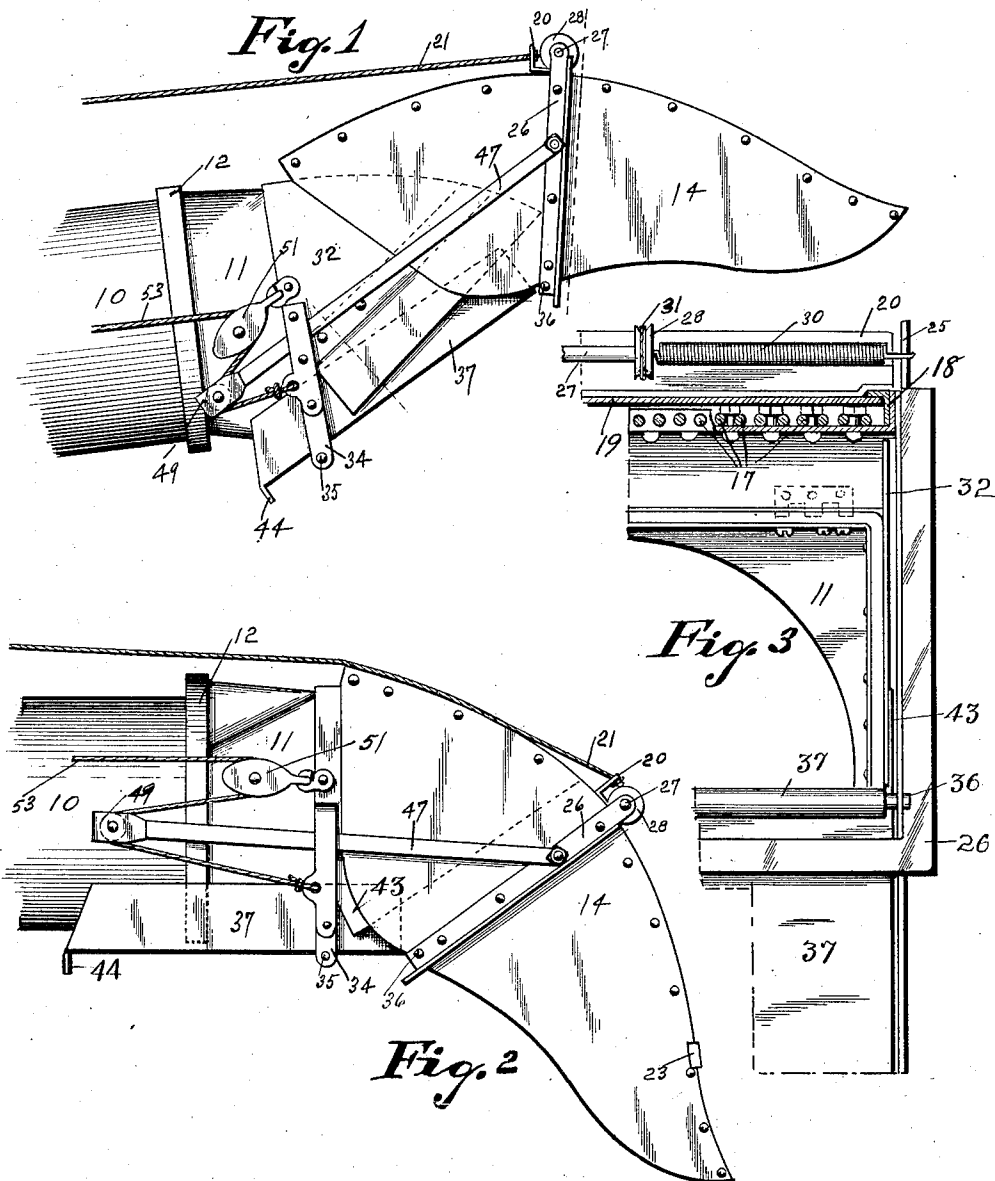


G. B. NELSON.
 HOOD FOR PNEUMATIC STACKERS.
 APPLICATION FILED NOV. 14, 1907.

1,016,431.

