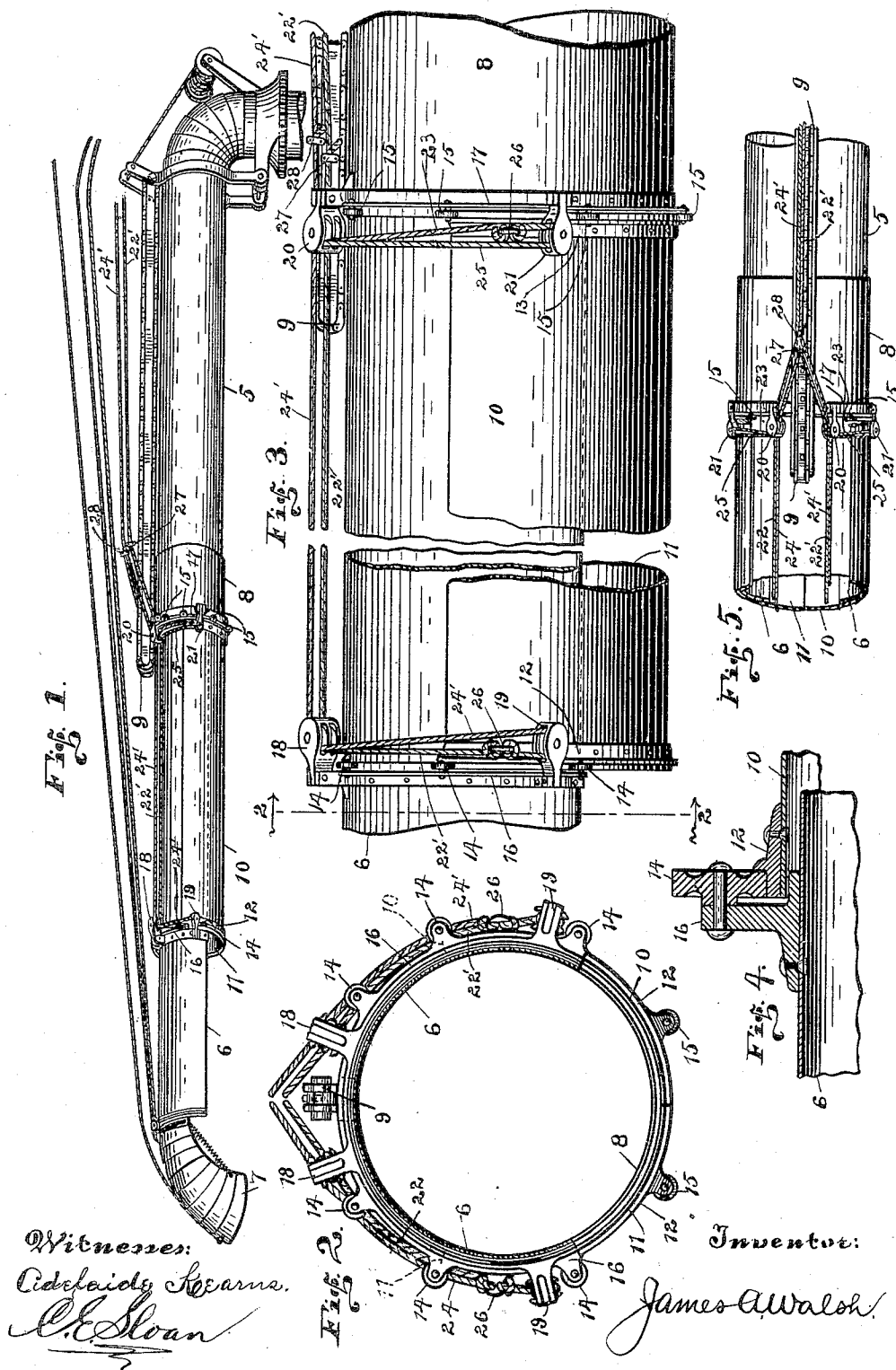


J. A. WALSH.
PNEUMATIC STACKER.
APPLICATION FILED JULY 20, 1908.

971,329.

