(No Model.) 2 Sheets—Sheet 1.

J. W. NETHERY.

STRAW STACKER.

No. 493,734. Patented Mar. 21, 1893.

Fig. 1.

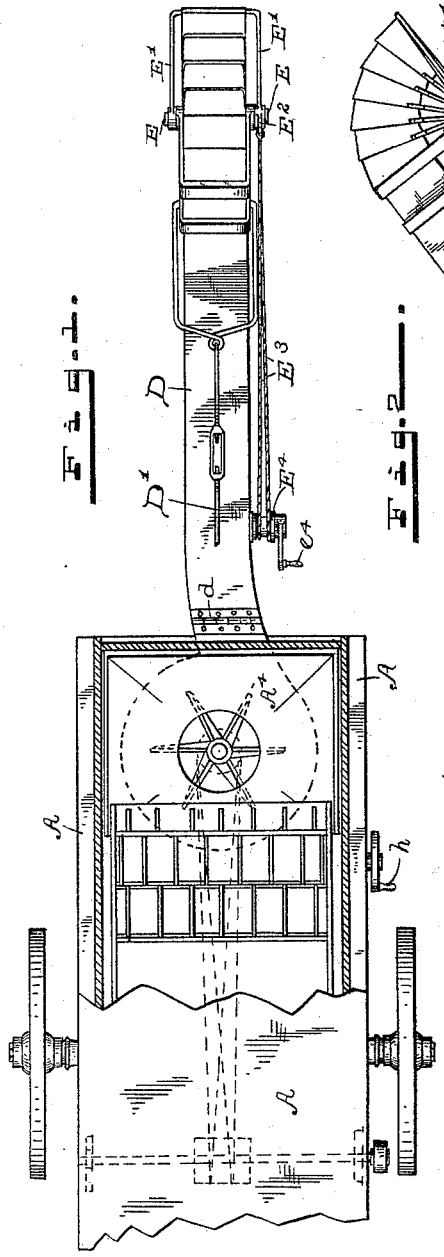
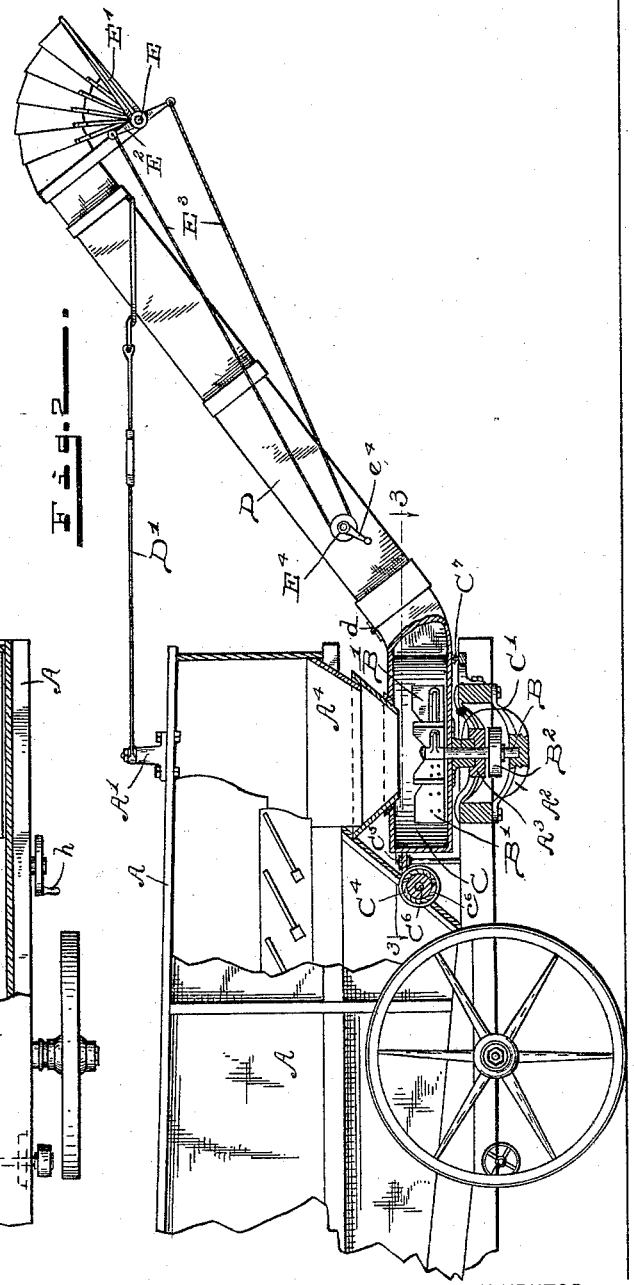


