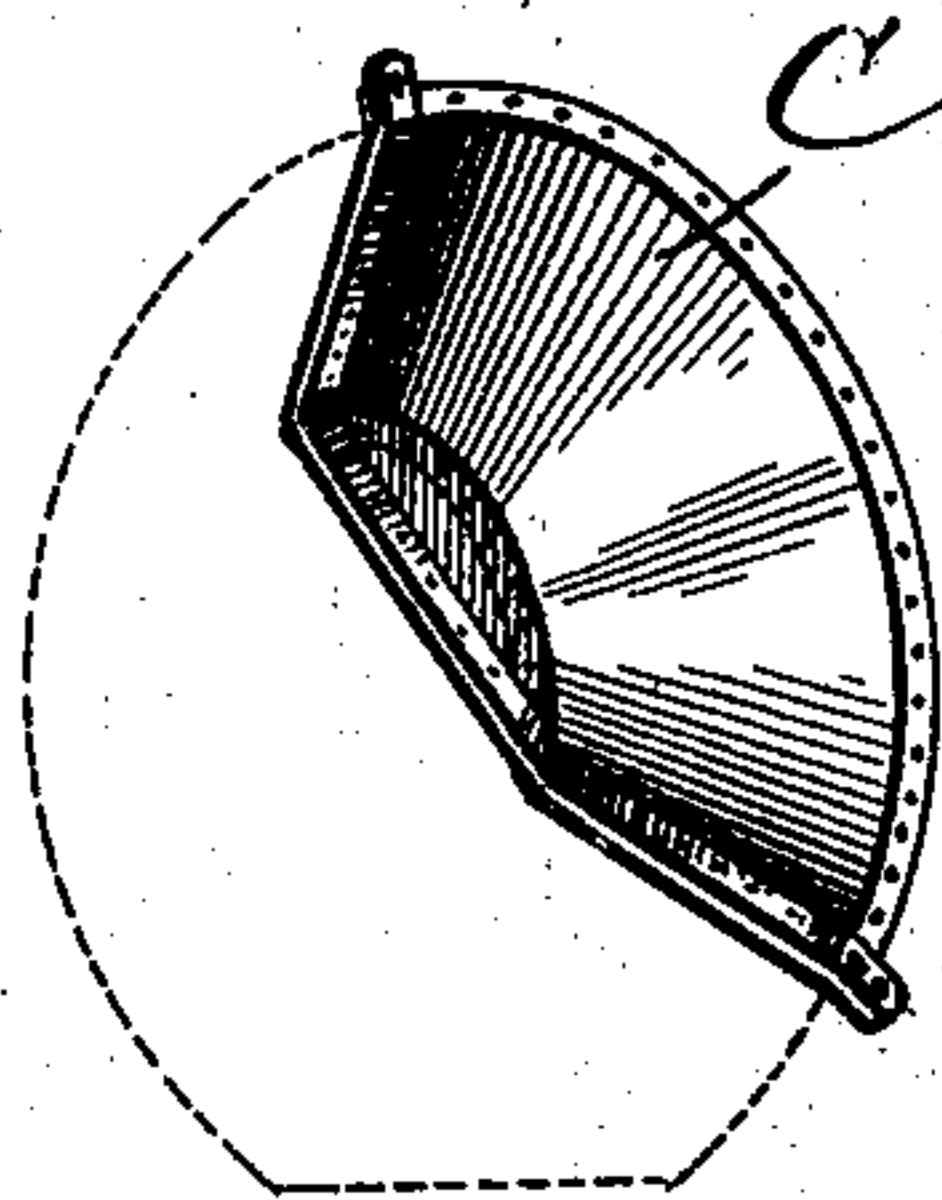


Fig. 2.

