

No. 652,452.

Patented June 26, 1900.

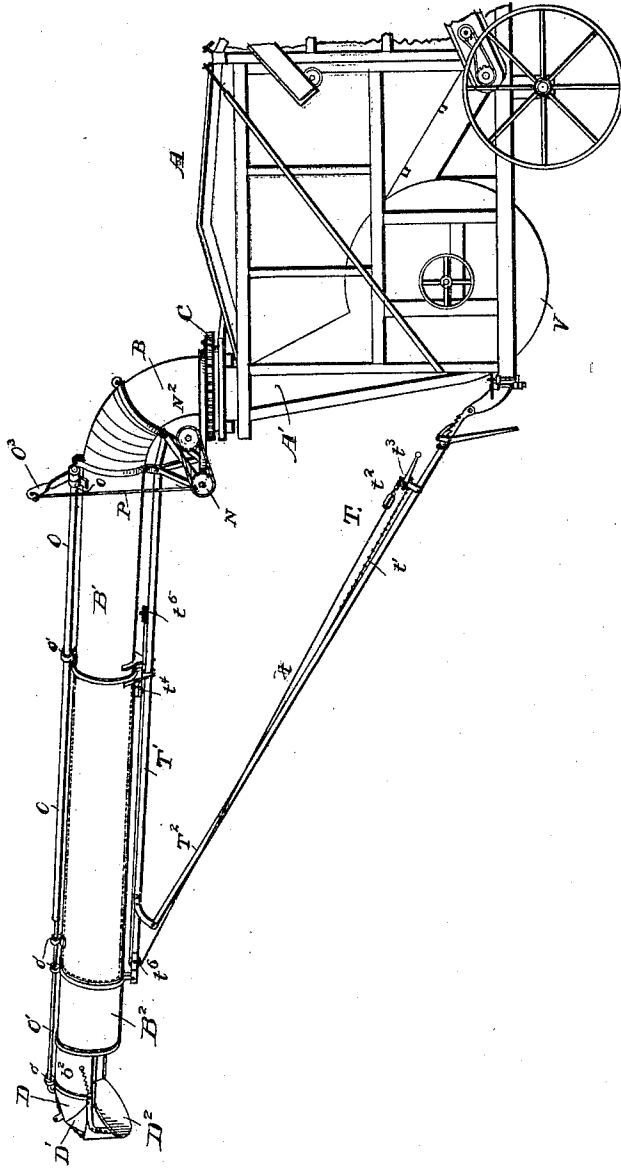
**J. B. BARTHOLOMEW.
PNEUMATIC STACKER.**

(Application filed Nov. 10, 1898.)

(No Model.)

2 Sheets—Sheet 2.

Fig. 3.



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UNITED STATES PATENT OFFICE.

JOHN B. BARTHOLOMEW, OF PEORIA, ILLINOIS.

PNEUMATIC STACKER.

SPECIFICATION forming part of Letters Patent No. 652,452, dated June 26, 1900.

Application filed November 19, 1898. Serial No. 696,875. (No model.)

To all whom it may concern:

Be it known that I, JOHN B. BARTHOLOMEW, a citizen of the United States, residing at Peoria, in the county of Peoria and State of Illinois, have invented certain new and useful Improvements in Pneumatic Stackers; and I 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.

Figure 1 is a side elevation of a pneumatic stacking mechanism embodying my improvements. Fig. 2 is a top plan view of the same. Fig. 3 is a perspective of the stacker and the rear end of the thresher. Figs. 4, 5, 6, and 7 show details.

In the drawings, A designates the rear end of a threshing-machine, which may be of several styles.

A' designates a vertical tube or duct by which straw and chaff from the interior of the thresher are conducted upwardly to the discharge trunk or duct. The latter consists, in the embodiment of my invention herein illustrated, of an inner curved section B, a second section B', telescopically connected to the section B, and an outer section B², telescopically mounted upon the second section B' and provided at its outer end with a deflecting hood or shield for guiding the straw escaping from the outlet at the end of said section B². As the present improvements relate more particularly to mechanism for automatically adjusting this hood or straw-deflector with relation to the body of the trunk, I do not believe it necessary to either illustrate or describe in detail the construction or manner of mounting and supporting the trunk. It is sufficient to say that C indicates a peripherally-toothed ring or base upon which the stacker-tube is mounted, and c designates a pinion for rotating said ring and tube about a vertical axis. Suitable mechanism (not shown) is provided for automatically reversing the direction of revolution of the pinion c at predetermined intervals, so that the stacker-tube will be vibrated through the arc of the circle concentric with the axis

of the ring C, and at T, I have indicated one form of mechanism for elongating the discharge-trunk to correspond to the increase in the height of the stack.

With machines heretofore devised for utilizing a blast of air for stacking straw means have been provided for depositing the straw at various points in a line extending transversely of the stack, (being the line of movement of the outer end of the discharge trunk or tube;) but the result has been that the straw was deposited in a relatively-narrow ridge-like form, and it was necessary to manually distribute the straw to points beyond such ridge to provide a proper stack.

The object of the present invention is to provide means by which the straw will be automatically discharged uniformly over the entire top of the stack.