Fig. 2.



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(No Model.) 2 Sheets—Sheet 2.

J. W. NETHERY.

STRAW STACKER.

No. 493,734. Patented Mar. 21, 1893.

Fig. 3.

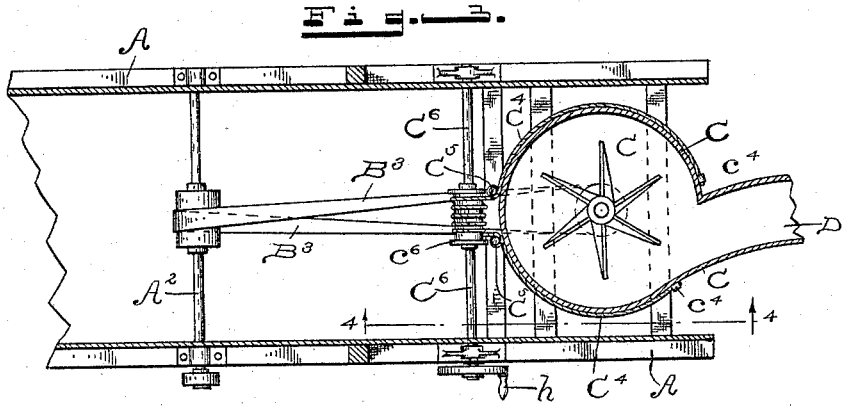


Fig. 4.

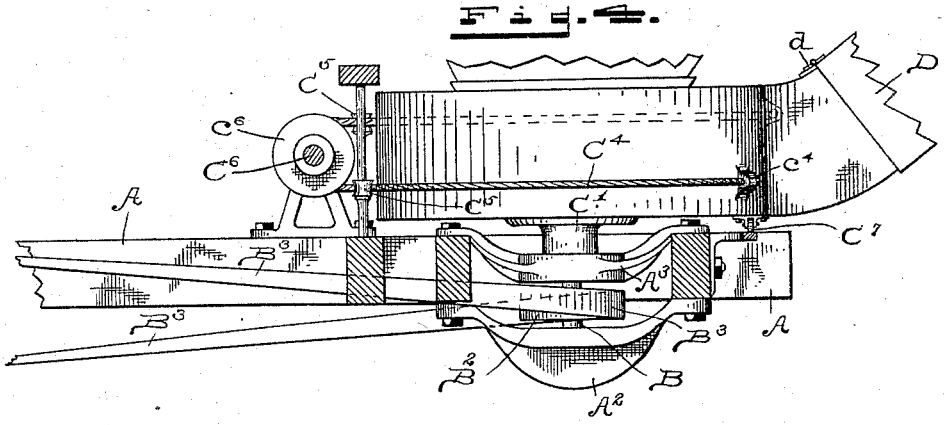
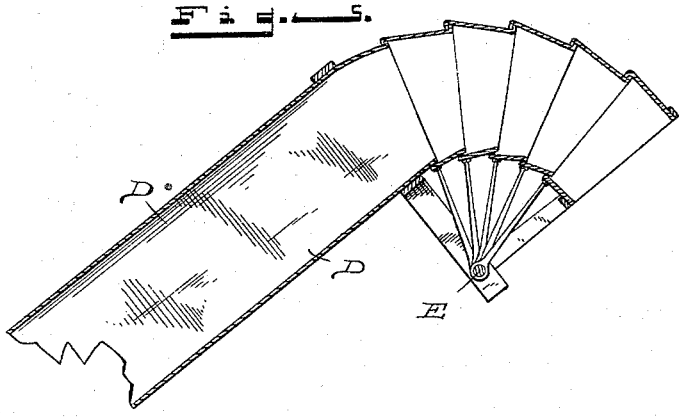


