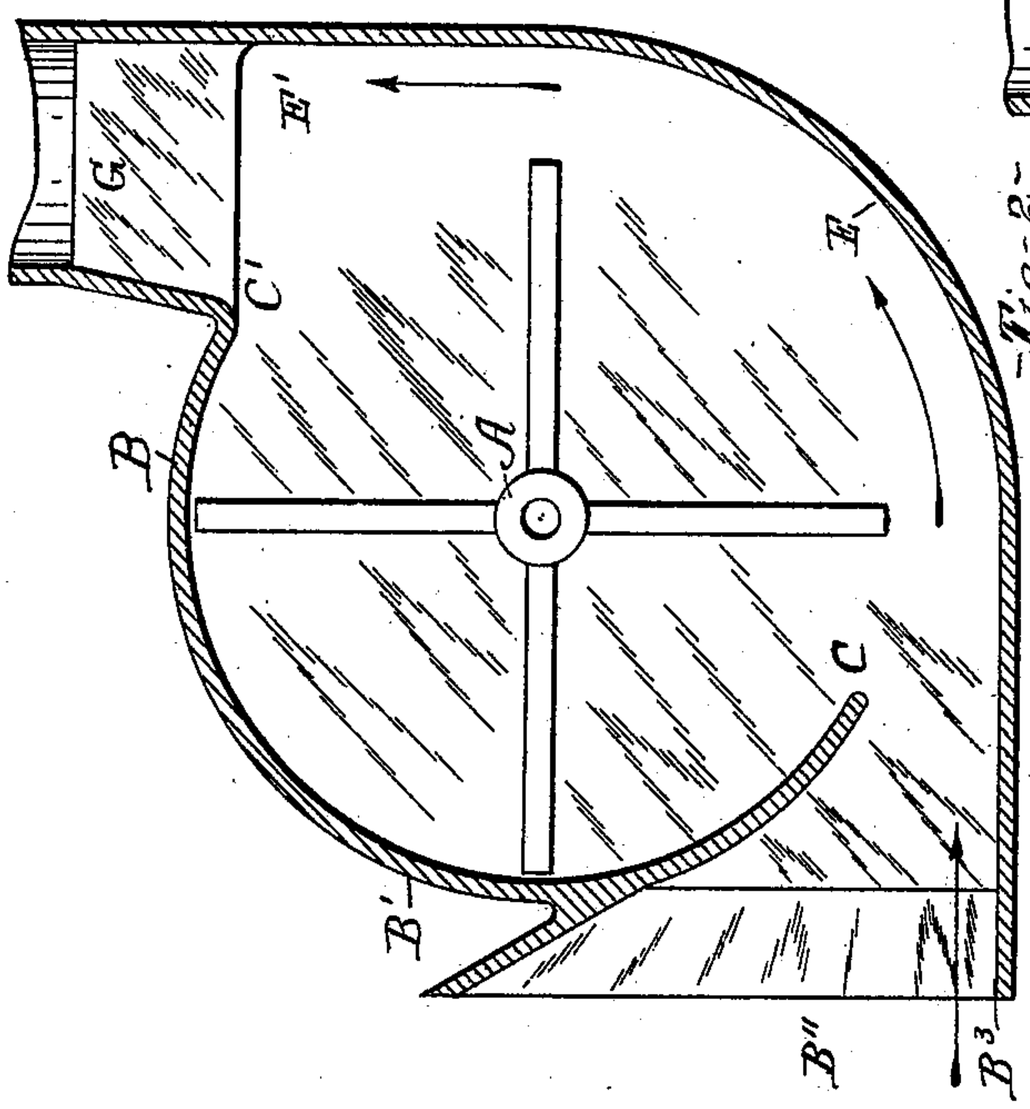
(No Model.)

