

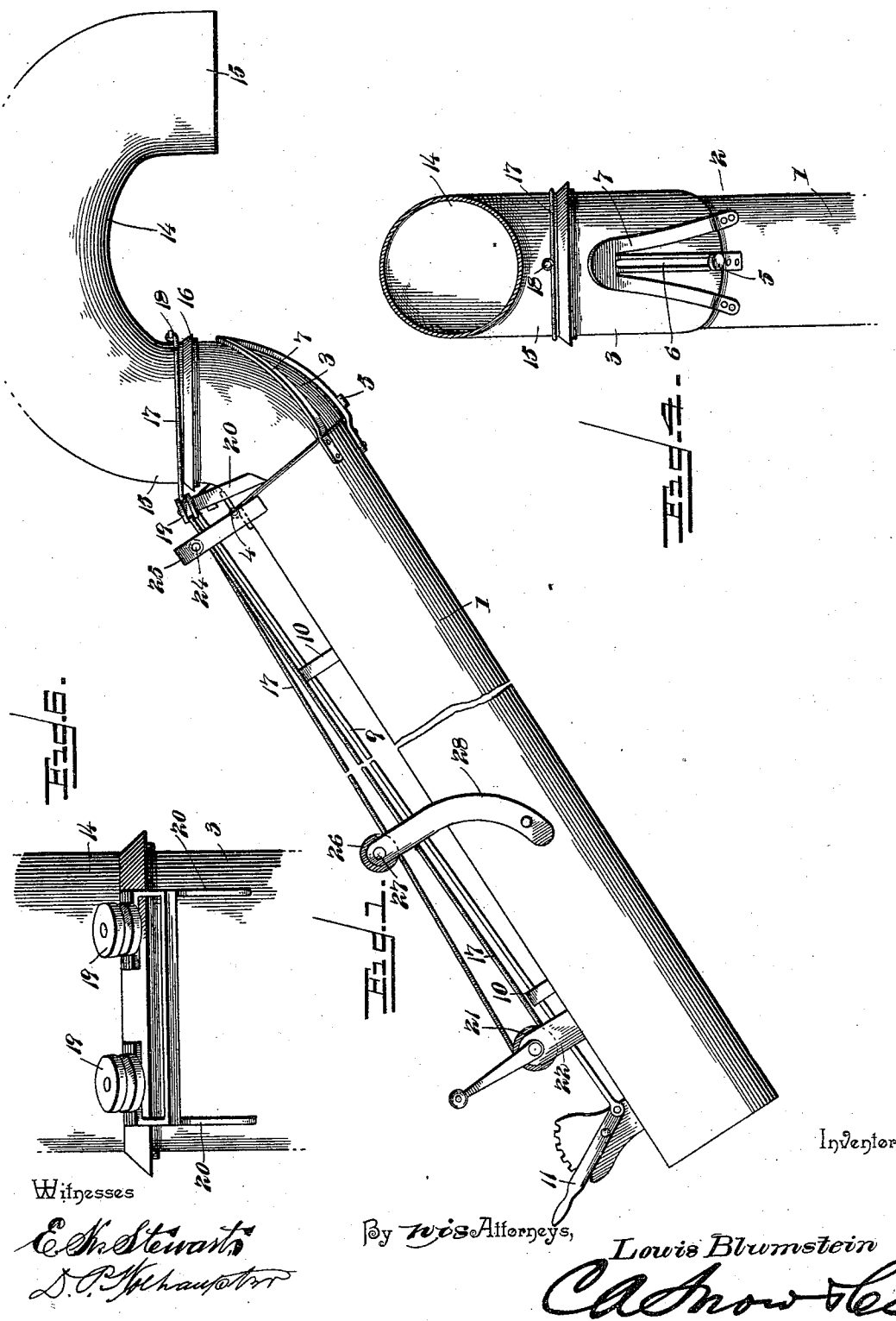
(No Model.)

2 Sheets—Sheet 1.

L. BLUMSTEIN.
PNEUMATIC STRAW STACKER.

No. 574,776.

Patented Jan. 5, 1897.