Patented Feb. 6, 1912.

3 SHEETS—SHEET 1.



Witnesses.
 A. G. Heaghe.
 P. C. Dahlberg.

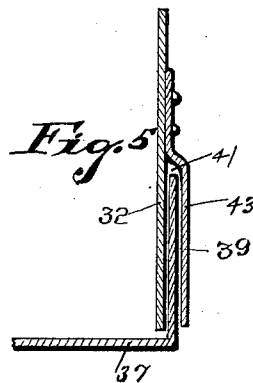
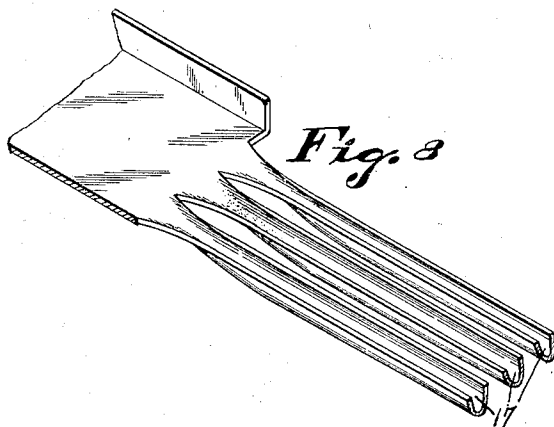
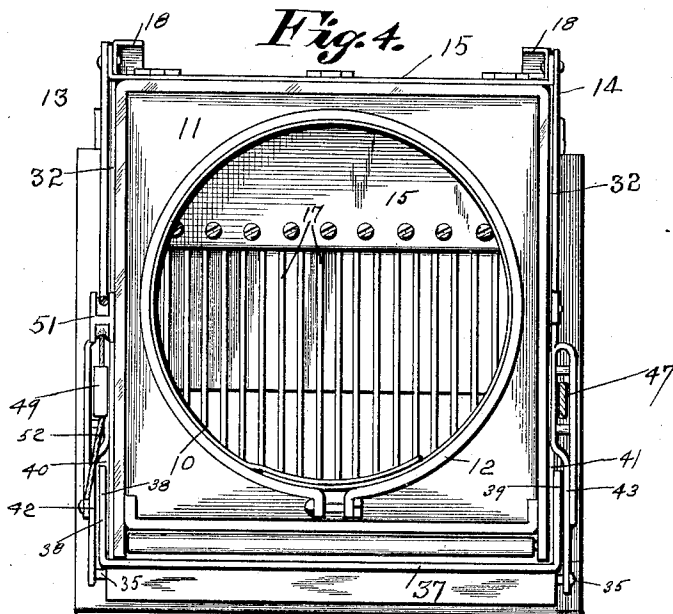
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3 SHEETS—SHEET 2.



Witnesses.

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3 SHEETS—SHEET 3.