As shown in the drawings, the hood or deflector at the outer end of the stacker-trunk consists of three telescoping sections D D' D². The inner of these sections D is rigidly secured to the tube-section B², while the other two sections D' D² are pivotally connected together and to said inner section at *d*. Short sections of chain or cable *d'* are provided for limiting the outward or downward movement of the sections D' D² relatively to each other and to the section D. When the lower or outer section D² of the deflector is in the position indicated in full lines—in Fig. 1, for example—it will be seen that such section acts to limit the outward motion of the straw and to cause the same to be deposited at points between the inner end of the cut-away portion *b*² of the outer tube-section and said deflector-section, and it will also be seen that if the said outer deflecting-section D² should be rocked about its pivot *d* at any instant the straw would be carried to points relatively farther from the body of the stacker-tube. To effect this automatic vertical movement of the deflector, I provide the following devices: O designates a cylindrical or tubular rock-shaft mounted in bearings *o o* on the second duct-section B', and O' designates a rock-shaft which is mounted in bearings *o' o'* on the outer section B², the inner end of this shaft O' fitting within the shaft O, so as to move longitudinally thereof, but connected thereto to vibrate about its longitudinal axis

therewith. At its outer end the shaft O' is provided with a crank-arm o^2 , to the free end of which is connected a short chain-section o^3 , the lower end of which may be engaged with either of a series of apertures d^6 , formed in a bar d^7 , secured to the deflector-section D². To the rock-shaft O, near the inner end thereof, is connected a crank-arm O³, the free end of which is connected to one end of a link P, the other end of which is connected to the sprocket N. The sprocket N is mounted on a shaft N⁴, journaled in the supporting-frame of the stacker-duct, and is connected by a sprocket-chain N' with another sprocket-wheel N². The latter is mounted upon a horizontal shaft n , which carries a bevel-pinion n^1 , that meshes with a bevel-gear n^2 , secured to a vertical shaft n^3 . This shaft n^3 is provided at its lower end with a pinion n^4 , which meshes with the piece of a segmental rack N³, rigidly and stationarily secured in position upon the framework on the thresher A and situated concentrically with the ring or base C, by which the stacker-trunk is horizontally vibrated. It will be seen that as the sprocket N is rotated in the manner hereinbefore described the link P and crank O³ will cause the compound rock-shaft O O' to vibrate about its longitudinal axis, and the upward movement of the crank O² at the outer end of said shaft will act to raise the deflector-section D². As the revolution of the sprocket N brings the parts P O³ O into their original positions the weight of the section D will cause it to move downwardly about its pivot at d .

Any suitable power devices may be provided for driving the pinion c , such as a train of gearing of any well-known or preferred character connecting said pinion with a band wheel or shaft mounted on the thresher.

At V is indicated the casing of the fan or ejector, by which the straw-moving blast of air is created, said casing communicating with the uptake duct A'.

From the above description and the drawings it will be seen that as the stacker tube or trunk is rotated about the vertical axis of the cylindrical base C the deflector at the outer end of such duct will be automatically vibrated about its pivot, and the straw escaping from the section B² will be guided to points relatively nearer or farther from the outer end of the duct on a line transverse to that of the horizontal movement of such end, so that the straw will be uniformly distributed over the entire top of the stack.

The means for elongating and shortening the deflector-duct indicated by T, as above stated, consist of a rope or cord p , a chain t^1 , a sprocket-wheel t^2 with a crank t^3 , the cord t

being fastened at t^4 to the sliding section B² and passing around the wheels t^5 and t^6 , the said wheels being supported on the duct-carrying bar T', which is held by the adjusting and extensible brace T².

I do not herein claim any of the subjects-matter presented by the claims, respectively, in either of my other applications, to wit: Serial No. 696,825, originally filed May 28, 1895, renewed August 6, 1897; Serial No. 696,826, originally filed February 1, 1896, renewed November 18, 1898, or Serial No. 696,827, originally filed December 30, 1897, renewed November 18, 1898, wherein, respectively, there are shown constructions embodying some of the features of that herein presented, preferring to present claims in this case particularly incident to the construction herein shown and to present in said other applications, respectively, claims related properly to each other and to those herein for any features of invention common to the present mechanism and others.

What I claim is—

1. In a straw-stacker the combination with the straw-ejector, the straw-duct and the deflector movably mounted across the path of the straw of a deflector-moving mechanism, means for automatically actuating the deflector-moving mechanism, and a rigid rod interposed between the deflector and the deflector-moving mechanism for transmitting motion from the latter to the deflector, substantially as set forth.

2. In a stacker the combination with the straw-ejector, the straw-duct, and the deflector movably mounted across the path of the straw, of the deflector-moving mechanism mounted at the inner end of the straw-duct, and the reciprocating rod interposed between the deflector and the deflector-moving mechanism, substantially as set forth.

3. In a straw-stacker the combination of the straw-ejector, the straw-duct, and the deflector movably supported across the path of the straw, the deflector-moving mechanism, the means for automatically actuating the deflector-moving mechanism, and an extensible rod interposed between the deflector and the deflector-moving mechanism for transmitting motion to the deflector from the latter, whereby the deflector may be actuated in each of several positions, substantially as set forth.

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

JOHN B. BARTHOLOMEW.

Witnesses:

C. R. HOLZMAN,
O. T. BLOCK.