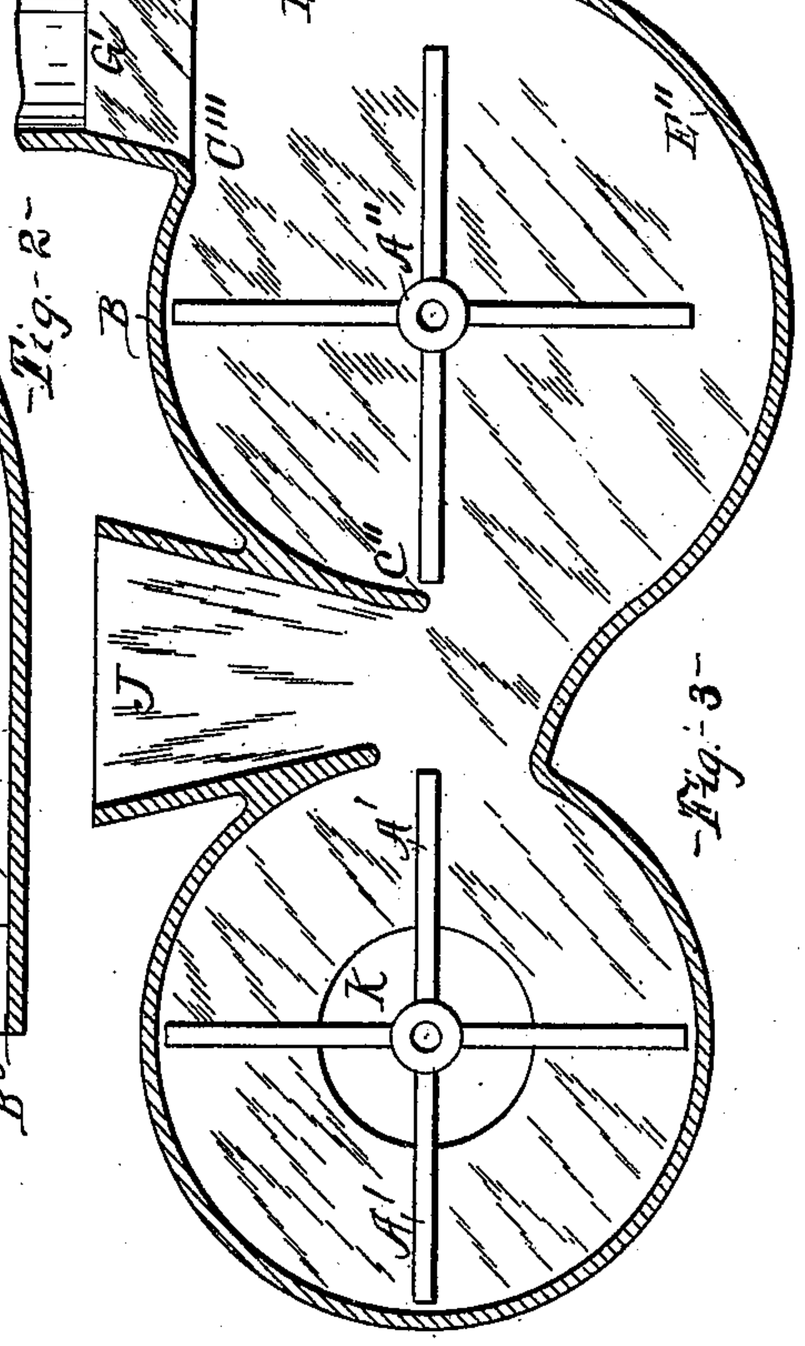
S. H. & D. GARST.

BLOWER FOR STRAW STACKERS.

