

No. 877,320.

PATENTED JAN. 21, 1908.

D. R. GARDINER.
CHAFF BLOWER.

APPLICATION FILED AUG. 25, 1906.

2 SHEETS—SHEET 1.

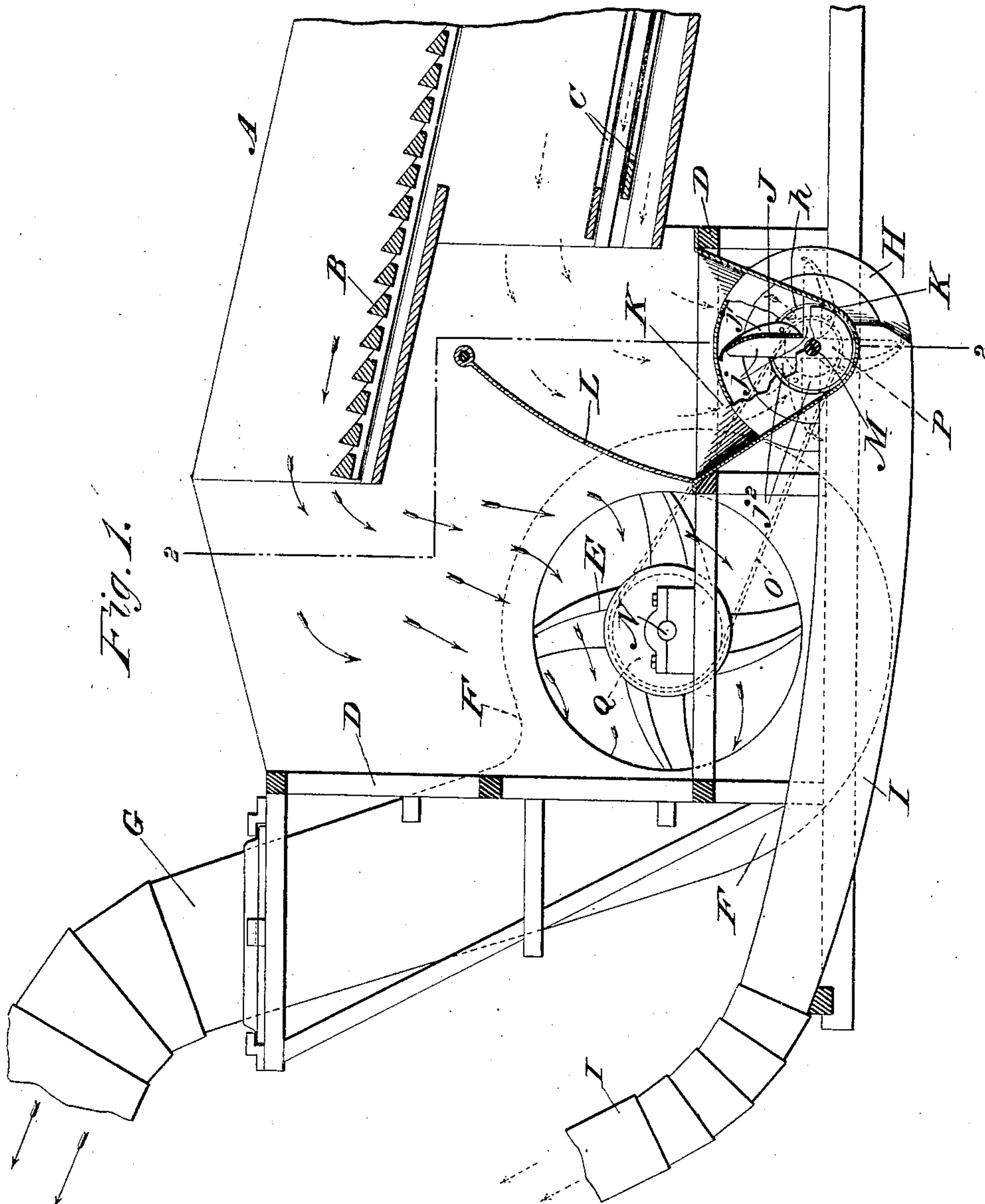


Fig. 1.

