No. 845,876

PATENTED MAR. 5, 1907.

A. LUKE.

HOOD FOR STACKERS.

APPLICATION FILED MAY 17, 1905.

Fig. 1.

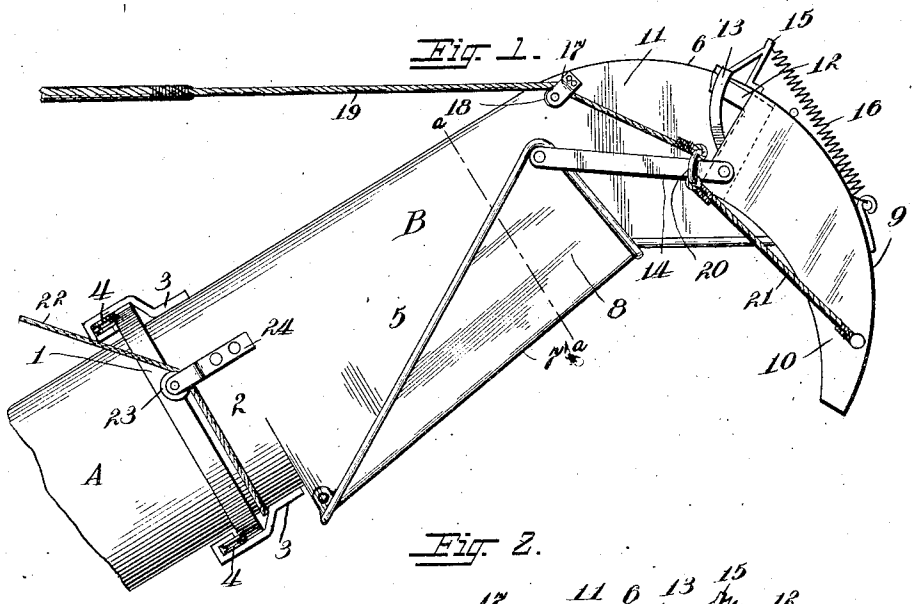


Fig. 2.

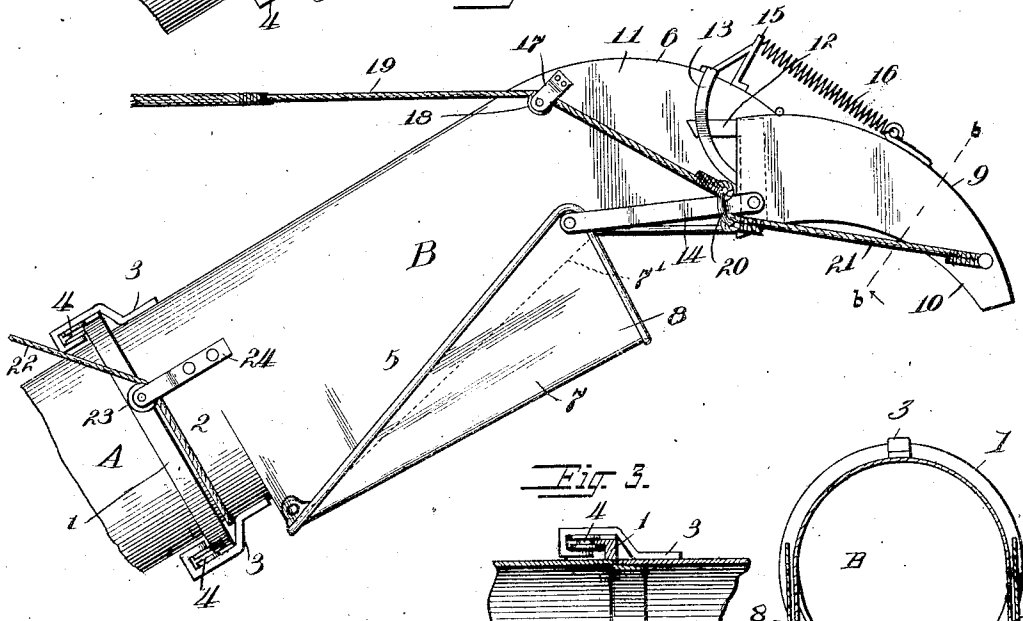


Fig. 3.

