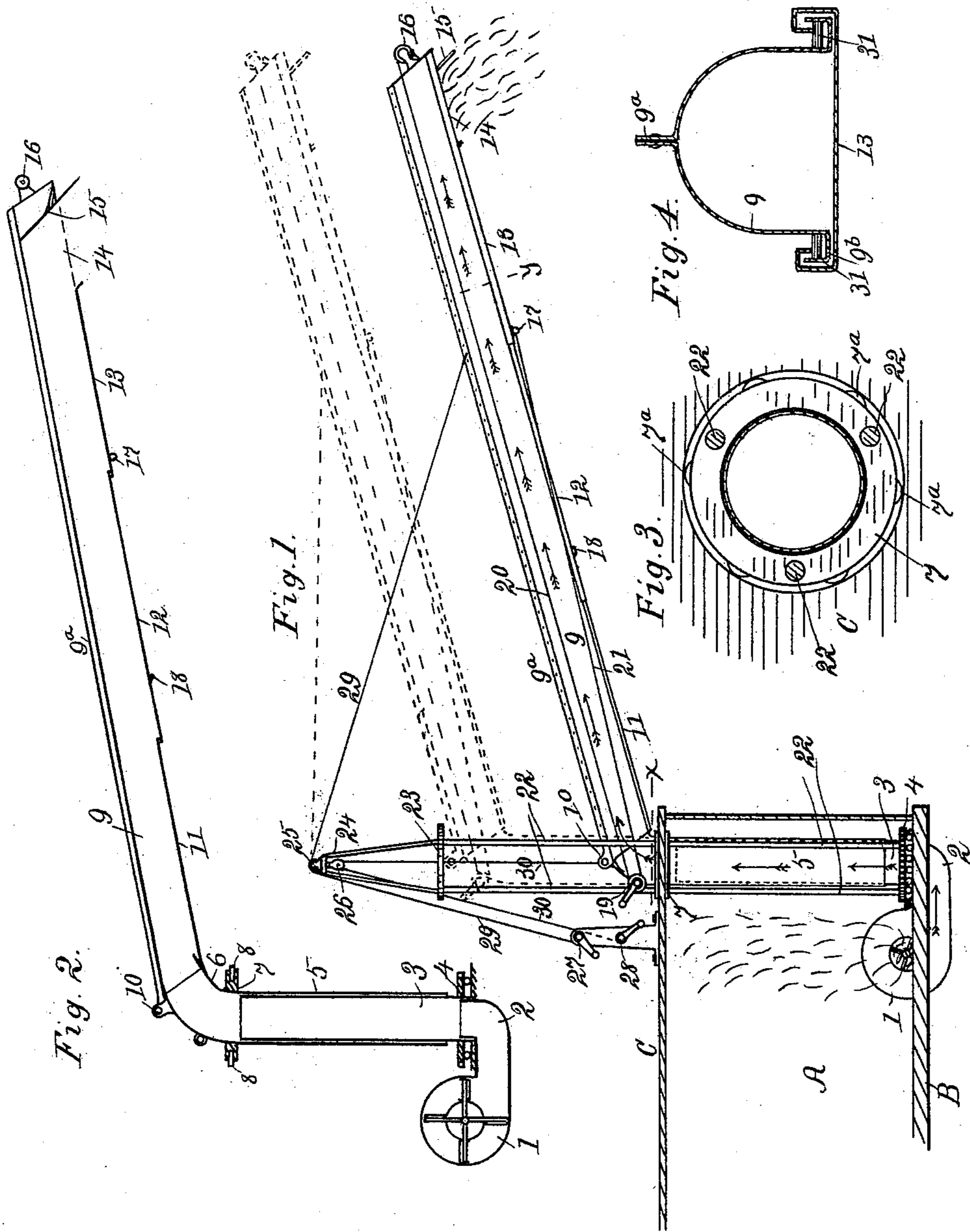


(No Model.)

W. A. HINKLE.
STRAW STACKER.

No. 536,951.

Patented Apr. 2, 1895.



Attest,
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UNITED STATES PATENT OFFICE.

WILLIAM A. HINKLE, OF FORSYTH, ILLINOIS.

STRAW-STACKER.

SPECIFICATION forming part of Letters Patent No. 536,951, dated April 2, 1895.