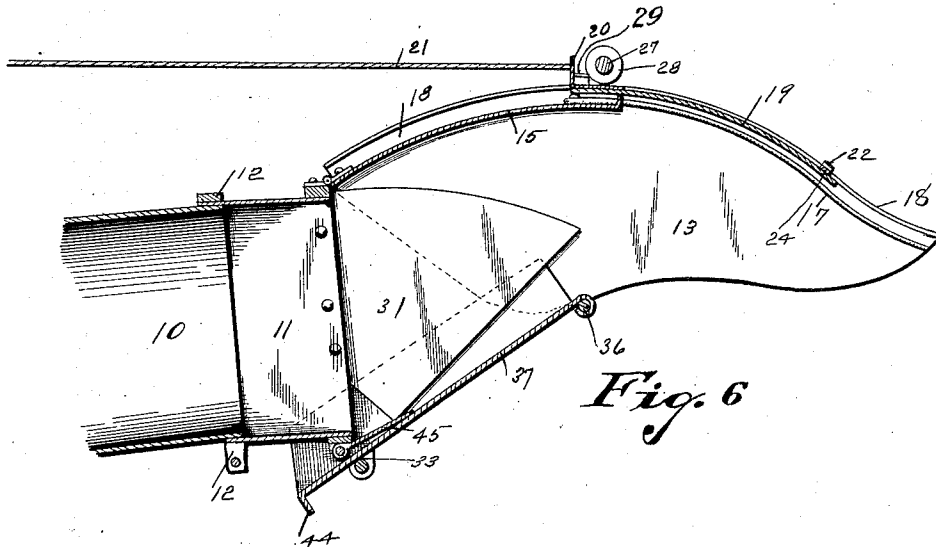


Fig. 6

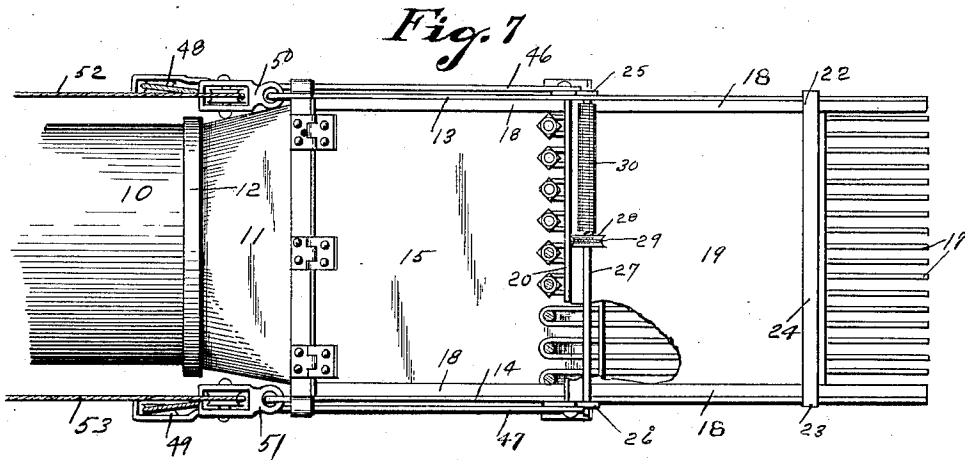


Fig. 7

Witnesses.
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UNITED STATES PATENT OFFICE.

GEORGE B. NELSON, OF REDFIELD, IOWA.

HOOD FOR PNEUMATIC STACKERS.

1,016,431.

Specification of Letters Patent.

Patented Feb. 6, 1912.

Application filed November 14, 1907. Serial No. 402,084.

To all whom it may concern:

Be it known that I, GEORGE B. NELSON, a citizen of the United States, residing at Redfield, in the county of Dallas and State of Iowa, have invented a certain new and useful Hood for Pneumatic Stackers, of which the following is a specification.

The objects of my invention are to provide a hood for pneumatic stackers which can be easily and readily applied to the ordinary conveyer tube prevalent in use in connection with threshing machines, and which is so constructed as to allow the air which conveys the straw through the conveyer tube to be separated from this straw and pass on and allow the straw to drop to any desirable position beneath the outer end of the tube.

A further object is to provide a device of this class, the parts of which may be readily adjusted to various positions relative to each other to effect the result contemplated, and to so arrange these adjustable parts relative to each other that there will be little, if any, danger from clogging, and at the same time operative at all times.

A further object is to provide a hood capable of assuming various positions of angular adjustment relative to the conveyer pipe, and thus enable the operator to direct the straw to the proper position for forming a stack, and on account of the construction, obviate the scattering of the straw and blowing the dust onto the person building the stack as the straw is being delivered onto it.