WITNESSES

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INVENTOR

David R. Gardiner
By *William C. Powell* *Attorney*

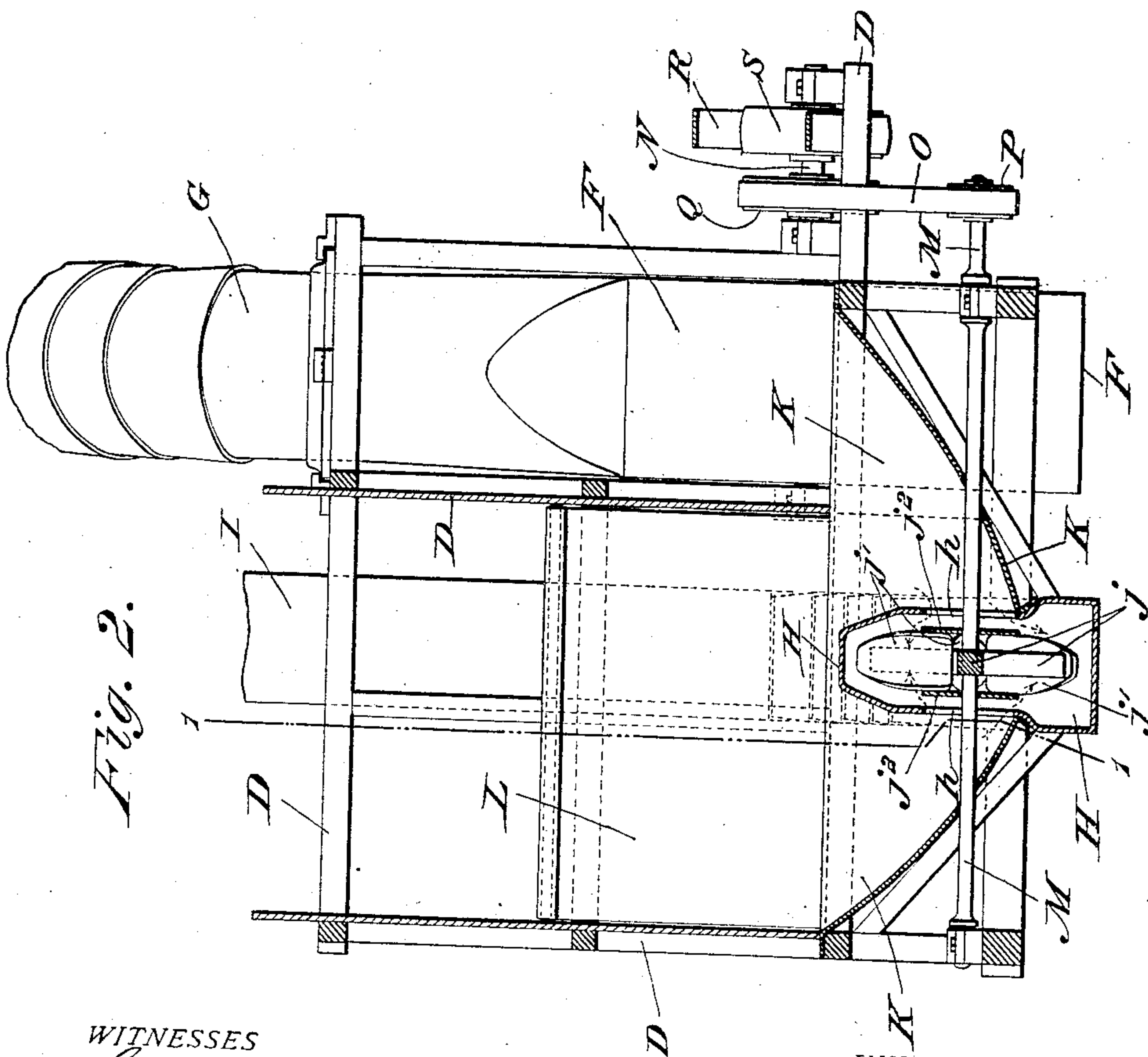