Patented Sept. 27, 1910.



UNITED STATES PATENT OFFICE.

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PNEUMATIC STACKER.

971,329.

Specification of Letters Patent. Patented Sept. 27, 1910.

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To all whom it may concern:

Be it known that I, JAMES A. WALSH, 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 Pneumatic Stackers, of which the following is a specification.

My invention relates particularly to the chute for pneumatic stackers, which I so construct and operate as to permit a large proportion of the air blast discharging there-through to escape before reaching the mouth of the chute, thereby materially reducing the velocity of the discharging straw or other material carried by such blast so that it may be delivered from along the length of said chute as it advances toward the deflector, instead of being wholly carried to the deflector or mouth portion of the chute and discharged therefrom only as has been customary.

The accompanying drawings illustrate my invention.

Figure 1 is a side elevation of a stacker chute embodying my invention; Fig. 2 a cross-sectional view thereof on the dotted line 2—2 in Fig. 3; Fig. 3 a side elevation of that portion of the chute embodying my invention; Fig. 4 a detail, and Fig. 5 a plan of a portion of the chute.

In the drawings, I have illustrated my invention as applied to a telescopic stacker (but it will be understood that it may also without change be applied to a single tube stacker chute), the portions marked 5 representing the inner chute section, provided with the usual supporting and operating mechanisms, upon which is mounted the outer section, 6, having an adjustable hood, 7, at its outer end equipped with appropriate operating devices. This outer chute section I cut away on its lower side from its extreme outer end to near its inner end, leaving the inner portion, 8, intact so that it may be mounted upon the outer end of the inner section 5 to be telescoped thereon by the ordinary chain arrangement, 9, or otherwise.

Upon each side of the rear cut-away portion of the outer section 6 I provide duplicate sliding closures, 10, 11, preferably having guide-rails, 12, 13, at their ends so arranged as to travel under guide-rollers, 14, 15, mounted in bands, 16, 17, fixedly secured

to said section 6, which arrangement insures that said closures will travel smoothly upwardly and downwardly along the sides of said section 6 without danger of binding or buckling; but I do not desire to be understood as limiting myself to the employment of these specific details of construction, as obviously any appropriate devices for slidably maintaining such closures in position may be utilized.

About bands 16, 17, I provide pulley-blocks, 18, 19, 20, 21, through which are passed ropes 22, 22' and 23, for upwardly sliding said closures 10, 11, and other ropes 24, 24' and 25, for downwardly sliding said closures, these ropes being secured to eyes or hooks, 26, as indicated in Fig. 3, or otherwise, there being a set of such ropes for each closure, as will be understood. The outer ropes 22, 22', run up through pulleys 18, and one of said ropes, as 22', is of a length sufficient to extend down near the separator within convenient reach of the stacker operator, while ropes 23 pass up through pulley 20 and terminate a short distance therefrom, where they and the rope 22 are clamped, as at 27, or otherwise secured to the extensible rope member 22', so that by pulling upon said single rope 22' an even upward pull is exerted simultaneously at both ends of each closure to raise the same and uncover the open portion of section 6. Ropes 24, 24', pass down through pulleys 19, thence upwardly through pulleys 18, and, like rope 22', said rope 24' is of considerable length and terminates at a convenient point within reach of the operator, while ropes 25 pass down through pulleys 21, up through pulleys 20, and at a short distance therefrom, and with rope 24, are clamped or secured to rope 24', as at 28, so that by pulling upon the latter rope an even pulling strain is exerted simultaneously at both ends of each closure to cause them to slide downwardly to cover or partially cover the open portion of section 6, as may be desired. By pulling on rope 22', therefore, both closures may be moved upwardly simultaneously, and such movement reversed by manipulating rope 24', by which arrangement a simple and effective means is provided for manipulating said closures.

