No. 651,671. Patented June 12, 1900.

J. B. SCHUMAN.

PNEUMATIC ELEVATOR.

(Application filed May 2, 1899.)

(No Model.)

Fig. 1.

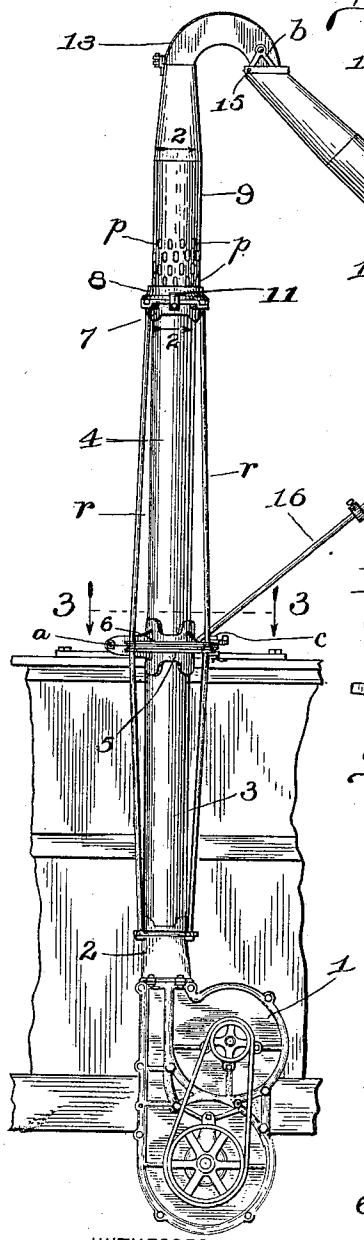


Fig. 6.

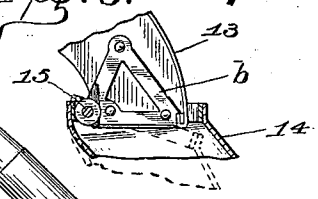


Fig. 2.

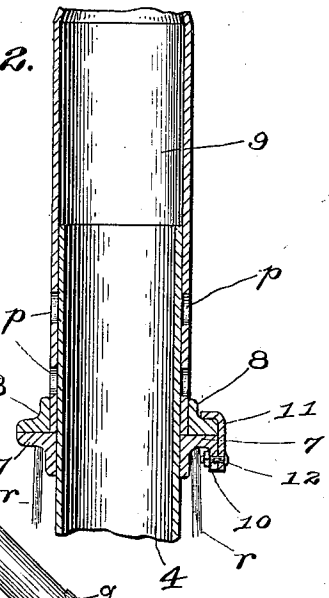


Fig. 5.

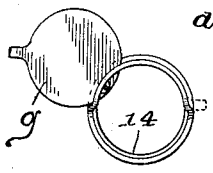


Fig. 3.

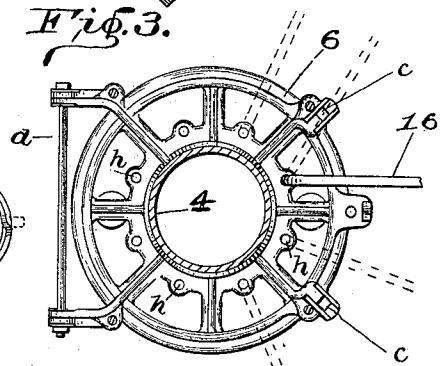


Fig. 4.

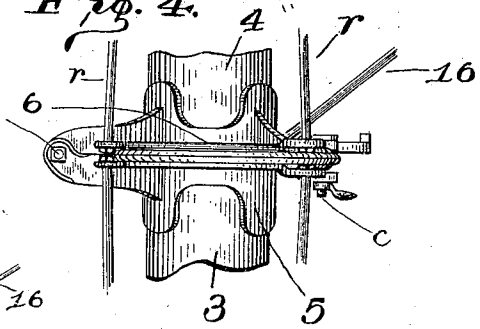
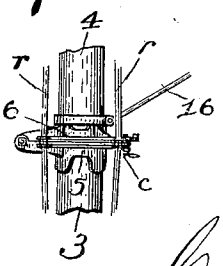


Fig. 7.



WITNESSES:

C. S. Frye.

J. A. Walsh.

INVENTOR

James B. Schuman,

BY

Chester T. Bradford,

ATTORNEY.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JAMES B. SCHUMAN, OF COLUMBIA CITY, INDIANA, ASSIGNOR TO THE PNEUMATIC ELEVATOR AND WEIGHER COMPANY, OF INDIANAPOLIS, INDIANA.

PNEUMATIC ELEVATOR.

SPECIFICATION forming part of Letters Patent No. 651,671, dated June 12, 1900.

Application filed May 2, 1899. Serial No. 715,303. (No model.)

To all whom it may concern:

Be it known that I, JAMES B. SCHUMAN, a citizen of the United States, residing at Columbia City, in the county of Whitley and State of Indiana, have invented certain new and useful Improvements in Pneumatic Elevators, of which the following is a specification.

My present invention relates to that construction of a pneumatic elevator used with threshing-machines or separators which is generally denominated a "wagon-loader."

It consists in certain details of construction and arrangements of parts whereby an inexpensive, efficient, and convenient machine is obtained, as will be hereinafter more particularly described and claimed.