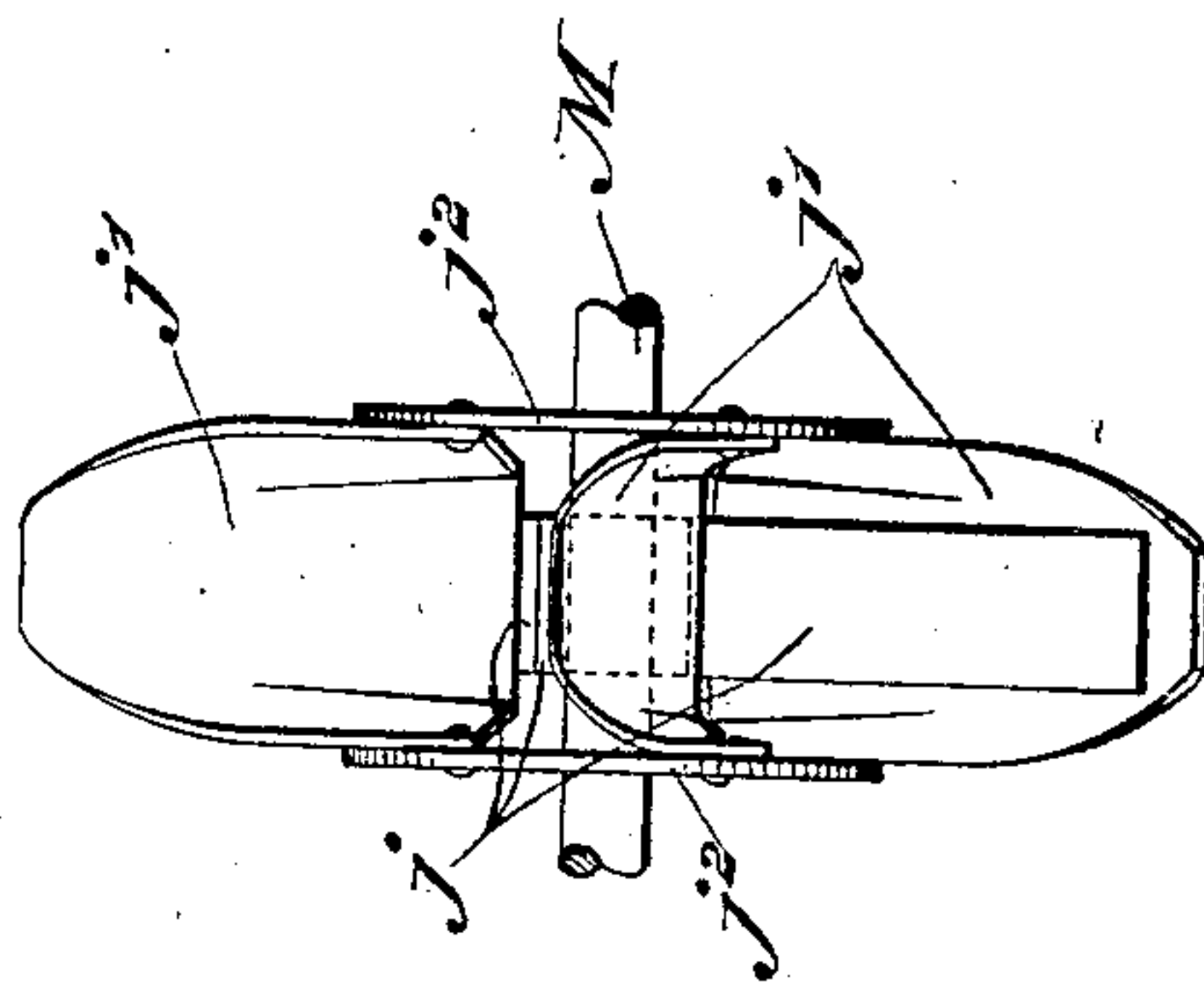
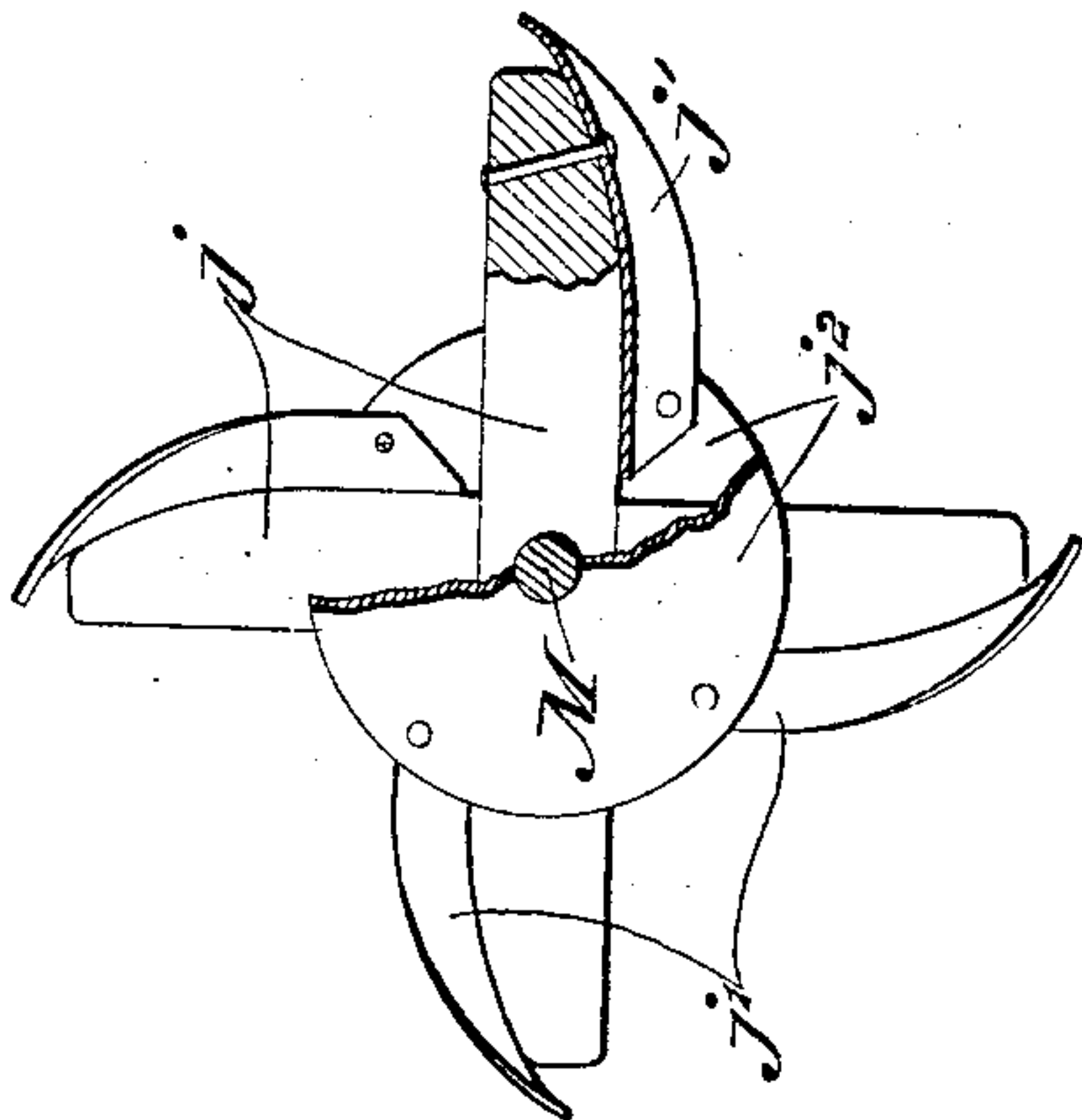
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2 SHEETS--SHEET 2.