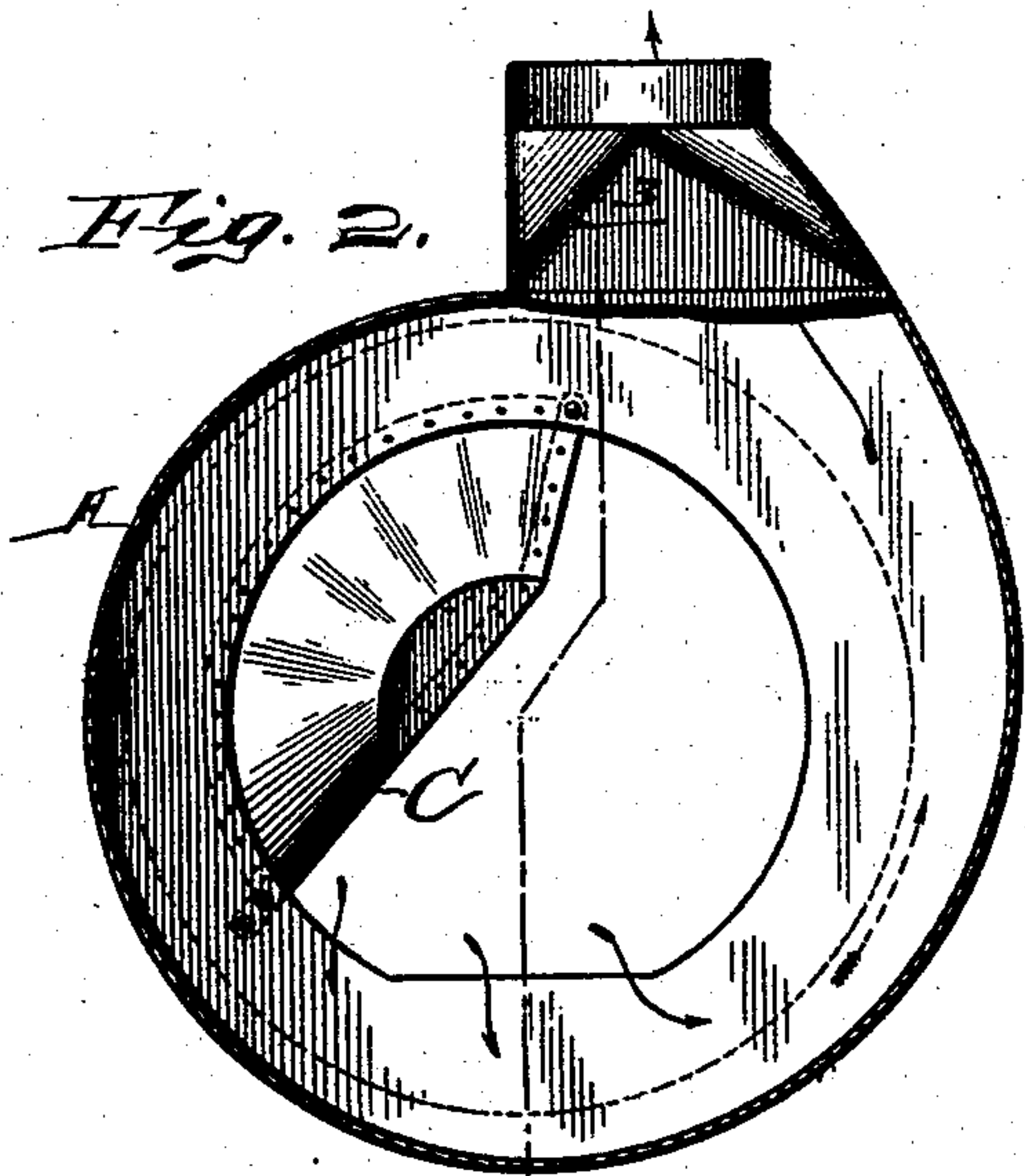
