

(No Model.)

J. B. SCHUMAN.
PNEUMATIC STRAW STACKER.

No. 594,124.

Patented Nov. 23, 1897.

Fig. 1.

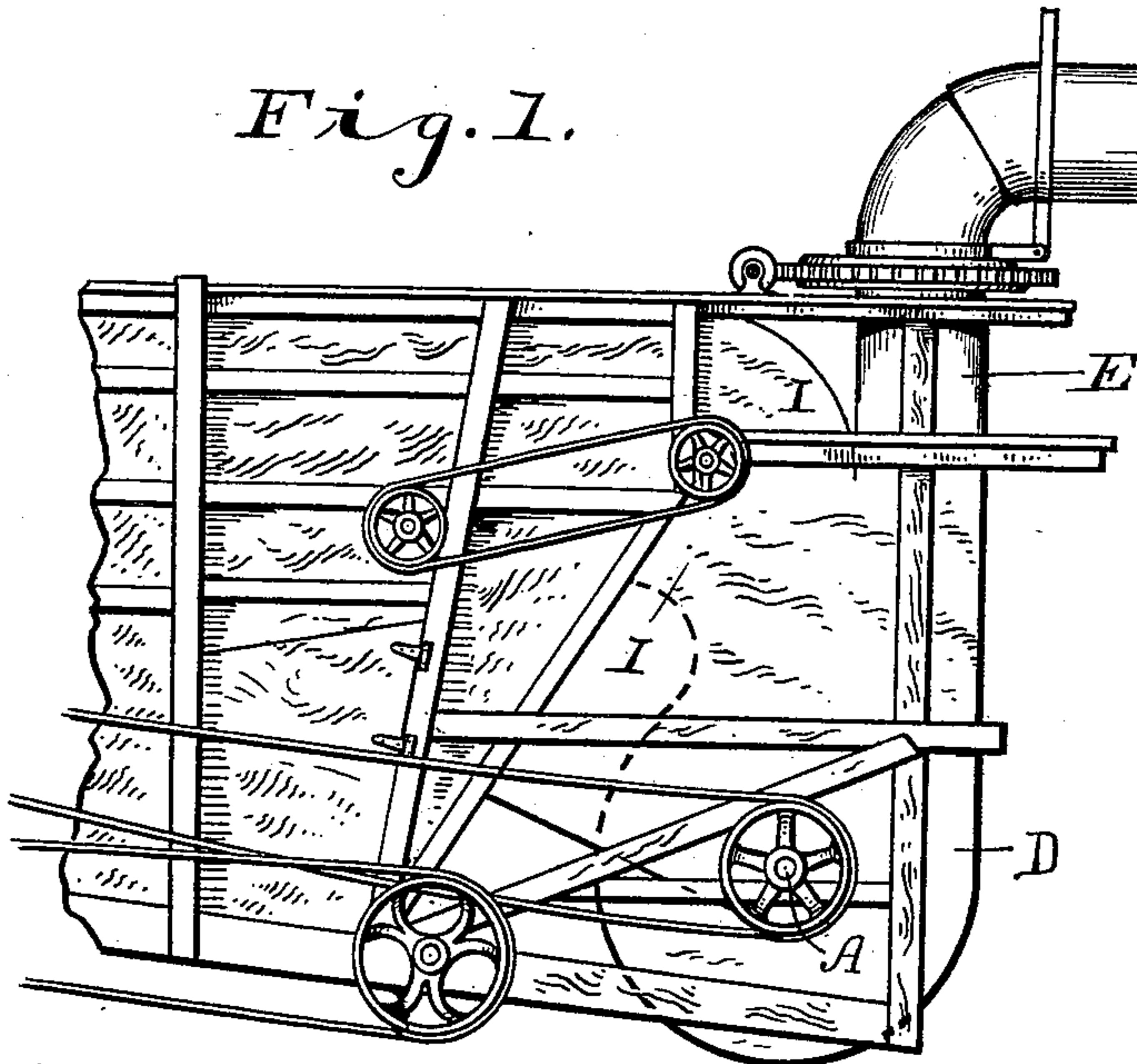


Fig. 4.