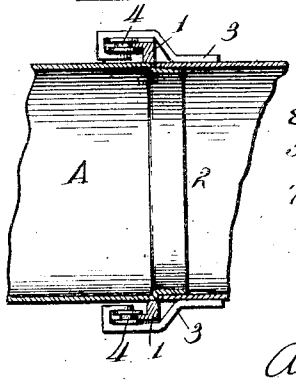
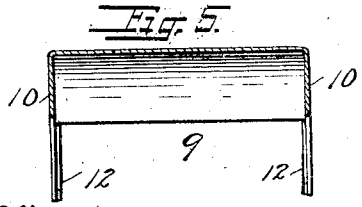


Fig. 4.

Fig. 5.



Witnesses

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UNITED STATES PATENT OFFICE.

ABRAHAM LUKE, OF ELKHART, INDIANA.

HOOD FOR STACKERS.

No. 845,876. Specification of Letters Patent. Patented March 5, 1907.

Application filed May 17, 1905. Serial No. 260,907.

To all whom it may concern:

Be it known that I, ABRAHAM LUKE, a citizen of the United States of America, residing at Elkhart, in the county of Elkhart and State of Indiana, have invented certain new and useful Improvements in Hoods for Stackers, of which the following is a specification.

My invention relates to an improvement in hoods for stackers, and more particularly to that class of stackers wherein the straw from the thresher or husk from a corn-husker are forced through a conveying-pipe by means of pneumatic pressure, the discharge end of the pipe being provided with a hood for directing the stream of straw or other material issuing therefrom to form a suitable stack.

The objects of my invention are to provide a hood of this character which can be so manipulated that the straw will be guided thereby and directed to a point rearward of the hood and beneath the usual telescoping conveyer-pipe and on a line nearly parallel therewith as the straw issues from the hood in order to commence the foundation of the stack as far back as possible to enable the stacker to feed every part thereof and produce a well-built, firm, and even stack. It is well known that a stack which is commenced from a point beneath and rearward of the hood is much easier to handle and to top out after the stack is well up.

Another and scarcely less important object is the provision of a hood so constructed as to permit the passage of a steady continuous air-current during the progress of the material therethrough, so as to avoid any choking of the material in the hood. My improved hood causes the straw to flow out evenly and continuously and prevents the dropping of straw in bunches, which is a disadvantage heretofore encountered.

A still further object is the provision of a hood capable of rotation, by means of which the material can be directed to all points within the circumference of a circle, depending only upon the amount of air-pressure, thus enabling the stream to be absolutely controlled and placed wherever desired.

By means of my invention the stack is brought nearer to the machine and the bunching or choking of material in the hood is avoided. Hence back pressure on the fan is obviated.

Other objects are the provision of a hood which shall be durable and substantial, at the same time being serviceable and simple in construction in order to withstand any use to which it may be put.

To these ends my invention comprises a hood which is preferably rotatably mounted on the discharge end of the conveyer, the hood being provided with a hinged bill or extension which forms a continuation of the body of the hood and also having an apron or guide adapted to enlarge or constrict the discharge-opening of the hood. Both the apron and bill are controlled and adjusted in a suitable manner, as will be hereinafter set forth.

My invention further consists in certain novel features of construction and combination of parts, such as will be more fully described hereinafter, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in side elevation of my improved hood, showing the bill in its lowered position. Fig. 2 is a similar view showing the bill in its extreme raised position. Fig. 3 is a detail view of the track on which is supported the hood. Fig. 4 is a cross-section on line *a a*, Fig. 1; and Fig. 5 is a similar view on line *b b*, Fig. 2, looking in the direction of the arrow.

A indicates the conveyer-pipe, which may be of the usual telescoping variety and is connected at its lower end to a threshing-machine, for instance, in the usual manner, the straw or other material to be stacked being fed into the pipe at its lower or receiving end, a fan or air-pump also communicating with the conveyer in order to force the material therethrough. This construction, inasmuch as it forms no part of my invention, is not shown.