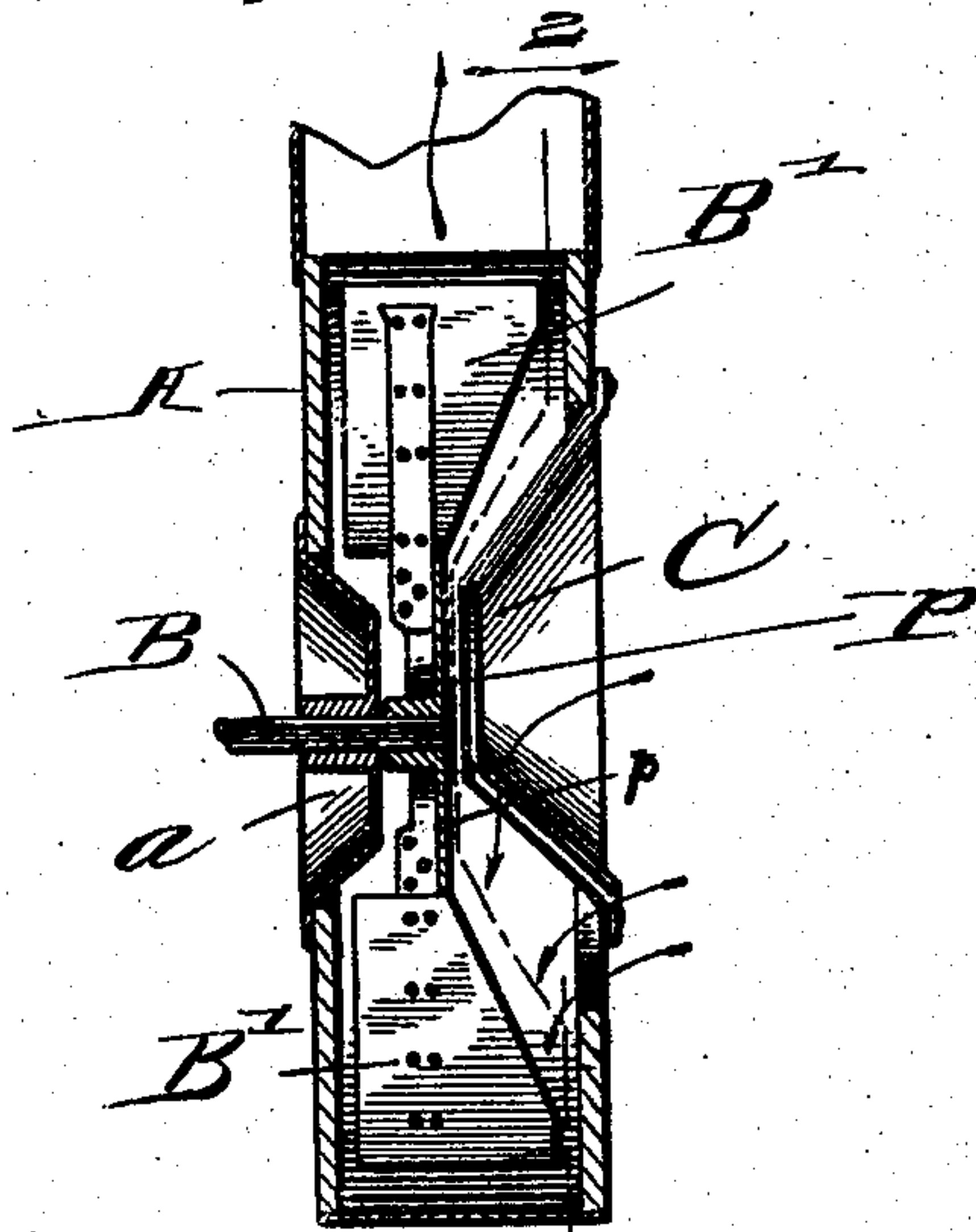