In the operation of pneumatically stacking straw it is desirable under some conditions to discharge the same onto the stack

without appreciable force, and to accomplish this it has been the practice to cut away a limited portion of the under side of the outer end of the chute, so that the air may to some extent escape and be separated from the straw before reaching the hood or deflector, and the straw thus discharged with less force than if the end of such chute was not so removed. By my present arrangement, when the closures are in the position indicated in Fig. 1, the chute is in condition to produce the result mentioned, but under this condition the stream of straw is carried on out to the deflector and wholly discharged from said deflector. I obtain a greater distribution of the straw, however, by opening the lower portion of the outer chute section (or a single tube non-telescopic chute when such is employed) substantially its entire length by means of the closures and the devices for manipulating the same, whereby I am enabled to control the size of the opening to any desired degree relatively to the distance between the sides of said chute, so that as said closures are moved apart the blast, to a greater or less degree, according to the width of the opening, is permitted to escape downwardly throughout substantially the entire length of such opening, with the consequent effect that the velocity of the straw is decreased to such extent that because of its stream-like condition and the decreased blast it falls substantially in strips from the cut-away portion of the chute, the deposit of which can be readily controlled by the stacker operator, and which method of distribution is desirable under certain conditions.

I claim as my invention:

1. A pneumatic stacker chute comprising a cut away portion, sliding closures on opposite sides of said chute adapted to be lowered and raised to cover and uncover said cutaway portion, means for actuating said closures to cover said cut away portion, and means for actuating said closures to uncover said cut away portion.

2. The combination, with a pneumatic stacker chute, of closures slidably mounted on opposite sides thereof, a rope for sliding said closures upwardly simultaneously, and a rope for sliding said closures downwardly simultaneously.

3. The combination, with a pneumatic stacker chute having a longitudinal opening therein, of a pair of sliding closures mounted on opposite sides of said chute, a single operating means for upwardly sliding said closures, and a single operating means for downwardly sliding said closures.

4. A pneumatic stacker chute comprising a cut-away portion, sliding closures on op-

posite sides of said chute adapted to cover and uncover said cut-away portion, means for slidably retaining said closures on said chute, means for upwardly sliding said closures, and means for downwardly sliding said closures.

5. The combination, with a pneumatic stacker chute, of sliding closures on opposite sides thereof, guide rollers on said chute for retaining said closures, ropes attached to said closures for upwardly sliding the same beneath said rollers, and ropes attached to said closures for downwardly sliding the same beneath said rollers.

6. The combination, with a pneumatic stacker chute, of bands thereon having guide rollers therein, closures mounted between said bands and adapted to slide beneath said rollers, pulleys on said bands, ropes attached to said closures and running about pulleys and terminating in a single operating rope for upwardly sliding said closures, and ropes attached to said closures and running about pulleys and terminating in a single operating rope for downwardly sliding said closures.

7. A pneumatic stacker chute comprising an inner section, an outer section having a cut-away portion, means for telescoping said sections, a deflector at the end of said outer section, means for adjusting said deflector, closures on said outer section, means for downwardly sliding said closures to form a partial opening in said outer section near said deflector for discharging material directly against said deflector, and means for upwardly sliding said closures to form an opening substantially throughout the entire length of said outer section for permitting air to escape and delivering material from said chute in strips.

8. In a pneumatic stacker, a full or complete air-tube, and means for opening and spreading the sides of the tube to regulate the air pressure therein.

9. In a pneumatic stacker, a full or complete tube, openings through the sides of the tube and means for increasing or decreasing the size of said openings simultaneously the entire length of the openings.

10. In a pneumatic stacker, a full or complete tube having side openings, doors for said openings, and means for opening and closing the doors simultaneously the entire length of their openings.

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

JAMES A. WALSH.

Witnesses:

J. K. SHARPE, Jr.,
HOMER R. BARKER.