The upper end of the conveyer-pipe A is provided with a circumferential annular track 1, secured thereto and projecting flange-like therearound. The hood B at its lower end is formed into a pipe 2, telescoping without the upper end of the conveyer, and provided with brackets 3 3, in the free ends of which are journaled the grooved rollers 4, which take or ride upon the track 1 and serve to support and retain the hood in place on the conveyer, as well as permitting the rotation of the hood relative to the conveyer. In advance of the pipe 2 the hood is provided with an approximately rectangular enlargement 5, cut entirely away on one side on an incline extending transversely to the area of

the hood to form a discharge-opening, and the extreme end of the body portion of the hood is partially closed by means of the curved wall 6, extending to a point approximately half-way across the area of the hood. The side edges of the cut-away portion of the hood form obtuse angles, as shown in the dotted and full lines in Fig. 2.

An apron or guide 7 is hinged at its rear end to the rear edge of the cut-away portion or discharge-opening in the hood, the apron comprising a plate of a size and shape substantially equivalent to the area of the aperture from the meeting of the inclined edges 7′ 7′ thereof to the rear edge, the plate being provided with cheeks 8 of gradually-increasing width, extending along the side edges of the plate and adapted to overlap the body portion of the hood. The outer end of the apron is open and unobstructed, and a space is left between the outer end of the apron and the lower edge of the curved wall for discharging material under high pressure.

Pivotally secured to the lower end of the curved wall 6 is the bill or extension 9, which in shape is a continuation of the curved outer end of the hood and is provided with the flanges 10 10 to assist in guiding the straw or other material discharged from the conveyer. Guide-bars 13 13, slightly curved in the arc of a circle opposite to the arc described by the outer end of the bill 9, are secured to the side walls 11 11 of the outer end of the hood, and the rear edges of the flanges 10 10 are provided with guides 12 12 of approximate L-shape, which are received between the bars 13 13 and the walls 11 11. When the bill is in its lowered position, the rear ends of its flanges overlap the outer ends of the walls 11 11 and assist the guides in properly retaining the guide in position during its movements, as well as controlling the direction of movement of the straw and bracing the bill against lateral strain in the same manner that the cheeks 8 8 brace the apron or guide to control and confine the stream of material. The outer rearwardly-projecting ends of the L-shaped guides are adapted to engage the lower ends of the guide-bars 13 to limit the upward movement of the bill. Connecting-rods 14 extend from the upper free ends of the cheeks to the rear edges of the flanges 10, whereby the movement of the bill also operates to move the apron, the upward movement of the bill operating to lower the apron to increase the discharge area of the opening in the hood and allow the material to pass straight out.

When the straw is to be discharged backward or toward the thresher, the bill is lowered, thereby operating to close or raise the apron to constrict the discharge-opening and deflect the straw upward against the curved interior wall of the hood, the straw glancing along and deflected by such interior wall around to the curved bill which forms a continuation of such wall in the downward arc of movement, from which bill the material is shunted off in a direction almost parallel with and beneath the conveyer or toward the thresher. The great purpose of the cheeked apron is to confine the stream of straw and guide it against the curved wall of the hood at the greatest possible tangent, and if the apron were not employed the stream of material would strike squarely against the outer downward curve of the wall and choke the conveyer or else fall in bunches. Of course when it is desired to drive the material straight out of the conveyer the apron is dropped down and the bill raised out of the way, so that while the cheeks confine the stream against spreading laterally there is nothing to impede or break its force.

Secured exteriorly of the curved wall 6 of the hood is a bracket 15, to the upper end of which is attached a spring 16, the opposite end of which spring is fastened to the bill, and this spring, together with the force of the air-pressure, normally tends to raise the bill. Brackets 17, carried by the stationary portion of the hood, have pulleys 18 journaled therein, over which pulleys run the split ends of a cable 19, the ends of such cable being secured to the eyes 20, fastened to the lower rear edges of the flanges 10, the cable extending to the thresher or other machine with which the conveyer is used for the purpose of controlling the actuation of the bill and the apron by spring 16 and the air-pressure and to close the bill and raise the apron against such pressure. It will also be observed that wires 21 extend from the forward end of the bill, on each side thereof, to the eyelets 20 in order to distribute the strain caused by pull on the cable 19.