Fig. 5.



WITNESSES:

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INVENTOR

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UNITED STATES PATENT OFFICE.

JOSEPH W. NETHERY, OF INDIANAPOLIS, INDIANA, ASSIGNOR TO THE INDIANA MANUFACTURING COMPANY, OF SAME PLACE.

STRAW-STACKER.

SPECIFICATION forming part of Letters Patent No. 493,734, dated March 21, 1893.

Application filed December 17, 1892. Serial No. 455,469. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH W. NETHERY, 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 Straw Elevators and Stackers, of which the following is a specification.

My said invention relates to that class of machines known as "pneumatic straw elevators and stackers;" and it consists in certain features of construction and arrangement, whereby simplicity, inexpensiveness and efficiency are secured.

Said invention will be first fully described and then pointed out in the claims.

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 top or plan view, with the upper portion of the machine broken away to show the interior, of the rear end of a thrashing machine separator, having my improved straw elevator and stacker attached thereto; Fig. 2 a side elevation of the same with the side broken away and the fan casing shown in central vertical section; Fig. 3 a horizontal sectional view looking downwardly from the dotted line 3 3 in Fig. 2; Fig. 4 a detail sectional view, as seen from the dotted line 4 4 in Fig. 3; and Fig. 5 a central sectional view of the other end or mouth portion of the elevator and stacker.

In said drawings the portions marked A represent the casing and frame-work of an ordinary thrashing machine or separator; B the fan shaft; C the casing to the fan; D the trunk to the elevator and stacker, and E the rock-shaft by which the mouth to said trunk is operated.

The casing A is of an ordinary and well known construction and contains the usual straw and grain carrying floors and riddles. To it, or to an extension thereto, is also secured bearings for the fan shaft, and a stud or other structure A′ whereby the trunk D is supported, which stud should be directly above and axially in line with the fan shaft.

The fan shaft B is mounted in the bridge-tree A^2 on the frame-work and hub C′ on the fan casing, (which is in turn mounted in the bridge-tree A^3,) and bears the fan B′ on its upper end, and a pulley B^2 near its lower end, by which it and the fan thereon are driven. Said shaft not only forms the shaft for the fan, but also the pivot on which the structure of the straw elevator and stacker turns in swinging from side to side, as will be presently explained. It is driven by a belt B^3 running from a pulley on the shaft A^2, which may be one of the regular shafts of the separator.

The fan casing C is, as shown, of a suitable size and construction to hold the fan, and is, proportionately, rather larger than in ordinary fans, in order also to receive the straw from the machine, which is discharged into the eye thereof, which eye is on the upper side and below the hopper A^4, and is itself hopper-shaped, as shown. Said hopper A^4 extends entirely across the rear end of the separator, and is adapted to receive the straw and dust from the interior of the machine, and convey them through the eye to the interior of the fan, whence they are discharged by the blast of said fan through the trunk D of the stacker and separator. This casing is adapted to be swung from side to side on its pivot (which is also the shaft B) and thus position the point of discharge of the straw elevator and stacker wherever desired within the radius thereof by means of a rope C^4 secured at points c^4 thereon and extending around behind rollers C^5 and wound around a spool c^6 on the shaft C^6 on the outer end of which shaft is a handle or hand-wheel *h* by which the same may be turned, from the outside of the machine, as shown, and as will be readily understood. Mounted on suitable bearings on the fame A, I place a supporting roller or stud C^7 directly under the extreme rear edge of the fan casing which serves to support the same and prevent any twisting or binding on the shaft B.