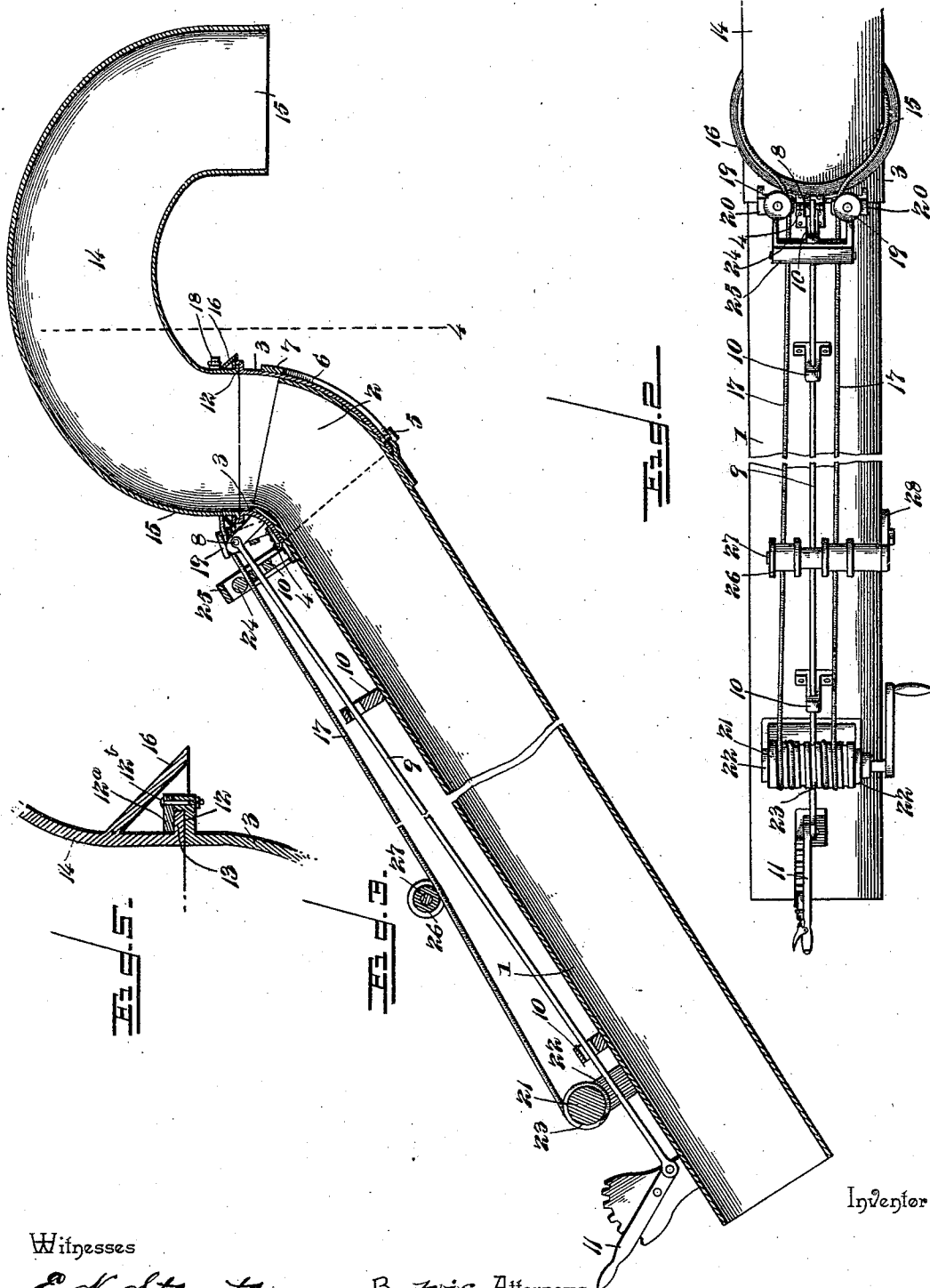
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Witnesses

E. H. Stewart
S. P. M. Haupt

By *his* Attorneys,

Louis Blumstein
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UNITED STATES PATENT OFFICE.

LOUIS BLUMSTEIN, OF BRIGHTON, ILLINOIS.

PNEUMATIC STRAW-STACKER.