Fig. 3.



Witnesses

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(No Model.)

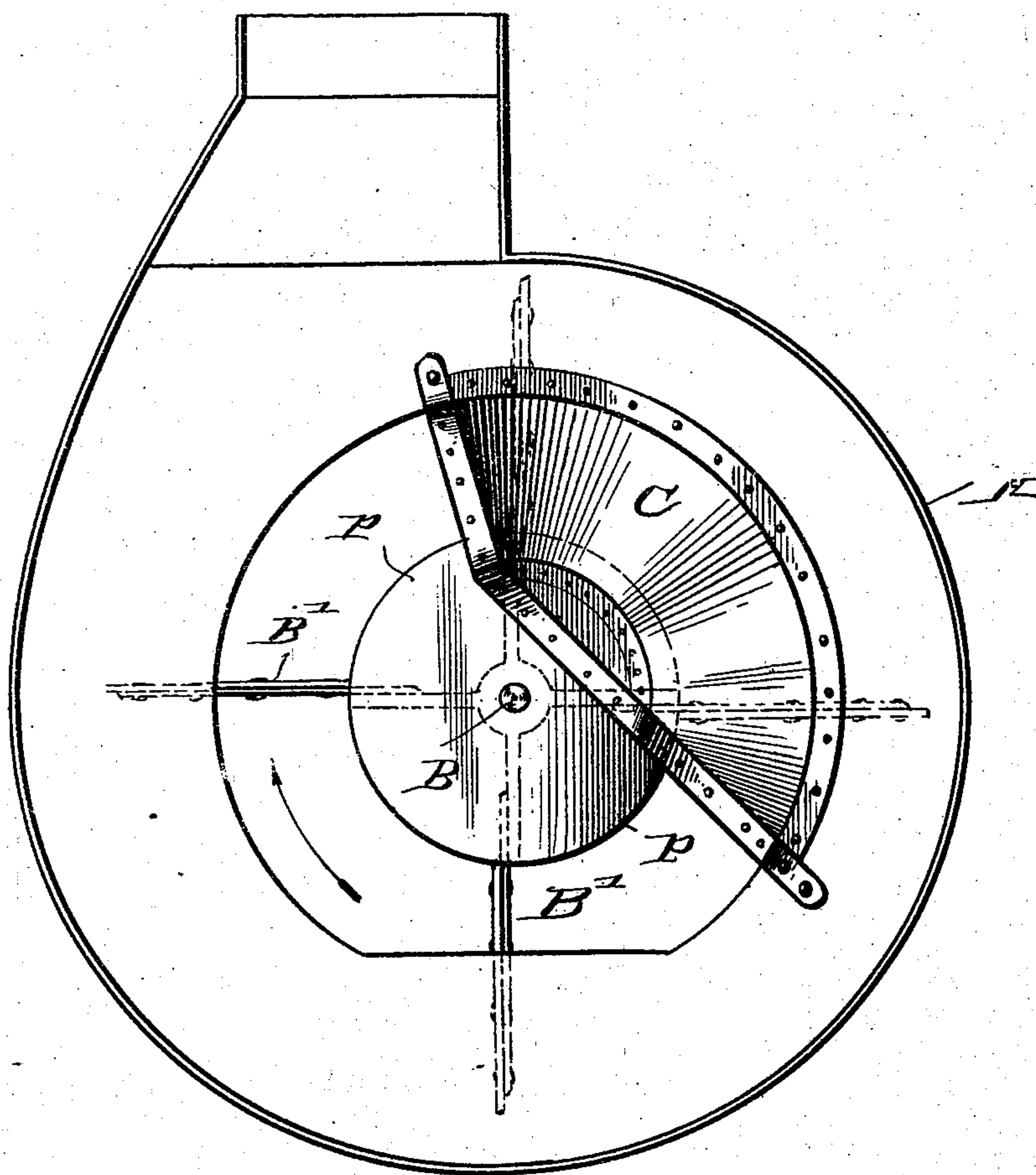
2 Sheets—Sheet 2.

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*Fig. 5.*



Witnesses

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# UNITED STATES PATENT OFFICE.

WILLIAM SEBURN, OF INDIANAPOLIS, INDIANA, ASSIGNOR TO THE INDIANA MANUFACTURING COMPANY, OF SAME PLACE.

## PNEUMATIC STRAW-STACKER.

SPECIFICATION forming part of Letters Patent No. 577,117, dated February 16, 1897.

Application filed June 20, 1896. Serial No. 596,235. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM SEBURN, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Pneumatic Straw-Stackers, of which the following is a specification.

This improvement relates to fans for pneumatic straw-stackers; and it consists of an attachment whereby the straw and chaff are prevented from entering that portion of the fan-casing occupied by the fan-blades when (in the line of travel) they are farthest from the discharge-orifice, and thus a large proportion of the labor otherwise thrown upon the fan-blades obviated, and consequently much less power required to drive the fan.

This invention is especially applicable to machines like that shown in Letters Patent No. 540,102, dated May 28, 1895, issued upon the application of Thomas Kirshman, and No. 493,734, dated March 21, 1893, issued upon the application of Joseph W. Nethery. I have illustrated said invention in connection with a straw-stacker of the Kirshman type, to which I have practically applied it. Said invention is also capable of advantageous use with most of the pneumatic straw-stackers now in use, of which I believe that illustrated by the Buchanan patent, No. 467,476, dated January 19, 1892, to be the first practical example. To adapt this invention to any of these various types of straw-stackers would obviously generally only require mechanical skill, and therefore an illustration and description of a single example, as applied to the Kirshman machine, is deemed sufficient.