WITNESSES

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INVENTOR

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UNITED STATES PATENT OFFICE.

DAVID RICHARD GARDINER, OF NEEPAWA, MANITOBA, CANADA, ASSIGNOR TO NEEPAWA MANUFACTURING COMPANY, OF NEEPAWA, CANADA, A CORPORATION.

CHAFF-BLOWER.

No. 877,320.

Specification of Letters Patent.

Patented Jan. 21, 1908.

Application filed August 25, 1906. Serial No. 332,005.

To all whom it may concern:

Be it known that I, DAVID RICHARD GARDINER, a citizen of Canada, residing at Nee-pawa, in the Province of Manitoba, Canada, have invented certain new and useful Improvements in Chaff-Blowers; 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 appertains to make and use the same.

This invention relates to pneumatic chaff-blowers, used as an auxiliary to pneumatic straw-blowers, for conveying off the chaff from grain-separators or threshing-machines; and the object is to provide an efficient apparatus of this character adapted to take in the chaff from the separator and blow off the same without any objectionable back current.

The invention will hereinafter be fully described with reference to the accompanying drawings, which form a part of this specification and will then be more particularly pointed out and defined in the appended claims.

In said drawings Figure 1 is a side elevation of an apparatus embodying my invention, shown applied to the rear end of a grain separator. Fig. 2 is a rear view of the separator, showing the apparatus embodying my invention in central vertical section. Fig. 3 is a side view of the chaff-fan, with fragments broken away. Fig. 4 is a rear elevation of the fan.