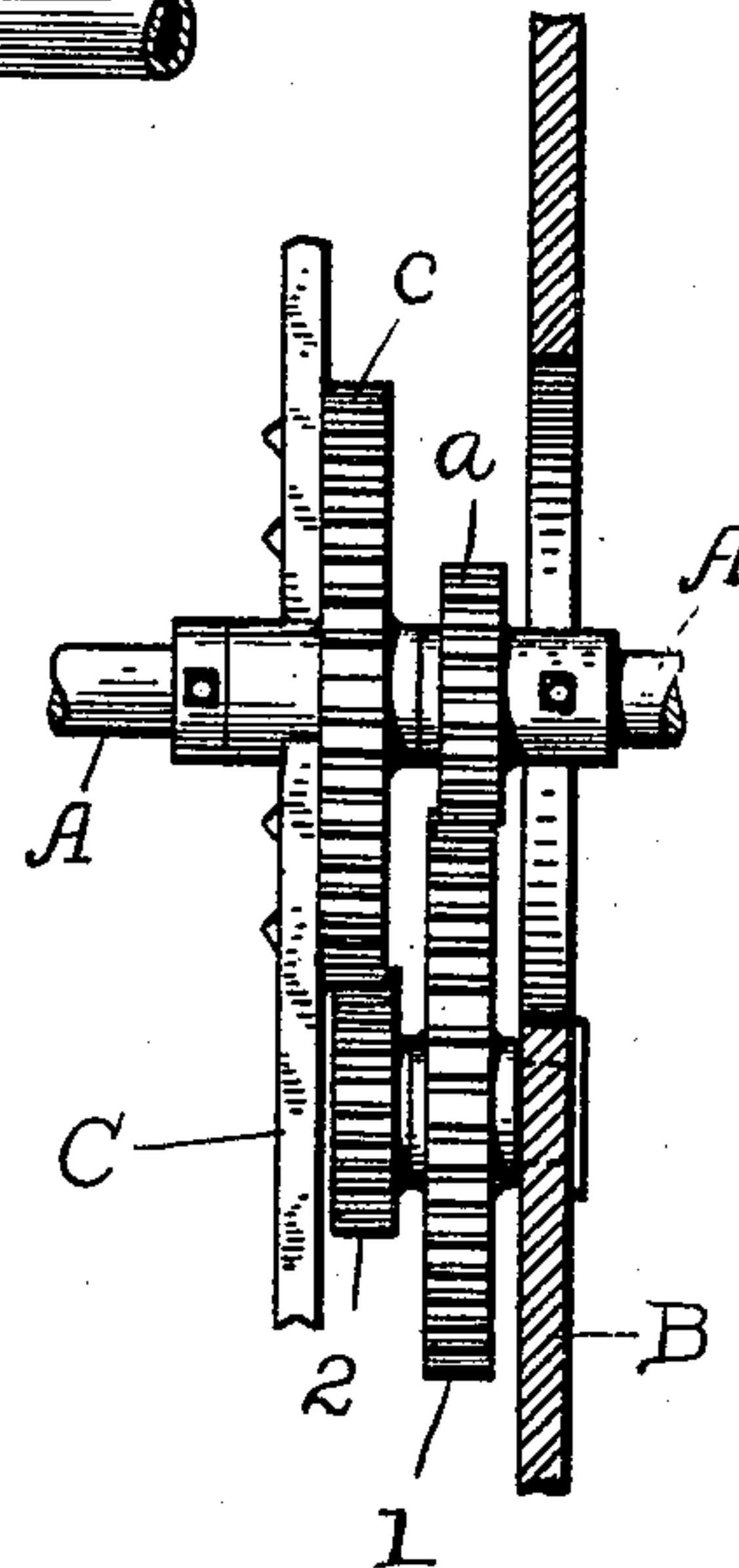


Fig. 2.