My invention consists in certain details in the construction, arrangement and combination of the various parts of the device, whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claims and illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of my stacker hood with its swinging portion elevated. Fig. 2 is a side elevation of the same, with the swinging portion of the hood inclined downwardly. Fig. 3 is a detail, sectional view of one side of the hood looking rearwardly, and is designed to show the relative positions of the interior parts of the device. Fig. 4 is a rear elevation of the

hood detached from the conveyer tube with the swinging portion elevated. Fig. 5 is a sectional view of the right side of the hood, showing the slidingly mounted deflector plate, and its relation to the rear portion of the side of the hood. Fig. 6 is a longitudinal, sectional view of the hood attached to the end of the conveyer tube. Fig. 7 is a plan view of the hood attached to the end of the conveyer tube, and Fig. 8 is a modified form of the tines which form the outer portion of the hood.

Throughout the entire specifications I have used the term rear to mean the delivery end of the hood, while the word forward indicates the end of the device which receives the straw from the conveyer tube.

Referring to the accompanying drawings, I have used the reference numeral 10 to indicate the conveyer tube which is ordinarily used in connection with pneumatic stackers. I have provided a collar 11 which forms the rear portion of my hood, designed to be clamped to the conveyer tube 10 by means of the clamp 12. The rear end of this collar 11 is circular, while the forward end of it is substantially square, as shown in Figs. 6 and 7. Hinged to the upper rear portion of the collar 11 is the swinging portion of my hood, comprising two sheet metal sides 13 and 14, which are connected together by means of the curved top portion 15. The top portion extends from its point of attachment to the collar 11 forwardly approximately one-half the length of the sides 13 and 14.

Secured to and extending rearwardly from the rear end of the top portion 15 of the hood is a series of downwardly curved tines 17 which extend to the rear end of the sides. These tines are designed to deflect the straw and other substances blown through the tube downwardly, and allow them to fall beneath the hood while the blast of air is allowed to pass out through the tines. Immediately above each side of the top portion of the hood and formed by the sides 13 and 14 respectively, are two channels 18. Slidingly mounted in these channels is a curved deflector 19 having the angular extension 20, to which an operating rope 21 is attached.

Extending across the upper rear portion of the deflector 19, and having hooked ends 22 and 23 which project over the sides 13 and 14 respectively, is a guiding strip 24 designed to direct the deflector in the proper path as it is being operated forwardly and rearwardly.

Extending transversely of the hood immediately above the forward end of the deflector, and rotatably mounted in pieces 25 and 26 is a shaft 27 upon which the pulley 28 is mounted. Secured at one end to the pulley 28 and at its other end to the angular extension 20 of the deflector 19 is a rope 29, said rope being so arranged that as the deflector is pulled rearwardly the roller 28 and the shaft 27 will be rotated. I have provided a spring 30 on the shaft 27, designed to rotate the shaft 27 in the opposite direction and draw the deflector to its rearward limit of movement and normally maintain it in that position. By adjusting the deflector 19, the direction of the blast of air through the tines and the control of the direction of the straw which is blown out through the conveyer tube may be regulated.

Secured to the rear portion of the sides of the collar 11 are two plates 31 and 32, which project forwardly and engage the inner surfaces of the sides 13 and 14 respectively of the hood, and form, in effect, a portion of the sides of the hood and the collar, which forms the rear portion of it, thus providing a continuous passage from the end of the conveyer tube 10 to the exterior of the hood.

Extending downwardly from the forward portions of the plates 31 and 32 are the arms 33 and 34. The arms 33 and 34 are connected at their lower ends by means of a cross rod 35. Connecting the lower ends of the braces 25 and 26, and below the sides of the hood is a detachable rod 36, upon which a sliding bottom 37 is pivotally mounted. The sliding bottom rests upon the rod 35 and slides over it as the swinging portion of the hood is raised and lowered. The sliding bottom has extending upwardly from the sides of it the angular extensions 38 and 39 which enter channels 40 and 41 formed on the plates 31 and 32 by means of the angular plates 42 and 43, as shown clearly in Figs. 1, 4 and 5 of the drawings. This construction provides for a substantially tight joint between the sides of the hood and the sliding bottom 37. There is a downwardly extending lug 44 at the extreme forward end of the sliding bottom 37, designed to engage the rod 35 for limiting the upward movement of the swinging portion of the hood.