SPECIFICATION forming part of Letters Patent No. 574,776, dated January 5, 1897.

Application filed February 28, 1896. Serial No. 581,138. (No model.)

To all whom it may concern:

Be it known that I, LOUIS BLUMSTEIN, a citizen of the United States, residing at Brighton, in the county of Macoupin and State of Illinois, have invented a new and useful Pneumatic Straw-Stacker, of which the following is a specification.

This invention relates to pneumatic straw-stackers; and it has for its object to effect certain improvements in straw-stacking apparatus of this character to positively insure the proper and even distribution of the straw on the stack.

With these and other objects in view, which will readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination, and arrangement of parts hereinafter more fully described, illustrated, and claimed.

In the drawings, Figure 1 is a side elevation of a pneumatic straw-stacker embodying the herein-described improvements. Fig. 2 is a top plan view thereof. Fig. 3 is a central longitudinal sectional view. Fig. 4 is a detail sectional view on the line 4 4 of Fig. 3. Fig. 5 is an enlarged detail sectional view of the swivel-joint for the oscillatory delivery-spout of the stacking-tube. Fig. 6 is a detail plan view of the swivel-joint for the spout of the stacking-tube.

Referring to the accompanying drawings, the numeral 1 designates a stacking-tube designed for use in connection with a pneumatic straw-stacking apparatus and adapted to have a suitable connection at its inner end with a grain-separator or threshing-machine, and also arranged in the line of the blast from the usual fan of the apparatus to provide for receiving the straw from the separator and conveying the same under the influence of the air-blast toward the stack. The particular manner of mounting and the connections for the inner end of the stacking-tube with the grain-separator form no part of the present invention and are therefore not illustrated, but it is of course understood that the stacking-tube is usually supported in an inclined position, so as to be capable of being adjusted to the desired pitch for properly discharging the straw onto the stack, and in the present invention the said stacking-tube 1 is

provided with an upwardly-curved outer end 2, on which is adjustably and exteriorly fitted the adjustable connecting-collar 3.

The adjustable connecting-collar 3 is curved or segmental in shape and is hinged at one top edge to the upper side of the stacking-tube 1, by means of the hinge connection 4, which hinge connection permits the adjustable collar 3 to have an up-and-down adjustment, which adjustment is limited by means of a stop-pin 5, projected from the under side of the collar 3, near its inner edge, and working in a guide-slot 6, formed in a skeleton bracket 7, attached to the under side of the stacking-tube near its outer end and lying adjacent and conforming in curvature to the under side of the said adjustable connecting-collar. Directly adjacent to its hinge connection 4 with the tube 1 the said collar 3 has pivotally connected thereto, as at 8, the outer end of an adjusting-rod 9, supported longitudinally above the tube 1 in suitably-arranged guides 10 and connected at its inner lower end to an adjusting-lever 11, suitably arranged at the inner end of the stacking-tube 1, and providing means by its adjustment for swinging the collar 3 up and down on its hinge-joint, as will be readily understood by reference to the drawings.

The hinged adjustable collar 3 is provided at its upper edge with an offset annular bearing-groove 12, inclosed at its upper side by a removable ring-plate 12^a, detachably secured in place by the bolts 12^b. The groove 12 loosely receives the annular swivel-flange 13, formed at the inner end of a horizontally-oscillatory curved delivery-spout 14. The delivery-spout 14 is provided at both ends with downwardly-disposed elbows 15, the outer of which provides for deflecting the straw directly down onto the stack, while the inner of said elbows 15 has a direct swivel connection with the collar 3 by means of the swivel-joint comprising the bearing-groove 12 and the flange 13, and at this point it is to be noted that the inner swiveled elbow 15 of the spout 14 is provided adjacent to the swivel-joint with an exterior downwardly-inclined hood-flange 16, which overhangs the said swivel-joint and provides a protective covering therefor, while at the same time forming

a guard-flange for properly holding in position the adjusting-cable 17 for the oscillatory spout-section 14 for the stacking-tube.