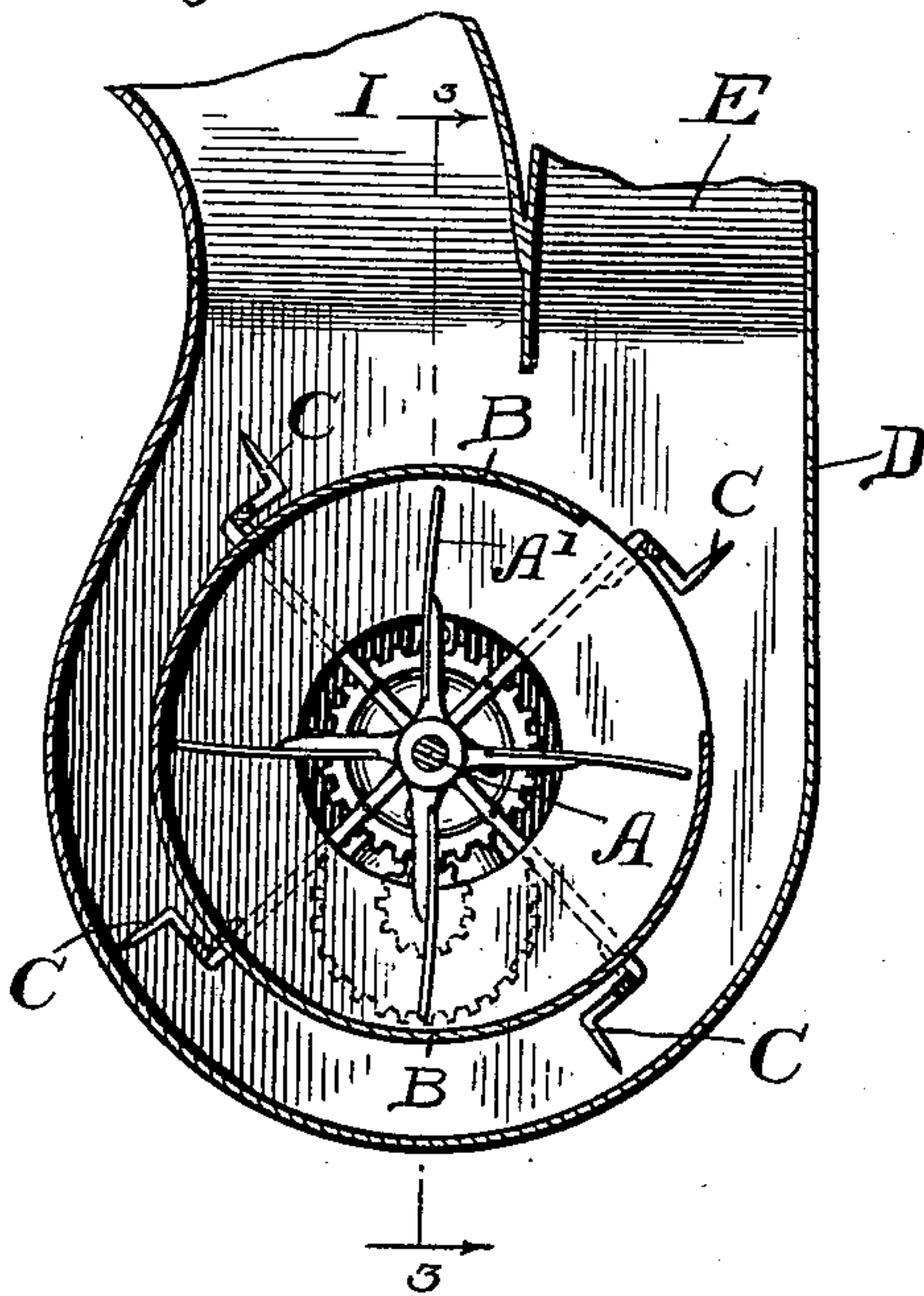
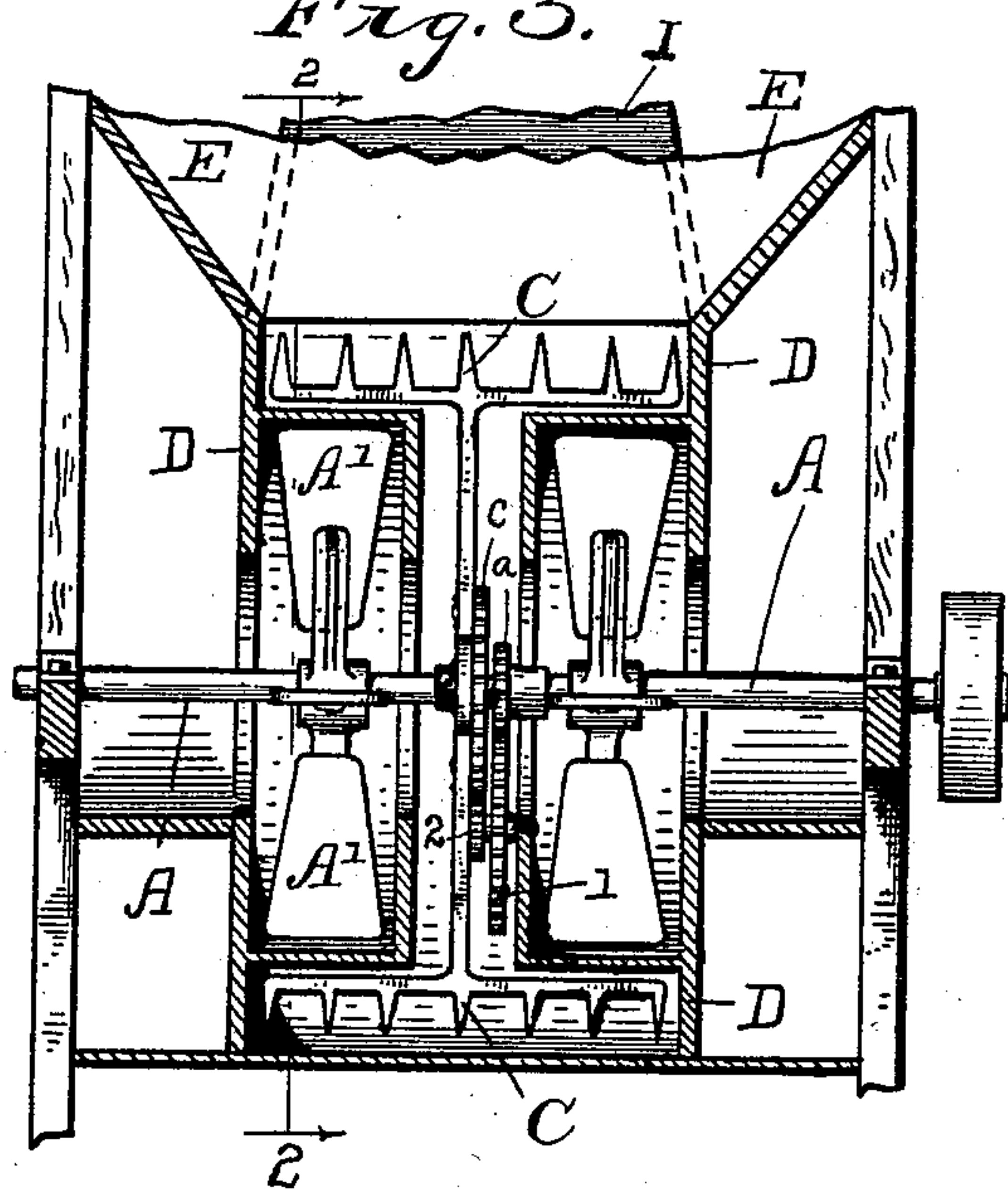