Pivotally attached to the lower portion of the collar 11 is a scraper plate 45; the

outer end of which constantly engages and is held by gravity against the sliding bottom 37 in all of its positions of movement and serves the double function of providing a substantially air tight connection between the sliding bottom and the collar 11, and of serving as a scraper for cleaning the bottom 37 when the swinging portion of the hood is lowered, and thus preventing foreign substances collecting on this bottom portion and throwing the device out of working order on account of clogging the parts.

Pivotally attached to the braces 25 and 26 respectively are the rods 46 and 47 which extend through the upper portions of the arms 33 and 34 to points some distance in the rear of said arms, and have the rollers 48 and 49 mounted at their rear ends, as shown clearly in Figs. 1, 2 and 7 of the drawings. Pivotally attached to the rear portions of the plates 31 and 32 are the pulleys 50 and 51. I have provided a rope 52 which is attached at one end to the central portion of the arm 33 which extends over the forward side of the roller 48 and around the rear side of the pulley 50, and forwardly to a windlass or other mechanism by which it can be operated. I have also provided a rope 53 which is attached at one end to the arm 34, passed over the forward side of the roller 49, and around the rear side of the wheel in the pulley 51, out to the windlass or other operating mechanism to which it is attached at its other end. A single windlass or other operating device would be preferable for operating both ropes 52 and 53 simultaneously although more may be employed if desired. A similar or other operating mechanism may be employed to operate the rope 21 if desired, although I do not think it necessary to employ such mechanisms for the controlling of the deflector. By means of the arrangement of the ropes 52 and 53 and the mechanisms operatively connected with it the swinging portion of the hood is swung on its hinges and placed in the desired position of angular adjustment.

In the operation of my hood, and assuming that it has been attached to the outer end of the conveyer tube of the ordinary pneumatic stacker, I first adjust the swinging portion of the hood to the proper inclination for delivering the straw onto the stack by operating the ropes 52 and 53 and maintain this swinging portion in the desired position by these ropes, and the mechanism which operates and controls them. I then adjust the deflector 19 to the desired position by means of the rope 21. As the stack of straw is built, I change the angle of inclination of the swinging portion of the hood as is found necessary, and also

change the position of the deflector 19 to accomplish the desired result of stacking the straw and allowing the dust and wind to pass through the tines 17 and be discharged through them to a point of deposit beyond the operation of the one on the stack.

Having thus described my invention, what I claim and desire to secure by Letters Patent of the United States, therefor is—

1. In a device of the class described, a collar adapted to be connected with a conveyer pipe, a deflector member pivotally and slidably connected with said collar and comprising a series of tines normally arranged in the path of the air blast passing through the conveyer pipe and designed to permit air to pass through and to deflect the straw or other material passing through the collar downwardly, and means for adjustably supporting the deflector member in various positions for regulating the quantity of the air current that may go through the tines and also for regulating the angle of discharge of the material passing through the conveyer pipe, for the purposes stated.

2. In a device of the class described, a collar adapted to be connected with a conveyer pipe, a swinging portion pivoted to the collar, a series of tines in the swinging portion for deflecting the substance passing through the collar downwardly as the blast of air which carries the substance passes through the tines, and a slidably mounted deflector adjacent to the tines designed to regulate the draft of air through them.

3. In a device of the class described, a collar adapted to be connected with a conveyer pipe, a swinging portion pivoted to the collar, a series of tines in the swinging portion for deflecting the substance passing through the collar downwardly as the blast of air which carries the substance passes through the tines, a slidably mounted deflector adjacent to the tines, designed to regulate the draft of air through them, and means for adjusting the swinging portion and maintaining it in various positions of adjustment.