A particular explanation of the illustrated construction is as follows:

A denotes the threshing-machine or grain-separator; B the straw deck or carrier in the separator; C the screeners for separating the grain from the chaff.

D is a frame-work at the rear end of the separator, for supporting the straw-blower and the chaff-blower.

E is the straw-fan, F the blower casing thereof, and G the pneumatic stacker-pipe extending from the blower casing F. It will be observed that the straw-blower F is located at one side of the machine, that is at the back of the separator, and the blower casing has a central opening through which the straw falling from the rear end of the carrier B is drawn by the air currents into the blower casing and thence blown off by the

fan in the pneumatic stacker-pipe. The chaff-blower, whose casing is designated by the letter H, is located at an intermediate position at the back of the separator, about centrally of the rear end of the separator, immediately behind the rear end of the screens C and just in front of the straw blower F.

The letter I denotes the conveyer-pipe extending rearwardly from the chaff-blower H. The blower casing H has central openings *h* its opposite sides, for admitting chaff to the fan J through both sides of the casing.

K is a trough, preferably of sheet-iron, located at both sides of the blower casing H and practically inclosing the same, the bottom of the trough slanting downward from opposite sides of the machine to the lower edges of the opposite side openings *h*, whereby the chaff delivered from the back of the separator naturally falls into the trough and is drawn to the fan through the opposite side openings of the fan casing. A sheet-iron fender or curtain L is located above the trough, extending upwardly from the back end of the trough, so as to prevent the chaff from being drawn into the straw-blower, when it is desired to keep the chaff separated from the straw.

The chaff-fan J, which rotates on a horizontal axis, comprises a series of radial arms *j* carrying trough-shaped blades *j'* which face in the direction of rotation of the fan, the ends of the blades being curved backward; together with covering disks *j²* at the opposite sides of the fan, these disks being approximately the size of the lateral openings *h* of the fan casing; but there being suitable space between said disks and the sides of the casing, so as to allow ample room for passage of the chaff through the openings *h*. By this construction the chaff is delivered to the chaff pipe I, over rather than through the fan, passing over the covering disks *j²* in front of the outer portions of the trough-shaped blade *j'*, avoiding liability to choke and controlling the current from the fan so as to prevent any back draft, allowing free passage of the chaff to the fan through opposite sides of the fan casing; also producing a more effective draft for blowing off the chaff. The chaff-fan J is shown mounted on the horizontal shaft M, which is driven from the shaft N of the straw fan by the belt O

passing around the pulleys P and Q; the shaft N being driven by the belt R applied to pulley S.

The apparatus as described is susceptible
5 of modifications in details of construction and arrangement, and is also applicable for attachment to ordinary separators or threshing-machines, and may be used in connection with either a pneumatic straw-blower or with
10 ordinary mechanical straw conveyers.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:—

1. A chaff-blower comprising a casing
15 having inlet openings at opposite sides and having a tangentially-disposed outlet, and a rotary fan therein, having its blades arranged to force the air through said outlet and having central disks at its opposite sides, the
20 said disks confronting the said openings in the sides of the casing but located at a distance therefrom sufficient to allow the passage of air through said openings over said disks and in front of the outer lengths of the
25 blades of the fan.

2. A chaff-blower comprising a rotary fan having trough-shaped blades facing in the direction of rotation of the fan and having central disks at its opposite sides of less diameter than the fan as a whole, and a casing in-

closing the fan having opposite inlet openings coaxial with said disks and having a tangentially-disposed outlet, the sides of the casing having said openings being spaced at a substantial distance from the respective
35 disks, the said disks being of such size as to cause the air to be drawn through the peripheral portions of said openings and in front of the outer lengths of the blades of said fan.

3. In combination with a straw-conveyer
40 for conveying off straw from a separator, the said conveyer having a blower located at the rear or discharge end of the separator, a chaff-blower comprising a casing located between said first-mentioned blower and the
45 rear end of the separator, said casing having opposite inlet openings and a tangentially-disposed outlet chute, a rotary fan therein, a transversely arranged trough located to receive chaff from the separator and adapted
50 for directing chaff into said opposite inlet openings, and a shield behind said trough for preventing the chaff from passing to the straw-conveyer.

In testimony whereof I affix my signature, 55
in presence of two witnesses.

DAVID RICHARD GARDINER.

Witnesses:

H. OWDIN,

DELBERT THURSTON.