Fig. 3.



WITNESSES:

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PNEUMATIC STRAW-STACKER.

SPECIFICATION forming part of Letters Patent No. 594,124, dated November 23, 1897.

Application filed June 1, 1897. Serial No. 638,935. (No model.)

To all whom it may concern:

Be it known that I, JAMES B. SCHUMAN, a citizen of the United States, residing at Columbia, in the county of Whitley and State of Indiana, have invented certain new and useful Improvements in Pneumatic Straw-Stackers, of which the following is a specification.

The object of my said invention is to provide a means whereby straw may be regularly and efficiently thrown into the blast from the fan and evenly distributed without coming in contact with the blades of the fans themselves.

Referring to the accompanying drawings, which are made a part hereof and on which similar letters and figures of reference indicate similar parts, Figure 1 is a side elevation of the rear end of a threshing-machine or separator provided with a pneumatic straw-stacker embodying my present invention; Fig. 2, a central sectional view, as seen from the dotted line 2 2 in Fig. 3, through the fan, fan-casing, and immediately adjacent parts; Fig. 3, a sectional view on the dotted line 3 3 in Fig. 2; and Fig. 4, a detail view illustrating the gearing, which drives the forks, more plainly.

In said drawings the portions marked A represent a fan-shaft; B, the fan-casing; C, rotary forks mounted loosely upon the fan-shaft A, and D an outer casing inclosing the several parts above mentioned.