Application filed July 23, 1894. Serial No. 518,299. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. HINKLE, of Forsyth, in the county of Macon and State of Illinois, have invented certain new and useful Improvements in Straw-Stackers, of which the following is a specification.

This invention is designed to provide means for building a straw stack with a wind blast. It is exemplified in the structure hereinafter described, and it is defined in the appended claims.

In machines of this class it is desirable to vary the distance of the discharge of the stacker tube from the thrasher in order that the straw may be deposited at different distances from the thrasher, and be held under control until it is deposited. Attempts have heretofore been made to accomplish this result by constructing the tube of telescoping sections, but this plan is subject to two serious objections: First, the tube so constructed is so limber as to require a special frame, or track, to stiffen and support it; and, second, the weight of the overlapping tube sections and the supporting frame is so great as to require specially strong and comparatively expensive supports, and to interfere with free manipulation of the stacker. These objections I overcome in the present invention by making the body of the tube of a stiff, continuous piece, and by making the side provided with the discharge opening slidable lengthwise of the body. This makes a track, or supporting frame, entirely needless, lightens the tube materially, and facilitates the shifting of the discharge opening by providing for the shifting of one side instead of the entire body of the tube.

Another feature essential to straw stackers is the elevating of the discharge end of the stacker as the stack rises, and I find it advantageous to provide for raising the entire tube in order that the stack may be built up symmetrically close to the thrasher. This result I accomplish by means of the contrivance hereinafter particularly specified.

In the drawings forming part of this specification, Figure 1 is a side elevation of stacking mechanism constructed in accordance with my invention. Fig. 2 is a vertical, solid

line, section through the fan and the conveyer tubes. Fig. 3 is a horizontal section on line X in Fig. 1. Fig. 4 is a vertical section on line Y in Fig. 1.

The rear end of a thrasher frame is indicated generally at A in Fig. 1, and B and C represent the bottom and top, respectively, of the thrasher. The fan 1 is placed in the lower part of the rear end of the thrasher, in position to receive the straw, and its discharge neck 2 terminates upwardly. A turn-table 4 is supported on the bottom of the thrasher frame, around the discharge of the fan, and ball bearings are preferably used to facilitate turning the table. A frame composed of vertical rods 22 extends upward from the turn-table, on which it is mounted, and, passing through the top of the thrasher, terminates in head piece 23. Above the head piece, which is of annular conformation, extends the frame 24, and pulleys 25 and 26 are secured to the top of the last named frame.

The bearing ring 7, seen in plan in Fig. 3, is secured to the rods 22 in line with the top of the thrasher, and such ring is preferably supplied with rollers 7^a, which bear against the perimeter of the circular aperture in the thrasher top, and stay the frame against tilting without interfering with its rotation on the vertical axis. The vertical tube section 3 fits over the discharge opening of the fan and extends upward therefrom to, or nearly to, the top of the thrasher. The vertical tube section 5 extends downward from above the thrasher and encircles section 3. It is curved at its upper end, as indicated at 6, and it connects pivotally with the stacker tube 9 at 10. The stacker tube is peculiar in that its bottom side, or the part thereof in which the discharge opening is formed, is slidable lengthwise of the tube, in order that the straw may be discharged at different distances from the thrasher. It is preferably made somewhat as shown in Fig. 4, where the body is represented as made in two parts each having a vertical, longitudinal flange which, when the parts are joined together through the flanges, form the vertical stiffening rib, or back bone 9^a.

The edges of the body of the stacker tube are flanged outward and then upward, and in

the troughs 9^b thus formed rollers 31 are placed. The movable section, or sections, of the bottom are flanged upward, inward and downward to conform to the flanges of the body parts, and their edges rest on rollers 31. If more than one sliding bottom section is used the lower one will be flanged to occupy the space left, in Fig. 4, between the flanges of the bottom section 13 and the flanges of the body; so that the two sections may slide one past the other. In this particular case sections 12 and 13 are both slidable, while section 11 is permanent, or stationary.

The discharge opening 14 is formed in section 13, and the end closure 15 is secured to, or formed on the same section. Section 12 is adapted to slide under section 11, and section 13 to slide under section 12. The sections are reversely flanged at conjoining ends, as indicated in Fig. 2, so that one may not move entirely past another, and stop 18 compels section 12 to slide backward with section 13 whenever the inner end of 13 engages the stop.