The trunk D extends out from the fan casing C to the desired height. It is intended to be substantially rigid therewith, but, in order to permit the slight shaking movement which might occur in operation without imparting the same to the fan casing, I provide a hinge *d* where the two are united. The principal weight of this trunk is carried by the rod D′, which runs back and is secured by a pivot connection to the standard A′, as shown.

Said standard being axially in line with the shaft B, said trunk can swing throughout its radius without any twisting of the parts.

Upon the shaft E, I secure an arm E′, which extends out and is rigidly secured to the outer edge of one of the sections which go to make up the mouth or hood at the end of the trunk. The remainder of said sections are carried by smaller arms extending out from the same shaft, as shown. A cross bar E^2 is secured on said shaft extending out each way therefrom, and to the ends of this arm are secured the ends of a rope E^3 which extends back and is wound around a spool E^4 secured to the side of the trunk D near the bottom, and which spool is provided with a handle or hand-wheel e^4 by which it may be turned. As will be readily understood, by turning this handle, the shaft E is rocked and the sections of the mouth or hood are closed up or extended as may be desired, one closing in over the other as fast as the arm E′ reaches it in its movement.

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 elevator and stacker, of a fan horizontally mounted under or within the rear end of the separator, with its open eye upward, and adapted to receive the straw and dust through said eye, and with a trunk projecting out from the rear side thereof, substantially as shown and described.

2. The combination, with a thrashing machine, of a pneumatic straw elevator and stacker, the fan whereof is located horizontally below or within the rear end of said thrashing machine, and having its open eye at the upper side, and a hopper or hopper-like construction within the thrashing machine whereby the straw and dust are conveyed into said eye.

3. The combination, with a thrashing machine, of a pneumatic straw elevator and stacker having the fan located horizontally on a vertical shaft, and a trunk extending out from the fan casing, said fan shaft forming also the pivot upon which the structure is swung from side to side.

4. The combination, in a pneumatic straw elevator and stacker, of the fan mounted on a vertical shaft, the fan casing, the trunk extending out from said fan casing, and a stay rod running from said trunk back to a point directly above said fan, where it is secured, substantially as set forth.

5. The combination, in a pneumatic straw elevator and stacker, of a horizontal fan, a movable fan casing mounted and pivoted upon the fan shaft, a trunk extending out from said casing, a spool shaft and spools thereon located to one side of said fan casing, a rope passing around said spool and secured to the two sides of said fan casing, guides for said rope, and means whereby said spool shaft and spool may be revolved, thereby swinging the fan casing and trunk from side to side, substantially as shown and described.

6. The combination, in a pneumatic straw elevator and stacker, of a trunk thereon, a mouth or hood thereto made of sections mounted on arms, a shaft on which said arms are loosely mounted, a main arm fixedly mounted on said shaft and extending out and secured to the outer one of said sections, and means whereby said shaft may be rocked and the sections thereby opened or closed relatively to each other, thus varying the length and direction of said mouth or hood.

7. The combination, in a pneumatic straw elevator and stacker, with the mouth or hood to the trunk, of a rock-shaft, arms on said rock-shaft, ropes running back from said arms to a spool and wound around said spool, and a handle or hand-wheel whereby said spool may be turned and the shaft thus rocked thereby opening or closing the mouth of the hood, substantially as set forth.

In witness whereof I have hereunto set my hand and seal, at Indianapolis, Indiana, this 7th day of December, A. D. 1892.

JOSEPH W. NETHERY. [L. S.]

Witnesses:

CHESTER BRADFORD,

JAMES A. WALSH.