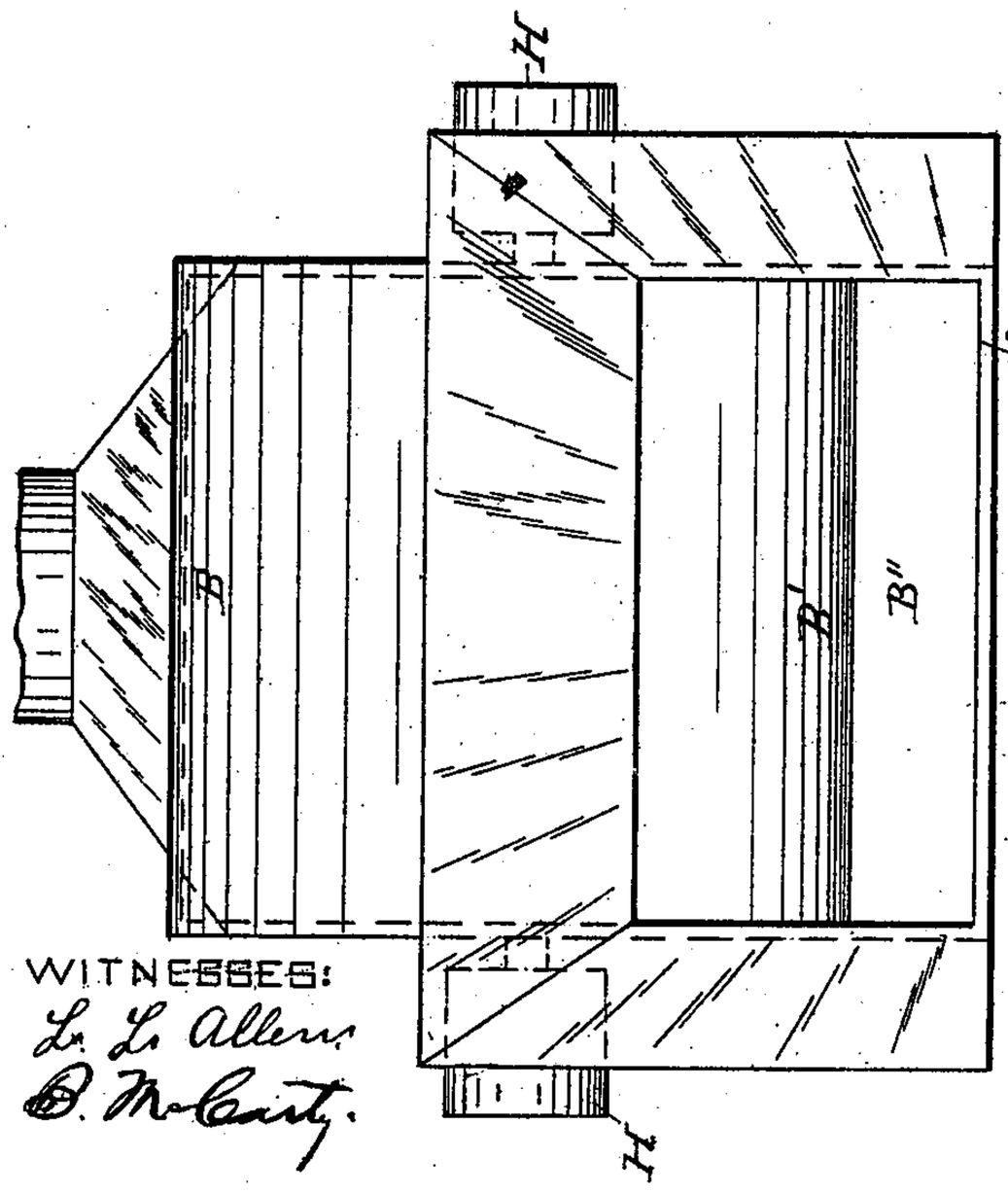
No. 598,885. Patented Feb. 8, 1898.



-Fig. 2-



-Fig. 3-



-Fig. 1-

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STEPHEN H. GARST AND DUDLEY GARST, OF GREENVILLE, OHIO.

BLOWER FOR STRAW-STACKERS.

SPECIFICATION forming part of Letters Patent No. 598,885, dated February 8, 1898.

Application filed February 18, 1897. Serial No. 624,044. (No model.)

To all whom it may concern:

Be it known that we, STEPHEN H. GARST and DUDLEY GARST, citizens of the United States, residing at Greenville, in the county of Darke and State of Ohio, have invented certain new and useful Improvements in Blowers for Pneumatic Straw Stackers or Conveyers; and we do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

Our invention relates to improvements in rotary fans or blowers for pneumatic straw-stackers.