Referring to the accompanying drawings, which are made a part hereof and on which similar reference characters indicate similar parts, Figure 1 is a side elevation of such a machine as it appears when attached to a threshing-machine or separator, a fragment of such a separator being shown; Fig. 2, a central sectional view, on an enlarged scale, of a portion of the upper end of a conveyer tube or pipe on the dotted line 2 2 in Fig. 1; Fig. 3, a horizontal sectional view as seen from the dotted line 3 3 in Fig. 1; Fig. 4, a side elevation similar to a portion of Fig. 1, but on an enlarged scale; Fig. 5, an end elevation of the lower end of the delivery-tube, showing its gate open; Fig. 6, an enlarged fragmentary view showing the means of hinging the delivery-spout to the separating-head more plainly, and Fig. 7 a view illustrating an alternative means of connecting and supporting the lower end of the brace-rod.

It is desirable in a machine of this character that the delivery tube or spout in swinging from point to point should have its axis of rotation at or near the axial line of the elevating-tube, and this is to be borne in mind in considering my present invention.

The fan housing or casing 1, usually and hereinafter denominated the "elevator-boot," the fans therein, the neck 2, the elevator-sections 3 and 4, and the hinge members 5 and 6, by which, with the hinge-rod *a* and connecting-bolt *c*, said tube-sections are united, are severally similar to the corresponding parts shown in Letters Patent No. 641,045, issued January 9, 1900, on my application, and are not especially a part of my present invention. Near the upper end of the tube part 4 is a collar 7, which forms the support for a turn-table and also the upper attaching-ring for the upper ends of the truss-rods *r*. This collar 7 is rigidly secured in place on said pipe-section 4. The pipe-section 4, as shown best in Fig. 2, extends up a short distance above this collar and within the movable pipe-section 9. The latter is rigidly connected to the flanged ring 8, forming a turn-table which rests and moves upon the part 7. In order to prevent these two parts 7 and 8 from becoming separated, the former is provided with a bifurcated ear 10, by means of which a clamp 11 is attached thereto, which extends up and over the flange portion of the turn-table 8, being secured to the ear 10 by means of a bolt 12. The pipe-section 9 is made of sufficient diameter to pass telescopically down over the upper end of the pipe-section 4. There is more or less dust in grain, and some of it is liable to work in between the pipe-sections 4 and 9. I have therefore formed perforations *p* in the lower end of the pipe-section 9, so that any dust which works down behind the upper end of the pipe-section 4 may escape through such perforations, thus avoiding any binding or clogging on this account.

Rigidly secured to the pipe-section 9 and forming a continuation thereof is the separating-head 13, the outer side of which I form of perforated or reticulated material, as heretofore. Pivoted to the extreme end of this separating-head is the delivery tube or pipe 14, which should be provided on its lower end with a shut-off gate *g* and extend outwardly and downwardly to the point of delivery, as to a wagon. This delivery-tube is supported by the pivot 15, resting in hinge-brackets *b*, and by a brace-rod 16, connected to a ring 17 on said tube. The lower end of this brace-rod extends down and is carried by the hinge part 6, said hinge part 6 being provided with suitable bearings for the purpose. A desirable and simple form of such bearing may be holes *h* or seats formed in the structure of the hinge

into which the end of the brace part may enter, or a suitable separate ring above the hinge part 6 might be provided, as shown in Fig. 7, to which the lower end of the brace might be connected. This ring when used may be revolved around, as desired, while the turn-table 8, carrying the upper pipe-section 9, will correspondingly revolve on the collar 7. The axis of rotation in both cases being the vertical axial line through the center of the elevating tube or pipe, it will be seen that the operation of the machine is the same in whatever direction the delivery-tube is pointed, while no portion of the machine proper below the turn-table 8 is disturbed in its position, thus permitting the general structure to be rigidly and strongly attached to the separator, while providing a convenient adjustment of the delivery-point. When the ring is not used, the lower end of the brace-rod may be shifted from point to point on the hinge part 6, as is clearly indicated by dotted lines in Fig. 3, which serves the same purpose.

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

1. The combination, in a pneumatic elevator, of the elevator-boot, the upright elevator tube or pipe leading therefrom, a ring secured to said tube near the upper end, a turn-table mounted on said ring, a short pipe-section extending up from said turn-table, a separating-head on the upper end of said pipe-section, a delivery-tube extending out from said separating-head, a brace connected to said delivery-tube and resting in suitable supports on the elevator tube or pipe at a suitable point, whereby said delivery-tube may be shifted on a vertical axis of rotation substantially coincident with the axial line of the elevator-tube, substantially as shown and described.

2. The combination, in a pneumatic elevator, of the elevator-boot, the elevator-tube leading therefrom, a turn-table structure near the upper end of said elevator-tube, a tube-section connected to and extending outwardly from one member of said turn-table and revolubly arranged in respect to the upper stationary section of said elevator-tube, the outer pipe-section being perforated where it surrounds the inner pipe-section, thus permitting the escape of any dust or dirt which may work in between them, substantially as and for the purposes set forth.

3. The combination, in a pneumatic elevator, of the stationary section 4 of the elevator tube or pipe, a collar 7 thereon having a bifurcated downwardly-extending ear 10, a revoluble pipe-section 9, a turn-table ring 8 secured thereto, and a clamp 11 carried by the ear 10 and connecting the parts 7 and 8, substantially as shown and described.

4. The combination, in a pneumatic elevator, of the boot, the elevator-tube composed of two sections 3 and 4, the combined hinge and truss structure 5 and 6, the guy-rods running from said structure downwardly to said boot and upwardly to said tube, a collar on said tube to which said guy-rods are immediately connected, a turn-table ring mounted on said collar, a pipe-section connected to said ring and revoluble therewith, a separating-head on said pipe-section, and a delivery-tube supported from said separating-head, substantially as set forth.

In witness whereof I have hereunto set my hand and seal, at Indianapolis, Indiana, this 25th day of April, A. D. 1899.

JAMES B. SCHUMAN. [L. S.]

Witnesses:
CHESTER BRADFORD,
JAMES A. WALSH.