Referring to the accompanying drawings, which are made a part hereof and on which similar letters of reference indicate similar parts, Figure 1 is a perspective view of the rear end of a threshing-machine with a pneumatic straw-stacker of the designated type attached thereto; Fig. 2, a view of the interior or inner side of the front portion of the fan-case as seen from the dotted line 2 2 in Fig. 3, being such a view as would be presented in looking into the rear of the machine if the outer portion of the fan-case and the fan itself were removed; Fig. 3, a vertical sectional

view as seen from the dotted line 3 3 in Fig. 2; Fig. 4, a perspective view of the shield or deflector which is the essential feature of my present invention, and Fig. 5 an inside view looking outwardly from the threshing-machine toward the fan structure provided with or embodying my invention.

In the said drawings the portions marked A represent the fan-casing, B the fan-shaft, and C the shield or deflector, which latter is the principal feature of my present invention.

The fan-casing A is of a suitable form and carries a bearing *a* for the fan-shaft, which bearing preferably includes in its structure a dish-shaped part, as shown most plainly in Fig. 3, whereby the bearing is carried in toward the center of the fan structure, and the central space is also partially occupied, thus reducing the air-space at that point, which is deemed to be an advantage.

The fan-shaft B is mounted in the bearing *a* and is driven by a belt, as plainly shown in Fig. 1, or otherwise, and carries on its inner end a hub having fan-blade arms, on the outer ends of which the fan-blades B' are mounted, and has also extending over its end, preferably, a disk or plate *p*. I speak in this specification of the position of the fan-blades when farthest along the path of travel from the discharge-orifice. This of course refers to the position of said blades shortly after they have passed the orifice and while yet actually near thereto; but they are at the most distant point in the sense of having to travel the greatest distance in the direction in which, as the fan is organized, they must move.

The shield or deflector C is secured upon the innerside of the casing A, as plainly shown in the drawings, and is preferably "dish-shaped" or in form substantially of a portion of an ordinary tin pan and extends in close to, but not quite in contact with, the plate or disk *p*. It covers about one-third of the orifice or eye of the fan and incloses the portion containing the fan-blades when farthest, measured along the path of travel, from the discharge pipe or orifice. Being positioned and shaped in this manner, it shuts off the ingress of any straw, dust, or chaff-laden air into this particular portion of the fan-casing, and thus relieves the blades of the fan carry-



ing such straw, dust, or chaff around for a considerable portion of the circumference of the fan-casing, which obviously much reduces the labor to be performed by the fan-blades, and consequently the power required to drive the fan. This also obviates any tendency on the part of the material to pile up and clog the fan at the lower portion. The inclined shape of this shield or deflector aids also in guiding the straw and chaff into that portion of the fan to which it is desired to direct it. Being dish-shaped, as shown, the fan-eye opening at the place of the fan-casing side is not materially reduced, so that the same quantity of material may enter the fan-eye as though such shield or deflector were not present, but the same is drawn sidewise toward the side of the fan-casing opposite from said shield or deflector and below the plane of the side of the valve-casing. By this construction and arrangement the capacity of the fan is not materially reduced, while the power required to drive the same is very much lessened.

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

1. The combination, with an exhaust-fan, of a shield or deflector, dish-shaped in form, and secured within the eye of the fan, and extending inwardly toward the shaft in an inclined direction, thus covering or inclosing that portion of the fan-casing in which the

fan-blades revolve while farthest on the path of travel from the discharging orifice or chute.

2. The combination, in a pneumatic straw elevator and stacker, with the fan thereof, of an inclined dish-shaped shield or deflector covering or inclosing that portion of the fan-casing within which the blades of the fan are situated when farthest on the path of travel from the discharge-orifice, whereby the inflowing material is prevented from coming in contact with said blades at said point, substantially as and for the purposes set forth.

3. A fan for pneumatic straw-stackers, the casing whereof is provided with a portion C extending across and closing a segment of the fan-eye at that side of the fan occupied by the blades when farthest on the path of travel from the discharge-orifice.

4. The combination, in a fan for pneumatic straw-stackers, of the fan-casing A, fan-shaft B provided with the usual fan arms and wings, a plate *p*, and a shield or deflector C secured to the casing and covering a portion of the fan-eye, said shield or casing being dish-shaped and extending down to near said plate.

In witness whereof I have hereunto set my hand and seal, at Indianapolis, Indiana, this 26th day of May, A. D. 1896.

WILLIAM SEBURN, [L. S.]

Witnesses:

CHESTER BRADFORD,  
JAMES A. WALSH.