4. In a device of the class described, a collar adapted to be connected with a conveyer pipe, a swinging portion pivoted to the collar, a series of tines in the swinging portion for deflecting the substance passing through the collar downwardly as the blast of air which carries the substance passes through the tines, a slidably mounted deflector adjacent to the tines, designed to regulate the draft of air through them, and means for normally maintaining the deflector in a closed position over the tines.

5. In a device of the class described, a collar adapted to be connected with a conveyer pipe, a swinging portion pivoted to the collar, a series of tines in the swinging portion for deflecting the substance passing through

the collar downwardly as the blast of air which carries the substance passes through the tines, a slidably mounted deflector adjacent to the tines, designed to regulate the draft of air through them, means for normally maintaining the deflector in a closed position over the tines, and means for adjusting the swinging portion and maintaining it in various positions of adjustment.

6. In a device of the class described, a collar adapted to be connected with a conveyer pipe, a swinging portion pivoted to the collar, a series of tines in the swinging portion for deflecting the substance passing through the collar downwardly as the blast of air which carries the substance passes through the tines, a slidably mounted deflector adjacent to the tines designed to regulate the draft of air through them, means for normally maintaining the deflector in a closed position over the tines, and means for adjusting the position of the deflector relative to the tines.

7. In a device of the class described, a collar adapted to be connected with a conveyer pipe, a swinging portion pivoted to the collar, a series of tines in the swinging portion for deflecting the substance passing through the collar downwardly as the blast of air which carries the substance passes through the tines, a slidably mounted deflector adjacent to the tines designed to regulate the draft of air through them, means for normally maintaining the deflector in a closed position over the tines, means for adjusting the position of the deflector relative to the tines, and means for adjusting the swinging portion and maintaining it in various positions of adjustment.

8. In a device of the class described, a collar adapted to be attached to a conveyer tube, a swinging portion connected with the conveyer tube, having two sides therein, a top portion between the sides, and a sliding bottom pivotally mounted between the sides, plates secured to the collar and engaging the sides, a rod for supporting the free end of the sliding bottom, secured to the collar, a scraper plate secured to the collar and designed to slide over the sliding bottom as the swinging portion is raised and lowered, and as the sliding bottom moves rearwardly or forwardly.

9. In a device of the class described, a collar adapted to be attached to a conveyer tube, a swinging portion connected with the conveyer tube, having two sides therein, a top portion between the sides, and a sliding bottom pivotally mounted between the sides, plates secured to the collar and engaging the sides, a rod for supporting the free end of the sliding bottom, secured to the collar, a scraper plate secured to the collar, and designed to slide over the sliding bottom

as the swinging portion is raised and lowered, and as the sliding bottom moves rearwardly or forwardly, and tines connected with the top portion and extending rearwardly from it, designed to admit air through them and also to deflect straw conveyed by air downwardly.

10. In a device of the class described, a collar adapted to be attached to a conveyer tube, a swinging portion connected with the conveyer tube, having two sides therein, a top portion between the sides, and a sliding bottom pivotally mounted between the sides, plates secured to the collar and engaging the sides, a rod for supporting the free end of the sliding bottom, secured to the collar, a scraper plate secured to the collar, and designed to slide over the sliding bottom as the swinging portion is raised and lowered, and as the sliding bottom moves rearwardly or forwardly, tines connected with the top portion and extending rearwardly from it designed to admit air through them and also deflect straw conveyed by air downwardly, and a deflector adjacent to the tines for controlling the draft of air through them while the machine is operated.