The adjusting-cable 17 has a complete wrap 5 around the inner elbow 15 of the spout 14, directly above the flange 16, and has a positive connection with the adjusting-pin 18, projected from one side of the delivery-spout at its inner end, whereby a pull on either of 10 the opposite portions of the adjusting-cable will provide for a swinging adjustment of the delivery-spout in one direction. Directly adjacent to the swivel-joint, between the collar 3 and the spout 14, the opposite portions of 15 the adjusting-cable 17 pass around the inner sides of the guide-pulleys 19, mounted on bearing-brackets 20, attached to and projected upwardly from the adjustable connecting-collar 3, and from the guide-pulleys 20 19 the said opposite portions of the adjusting-cable lead to a windlass-drum 21. The windlass-drum 21 is mounted in a suitable bearing-support 22, arranged near the inner end of the stacking-tube 1 and is provided with 25 a continuous spiral groove 23 in its periphery, which groove receives the separate portions of the cable 17, so that such portions of the cable will follow the groove of the windlass when the same is rotated in order to maintain 30 the separate portions of the cable between the said windlass-drum and the delivery-spout parallel with each other and normally separated, thereby insuring a positive adjustment of the delivery-spout at all times. 35 These separate portions of the adjusting-cable 17 are arranged to pass under the guide-rollers 24, mounted in an inverted-V-shaped bearing-bracket 25, secured on the tube 1, directly adjacent to the collar 3 and at a 40 point between the bracket 25 and the said windlass-drum 21. The said separate portions of the cable also work against the tension-pulleys 26, mounted side by side on a spindle 27, projected laterally from the upper 45 end of a supporting-arm 28, attached to the stacking-tube and projecting above the upper side thereof.

In operation it will be obvious that by 50 turning the windlass-drum 21 alternately in opposite directions the delivery-spout 14 may be oscillated back and forth in a complete half-circle, thereby providing simple and efficient means for stacking the straw in a complete half-circle and also insuring its even 55 distribution onto the stack, and as the stacking progresses the pitch of the delivery-spout 14 may be properly adjusted by a manipulation of the adjusting-lever 11, inasmuch as an adjustment of said lever swings the collar 60 3 on its hinge and necessarily swings the spout 14 up or down, which spout has a swivel connection directly with the said adjustable collar.

From the foregoing it is thought the con-

struction, operation, and many advantages of 65 the herein-described pneumatic straw-stacker will be readily apparent to those skilled in the art without further description, and it will be further understood that changes in the form, proportion, and the minor details of construction may be resorted to without departing 70 from the principle or sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is— 75

1. In a pneumatic straw-stacker, the stacking-tube, a segmentally-connecting collar telescoping on the outer end of the tube and hinged to the upper side thereof, an oscillatory delivery-spout having a swivel connection at one end with said collar, means for adjusting said collar on its hinge, and separate means for swinging the delivery-spout laterally on its swivel, substantially as described. 85

2. In a pneumatic straw-stacker, the stacking-tube provided with an upwardly-curved outer end, a segmental connecting-collar exteriorly fitted on the curved outer end of the 90 tube and hinged to the upper side of such tube, said collar being provided at its upper edge with an annular bearing-groove, a laterally-oscillatory delivery-spout provided with elbow extremities and having at its inner end an annular flange loosely registering 95 in the groove of said collar, and an exterior hood-flange overhanging the swivel-joint formed by said bearing-groove and the flange registering therein, a lever-adjusted rod arranged over the stacking-tube and connected at its outer end with said collar adjacent to its hinge connection, and a suitably-controlled adjusting-cable having a wrap around the inner elbow of the delivery-spout to provide for oscillating the latter, substantially as set forth. 105

3. In a pneumatic straw-stacker, the stacking-tube provided with an upwardly-curved outer end, a curved skeleton bracket attached 110 to the under side of the stacking-tube near its outer end and provided with a guide-slot, a segmental connecting-collar exteriorly fitted on the curved outer end of the tube and hinged to the upper side of such tube, said 115 collar having a stop-pin working in the guide-slot of said skeleton bracket, a laterally-oscillatory delivery-spout swiveled to said collar, and suitable adjusting devices, substantially as set forth. 120

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

LOUIS BLUMSTEIN.

Witnesses:

GEO. W. CUMMINGS,
MARSHALL LEWIS.