A windlass 19 may be placed at about the position indicated, and be supplied with ropes 20 and 21, one of which runs around pulley 16, at the end of tube 9, and connects with the outer end of section 13, while the other runs directly to the inner end of the same section. In order to make the pull on section 13 equal on both sides thereof, or in line with its axis, and thereby avoid cramping, the hitch of line 20 may be in the center of the section, and the pulley 16 in the same line, while two lines 21 may be employed, one on each side of the tube, and their conjoint hitch may be in the center of the section, or they may hitch separately at equal distances from the center. Windlass 27 has a rope 29 which runs over pulley 25 and connects with the stacker tube. Windlass 28 has a rope 30 which runs through block 26 and connects with the upper end of vertical section 5. The turn-table may be rotated by means of the gearing usually employed for that purpose, or the vertical frame may be otherwise turned in any desirable manner.

In operating the device the straw is taken into the fan and carried through the vertical tubes and the stacker tube as indicated by arrows in Fig. 1. The stacker is swung from side to side on the vertical pivot in the customary manner, and with any desired means, and its outer end may be raised and lowered, with pivot 10 for a center, by means of windlass 27 and rope 29. In addition to these motions, the discharge opening of the tube may be moved to and from the stacker, by means of ropes 20 and 21, and, as the stack rises and requires special dressing at its inner end, the vertical section 5 may be elevated by windlass 28 and rope 30, thereby carrying the stacker tube into the position shown by dotted lines in Fig. 1. Tube 9 is very light and stiff, and its slidable bottom sections are easily shifted. The extensible vertical por-

tion of the conveyer enables the stacker to shape the stack properly in close proximity to the thrasher, and the lightness of the swinging tube is of great help in permitting the vertical adjustment.

In order to show an operative device I have illustrated specific means for raising and lowering the extensible vertical portion of the conveyer, and for sliding the side of the tube, but I do not confine myself to that or any other specific mechanism for that purpose. The vertical portion must be extensible to meet one feature of my invention, and the discharge opening of the swinging tube must be slidable to meet another feature of my invention, but how the one part is extended or the other slid is a matter of indifference so far as this invention is concerned.

The slidable side is shown and described as the bottom, or under side of the tube, but it is obvious that the principle is the same whichever side is made slidable.

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

1. A pneumatic stacker tube having one of its sides slidable lengthwise with relation to the other sides, such slidable side being provided with a discharge opening.

2. A pneumatic stacker tube having one of its sides slidable lengthwise with relation to the other sides, such slidable side being provided with a discharge opening and an end closure.

3. A pneumatic stacker tube comprising a body arched in cross section, and a flat side forming a chord with the arch of the body, such flat side being slidable lengthwise of the body and provided with a discharge opening and an end closure.

4. A pneumatic stacker tube comprising a body composed of two parts flanged vertically and secured together through the flanges, and a bottom slidable in the body and provided with a discharge opening.

5. A pneumatic stacker tube comprising a body arched in cross section and flanged at its sides, and a bottom provided with a discharge opening and flanged at its sides to obtain slidable bearings on the flanges of the body.

6. A pneumatic stacker comprising a fan, a vertical extensible tube connected with the fan, and a swinging tube connected with the upper end of the vertical extensible tube, substantially as set forth.

7. A pneumatic stacker comprising a fan in the lower part of the rear end of a thrasher, a turn-table in the bottom of the thrasher around the discharge of the fan, a frame rising from the turn-table, extending above the top of the thrasher and having lateral bearing therein, a vertical tube portion over the discharge opening of the fan and inside the vertical frame, such vertical tube portion being longitudinally extensible, and a swinging

tube hinged to the upper end of the extensible tube, substantially as set forth.

5 8. A pneumatic stacker comprising a fan in the lower part of the rear end of a thrasher, a turn-table in the bottom of the thrasher and around the discharge of the fan, a tube rising from the turn-table, extending above the top of the thrasher and having lateral bearing therein, and a swinging tube connected piv-

otally with the upper end of the vertical tube, substantially as set forth.

In testimony whereof I sign my name in the presence of two subscribing witnesses.

WILLIAM A. HINKLE.

Attest:

D. P. KELLER,
E. S. McDONALD.