11. In a device of the class described, a collar adapted to be attached to a conveyer tube, a swinging portion connected with the conveyer tube, having two sides therein, a top portion between the sides, and a sliding bottom pivotally mounted between the sides, plates secured to the collar and engaging the sides, a rod for supporting the free end of the sliding bottom, secured to the collar, a scraper plate secured to the collar and designed to slide over the sliding bottom as the swinging portion is raised and lowered, and as the sliding bottom moves rearwardly or forwardly, tines connected with the top portion and extending rearwardly from it designed to admit air through them and also deflect straw conveyed by air downwardly, a deflector adjacent to the tines for controlling the draft of air through them while the machine is operated, means for normally maintaining the deflector in a closed position over the tines, and means for adjusting the deflector and maintaining it in various positions of adjustment.

12. In a device of the class described, a collar adapted to be attached to a conveyer tube, a swinging portion connected with the conveyer tube, having two sides therein, a top portion between the sides, and a sliding bottom pivotally mounted between the sides, plates secured to the collar and engaging the sides, a rod for supporting the free end of the sliding bottom, secured to the collar, a scraper plate secured to the collar and designed to slide over the sliding bottom as the swinging portion is raised and lowered, and as the sliding bottom moves rearwardly or

forwardly, and means for adjusting the swinging portion and maintaining it in various positions of adjustment.

13. In a device of the class described, a collar adapted to be attached to a conveyer tube, a swinging portion connected with the conveyer tube, having two sides therein, a top portion between the sides, and a sliding bottom pivotally mounted between the sides, plates secured to the collar and engaging the sides, a rod for supporting the free end of the sliding bottom secured to the collar, a scraper plate secured to the collar and designed to slide over the sliding bottom as the swinging portion is raised and lowered, and as the sliding bottom moves rearwardly or forwardly, tines connected with the top portion and extending rearwardly from it, designed to admit air through them and also to deflect straw conveyed by air downwardly, and means for adjusting the swinging portion and maintaining it in various positions of adjustment.

14. In a device of the class described, a collar adapted to be attached to a conveyer tube, a swinging portion connected with the conveyer tube, having two sides therein, a top portion between the sides, and a sliding bottom pivotally mounted between the sides, plates secured to the collar and engaging the sides, a rod for supporting the free end of the sliding bottom, secured to the collar, a scraper plate secured to the collar, and designed to slide over the sliding bottom as the swinging portion is raised and lowered, and as the sliding bottom moves rearwardly or forwardly, tines connected with the top portion and extending rearwardly from it, designed to admit air through them and also deflect straw conveyed by air downwardly, a deflector adjacent to the tines for controlling the draft of air through them while the machine is operated, and means for adjusting the swinging portion and maintaining it in various positions of adjustment.

15. In a device of the class described, a collar adapted to be attached to a conveyer tube, a swinging portion connected with the conveyer tube, having two sides therein, a top portion between the sides, and a sliding bottom pivotally mounted between the sides, plates secured to the collar and engaging the sides, a rod for supporting the free end of the sliding bottom, secured to the collar, a scraper plate secured to the collar and designed to slide over the sliding bottom as the swinging portion is raised and lowered, and as the sliding bottom moves rearwardly or forwardly, tines connected with the top portion and extending rearwardly from it designed to admit air through them and also deflect straw conveyed by air downwardly, a deflector adjacent to the tines for controlling the draft of air through them while the ma-

chine is operated, means for normally maintaining the deflector in a closed position over the tines, and means for adjusting the deflector and maintaining it in various positions of adjustment.

16. In a device of the class described, a collar adapted to be secured to a conveyer tube, a swinging portion pivotally connected therewith, comprising two sides, a top portion and a sliding bottom portion pivoted between the sides, tines secured to the top portion and extending rearwardly between the sides, means normally held in a closed position for regulating the exposure of the tines, and means for supporting the free end of the sliding bottom.