The fan-shaft A is an ordinary shaft and bears one or more fans A'. I prefer two, for reasons which will presently appear. It also bears a spur-pinion *a*, which, through a train of spur-gears and a counter-shaft, drives the rotary forks, as will be presently described.

The fan-casings B are of substantially a usual form and surround the fans A'. The egress-openings in the peripheries thereof are so positioned as to discharge into the egress trunk or chute which leads from the casing D to the regular trunk or chute of the stacker.

As above stated, there are preferably two fans, and there are likewise two of these fan-casings B surrounding said fans, as shown. The eyes of said fan-casings surround the shaft A, as is usual, and admit the supply of air to the fan-blades. The dust and chaff are

also largely drawn in through these eyes, especially the dust, which would otherwise fly from the machine in this vicinity.

The rotary forks C are in the form of a spider mounted loosely on the shaft A and extending out between the fan-casings B to the outside and having points which project beyond the periphery of said fan-casings, as best shown in Figs. 2 and 3. The fork structure is spider-like in form and is caused to revolve on said shaft and drive the straw around from the point where it is received into the blast of air issuing from the fan-casings. Said forks have the effect to evenly distribute the straw and throw it forcibly into said blast, whence it is carried by said blast out of the stacker in the usual way. The advantage of this apparatus lies in the fact that the straw is given a forcible impulse without coming in contact with the fan-blades, which are thus left free of all work except to create the blast of air, with the result that said blast is at all times sufficient and uniform, which is not the case where the straw passes into the fan, especially in varying quantities and under varying conditions.

The fan-blades, as usual, revolve at very high speed. It is not desirable that the forks shall revolve at so high a speed, because a comparatively slow speed is much better for the straw and quite as effective and takes less power. I therefore mount upon the shaft A the small spur-pinion *a*, which engages with the spur gear-wheel 1 on a stud-shaft on the casing B, and said gear-wheel has another small spur-pinion 2 rigidly secured thereto, which engages with the spur gear-wheel *c*, attached to the hub of the spider-like fork-structure C. By properly varying the sizes of these several spur gear-wheels and pinions it is manifest that any proportional speed desired may be secured.

The casing D surrounds the fans, fan-casings, and fork structure, as shown. The straw enters it through the ingress-passage I, passes thence around outside the fan-casings B, impelled by the forks C, and passes into the blast of air coming from the fans and out through the egress passage or pipe E, and thence through the regular straw-stacker

trunk or chute F to the straw stack or mow. As will be readily understood, this casing is so arranged that the straw enters the ingress-opening or tubular structure I directly from the straw-carrying floors of the separator.

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

1. The combination, in a pneumatic straw-stacker, of a fan, a fan-casing, a surrounding casing, and a rotary fork structure adapted to carry the straw between said fan-casing and said surrounding casing and throw the same into the air-blast.

2. The combination, in a pneumatic straw-stacker, of a fan, a fan-casing, a casing surrounding said fan-casing, and a rotary spider-like fork structure mounted upon the fan-shaft and revolving in the same direction as the fan-blades, the fork ends projecting beyond the periphery of the fan-casing.

3. The combination, in a pneumatic straw-stacker, of a fan, a fan-casing, a casing surrounding said fan-casing, a rotary fork structure mounted on the fan-shaft, a counter-shaft, and a series of spur gear-wheels driven from said fan-shaft and driving said fork structure, whereby a variable speed between

said fan-shaft and said fork structure may be obtained, substantially as set forth.

4. The combination, in a pneumatic straw-stacker, of a fan-shaft, two fans mounted thereon, a fan-housing for each fan with a space between them, a rotary fork structure mounted on said shaft at a point between said fan-housings, and a gearing whereby said fork structure is driven from said fan-shaft at a variable speed therewith, substantially as set forth.

5. The combination, in a pneumatic straw-stacker, of a fan-shaft, two fans mounted thereon, two fan-housings, one for each fan, with a space between them, and a spider-like rotary fork structure mounted on said shaft at a point between the two fan-housings, the fork ends whereof project beyond the peripheries of said housings, and an outer casing surrounding the whole, substantially as shown and described.

In witness whereof I have hereunto set my hand and seal, at Indianapolis, Indiana, this 27th day of May, A. D. 1897.

JAMES B. SCHUMAN. [L. S.]

Witnesses:

CHESTER BRADFORD,
JAMES A. WALSH.