In order to rotate the hood on the conveyer to cause the discharge of material to one side or the other of the conveyer, I secure the ends of a split cable 22 to points on opposite sides of the pipe 2 of the hood, the split ends passing over pulleys 23, suitably journaled in brackets 24 on the pipe 2, the opposite end of the cable being led to a point within convenient reach of the operator, whereby he can by pulling in one direction or the other rotate the hood.

From the foregoing it will be seen that I have invented a simple, neat, and inexpensive device of the nature set forth.

The spring 16 serves to retain the bill in open position normally, and yet may be overcome by pulling on the cable 19, which when eased up will slacken to permit the air-pressure, together with the tension of the spring, to raise the hood. Furthermore, the bill can be held in any position desired intermediate its opposite limits of movement. As the bill is raised the apron is automatically

lowered to open or enlarge the discharge-aperture of the hood and allow the material to have a free sweep. The discharge when in this position is not ragged, since the walls 11 and the flanges 10, together with the cheeks 8, operate to confine the straw or other material against lateral spreading as it is discharged from the hood and to enable the operator to place the material where desired.

It is evident that many changes might be made in the form and arrangement of the several parts described without departing from the spirit and scope of my invention, and hence I do not wish to limit myself to the exact construction herein set forth; but,

Having thus fully disclosed my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A hood for stackers comprising a body portion having an opening therein, an apron movably secured to the body portion and extending partially across the opening, a bill movably connected to the body portion and constituting a continuation thereof, means connecting the bill and apron and means for adjusting the bill and apron to increase or decrease the size of the opening.

2. A hood for stackers comprising a body portion having an opening therein, an apron pivotally secured near the rear edge of the opening and extending partially thereacross, there being cheeks carried by the apron, the outer end of the apron being open and means for adjusting the apron to increase or decrease the discharge-opening.

3. A hood for stackers comprising a body portion having an opening formed therein, an apron pivotally secured near the rear edge of the opening and extending partially thereacross, there being cheeks of gradually-increasing height located along each side of the apron, the outer end of the apron being open, the cheeks overlapping the sides of the body portion when the apron is in raised position, and means for raising and lowering the apron to decrease or increase the size of the discharge-opening.

4. The combination, in a hood, with a body portion having an opening therein, of a bill pivotally secured to the body portion, guide-bars carried by the one, guides mounted on the other and receiving the bars, and means for raising and lowering the bill relative to the body portion.

5. The combination, in a hood, with a body portion, of a bill pivotally secured thereto, angular guides carried by the bill, guide-bars secured to the body portion, the guides taking behind the bars, the ends of the guides engaging the ends of the bars to limit the movement of the bill in one direction, and means for opening and closing the bill.

6. The combination, in a hood, with a body portion having a discharge-opening, of a bill movably secured to the body portion at one end of the opening, an apron movably secured to the body portion at the other end of the opening, the apron extending across the opening and partly the length thereof, means connecting the bill and apron, means normally tending to raise the bill and simultaneously therewith to lower the apron, and a flexible connection fastened to one of the movable members for lowering the bill and raising the apron.

7. The combination, with a conveyer-tube, of a hood having a discharge-opening, means for adjustably constricting the opening, adjustable means for directing the material issuing from the discharge-opening, a track carried by the conveyer-tube, one end of the hood telescoping within the adjacent end of the tube, antifriction means carried by the hood and engaging the track and means secured to the hood for rotating the same in either direction on the tube.

8. A hood comprising a body portion having a discharge-opening, a movable extension secured thereto, means for raising and lowering the extension, an apron movably secured to the hood, means connecting the apron and extension whereby a movement of the extension will operate the apron and means on the extension and on the apron for confining the material issuing from the hood against lateral spreading.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ABRAHAM LUKE.

Witnesses:
IRA E. ZIGLER,
EDWARD B. ZIGLER.