The object of the invention is to provide a blower that will not mutilate or grind the straw in its action thereon in forcing said straw into the tube of the stacker.

To this end the invention consists of means for directing the current of air so that its action will force the straw around the outer ends of the fan-blades or upwardly against the lower and rearward interior sides of the casing, where a substantial space between the ends of the fan-blades and the inner side of the casing is provided for the passage of the straw.

In a detailed description of the invention reference is made to the accompanying drawings, of which—

Figure 1 is a front elevation of a blower made in accordance with our invention. Fig. 2 is a mid-sectional elevation of Fig. 1. Fig. 3 is a similar section of a modification.

The casing in which the fan A is mounted is so constructed that the fan-blades are entirely inclosed and the opening in the casing through which the straw is fed to the fan is essentially on a plane below the lower ends of the fan-blades as the latter are rotated. The top and front of the casing B and B′ inclose the fan, as is shown in Fig. 2. The feed and air opening consists of a flaring mouth B″, inclosed by a lower horizontal portion B^3, which directs the straw on a level until it is affected by the suction created by the rotation of the fan-blades, which is at C, where the circular portion of the fan-casing terminates. The suction created by the movement of the fan-blades draws the straw inwardly and forces it upwardly against the lower rounded side E and out through the upright portion E′, as is indicated by the direction of the arrows. It is important that the lower side B^3 of the feed-opening be on a level, as thereby the straw is drawn on a horizontal plane until it passes the center of the fan, from which point it curves and takes an upright direction and is thus forced away from the fan during its passage through the casing. The fan-blades are essentially inclosed by the casing at all points except the lower and rearward parts—to wit, from C to C′. The suction created will have a centrifugal effect on the straw to force it away from the fan, as stated above. Therefore said straw will not be cut up or ground into small pieces, but will be delivered to the stacker in its original state. The peripheral space through which the straw is forced is uniform throughout, and the upright part of the casing terminates in slanting sides that serve to direct the straw into the tubular part G, from whence it is forced into the tube of the straw-stacker. (Not shown.) The fan is suitably journaled in the sides of the casing and may be driven through pulleys H H by any suitable power. In the mounting of said fan the space between the extreme ends of the blades and the upper and front rounded portions of the case—to wit, from B to B′—need only be sufficient for the blades to move in. The lower and rearward space through which the straw is moved under suction and force should be sufficient to admit of the passage of a substantial body of straw. This is best regulated according to the size and capacity of the fan.

In the modification shown in Fig. 3 the casing is constructed to inclose an additional or auxiliary fan A′, which directs a current of air from one side upon the column of straw, while the primary fan A″ exerts a current of air from the opposite side. These fans occupy a horizontal position, and the feed-opening J is vertical. The auxiliary fan A′ may be used when it is necessary to apply greater force to direct the straw. The air is introduced to said auxiliary fan through a central opening K in a side of the case. In this modification of our invention the essential

feature is preserved—to wit, the peripheral space at the lower and rearward parts thereof, through which the straw is forced out and away from the blades. The fan A″ is the same as shown in Fig. 2, and the case has a similar space around its lower and rearward interior sides from C″ to C‴; also, the rear sides of the case is rounded and continues vertically, as indicated at E″ E″, terminating in the tubular part G′.

Having described our invention, we claim—

A blower for straw-stackers, comprising a rotary fan, a casing in which said fan is mounted, having its sides closed against the admission of air, a feed-opening B^{11} forming a common inlet through which air and straw enter the casing under suction, and unobstructed on a plane below the ends of the fan-blades, the rear of said casing being terminated in a rounded tubular portion through which the straw is forced unobstructed by blasts created by said fan after said straw is drawn inwardly by the suction created by said fan, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

STEPHEN H. GARST.
DUDLEY GARST.

Witnesses:
D. P. IRWIN,
ELIJAH DEUR.