17. In a device of the class described, a collar adapted to be secured to a conveyer tube, a swinging portion pivotally connected therewith, comprising two sides, a top portion and a sliding bottom portion pivoted between the sides, tines secured to the top portion and extending rearwardly between the sides, means normally held in a closed position for regulating the exposure of the tines, means for supporting the free end of the sliding bottom, and means for limiting the upward movement of the swinging portion.

18. In a device of the class described, a collar adapted to be secured to a conveyer tube, a swinging portion pivotally connected therewith, comprising two sides, a top portion and a sliding bottom portion pivoted between the sides, tines secured to the top portion and extending rearwardly between the sides, means normally held in a closed position for regulating the exposure of the tines, and means for supporting the free end of the sliding bottom, and a pivotally mounted scraper plate held constantly by gravity in engagement with the sliding bottom.

19. In a device of the class described, a collar adapted to be secured to a conveyer tube, a swinging portion pivotally connected therewith, comprising two sides, a top portion and a sliding bottom portion pivoted between the sides, tines secured to the top portion and extending rearwardly between the sides, means normally held in a closed position for regulating the exposure of the tines, means for supporting the free end of the sliding bottom, means for limiting the upward movement of the swinging portion, and a pivotally mounted scraper plate held constantly by gravity in engagement with the sliding bottom.

20. In a device of the class described, a collar adapted to be secured to a conveyer tube, a swinging portion pivotally connected therewith, comprising two sides, a top portion and a sliding bottom portion pivoted between the sides, tines secured to the

top portion and extending rearwardly between the sides, means normally held in a closed position for regulating the exposure of the tines, means for supporting the free end of the sliding bottom, and plates secured to the sides of the collar and engaging the sides of the swinging portion and projections of the sliding bottom, for the purposes stated.

21. In a device of the class described, a collar adapted to be secured to a conveyer tube, a swinging portion pivotally connected therewith, comprising two sides, a top portion and a sliding bottom portion pivoted between the sides, tines secured to the top portion and extending rearwardly between the sides, means normally held in a closed position for regulating the exposure of the tines, means for supporting the free end of the sliding bottom, means for limiting the upward movement of the swinging portion, and plates secured to the sides of the collar and engaging the sides of the swinging portion and projections of the sliding bottom, for the purposes stated.

22. In a device of the class described, a collar adapted to be secured to a conveyer tube, a swinging portion pivotally connected therewith, comprising two sides, a top portion and a sliding bottom portion pivoted and extending rearwardly between the sides, means normally held in a closed position for regulating the exposure of the tines, means for supporting the free end of the sliding bottom, a pivotally mounted scraper plate held constantly by gravity in engagement with the sliding bottom, and plates secured to the sides of the collar and engaging the sides of the swinging portion and projections of the sliding bottom, for the purposes stated.

23. In a device of the class described, a collar adapted to be secured to a conveyer tube, a swinging portion pivotally connected therewith, comprising two sides, a top portion and a sliding bottom portion pivoted between the sides, tines secured to the top portion and extending rearwardly between the sides, means normally held in a closed position for regulating the exposure of the tines, means for supporting the free end of the sliding bottom, means for limiting the upward movement of the swinging portion, a pivotally mounted scraper plate held constantly by gravity in engagement with the sliding bottom, and plates secured to the sides of the collar and engaging the sides of the swinging portion and projections of the sliding bottom, for the purposes stated.

24. In a device of the class described, the combination of a stacker pipe, a hood at the discharge end thereof hinged to the pipe and capable of swinging from position for leaving the passage through the pipe and hood

unobstructed to position across the discharge end of the stacker pipe, said hood being provided with a portion adjacent to the discharge end of the pipe through which air 5 passing through the pipe may freely pass, and which will serve as a deflector to prevent the passage of straw, and a hood deflector member slidably mounted on said hood portion capable of wholly or partially covering that portion of the hood through 10 which the air may pass.

October 19, 1907.

GEORGE B. NELSON.

Witnesses:

S. F. CHRISTY,
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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents
Washington, D. C."
