(No Model.) 2 Sheets—Sheet 1.

G. A. RAASCH & H. FAHRMEIER.

PNEUMATIC STACKER.

No. 525,281. Patented Aug. 28, 1894.

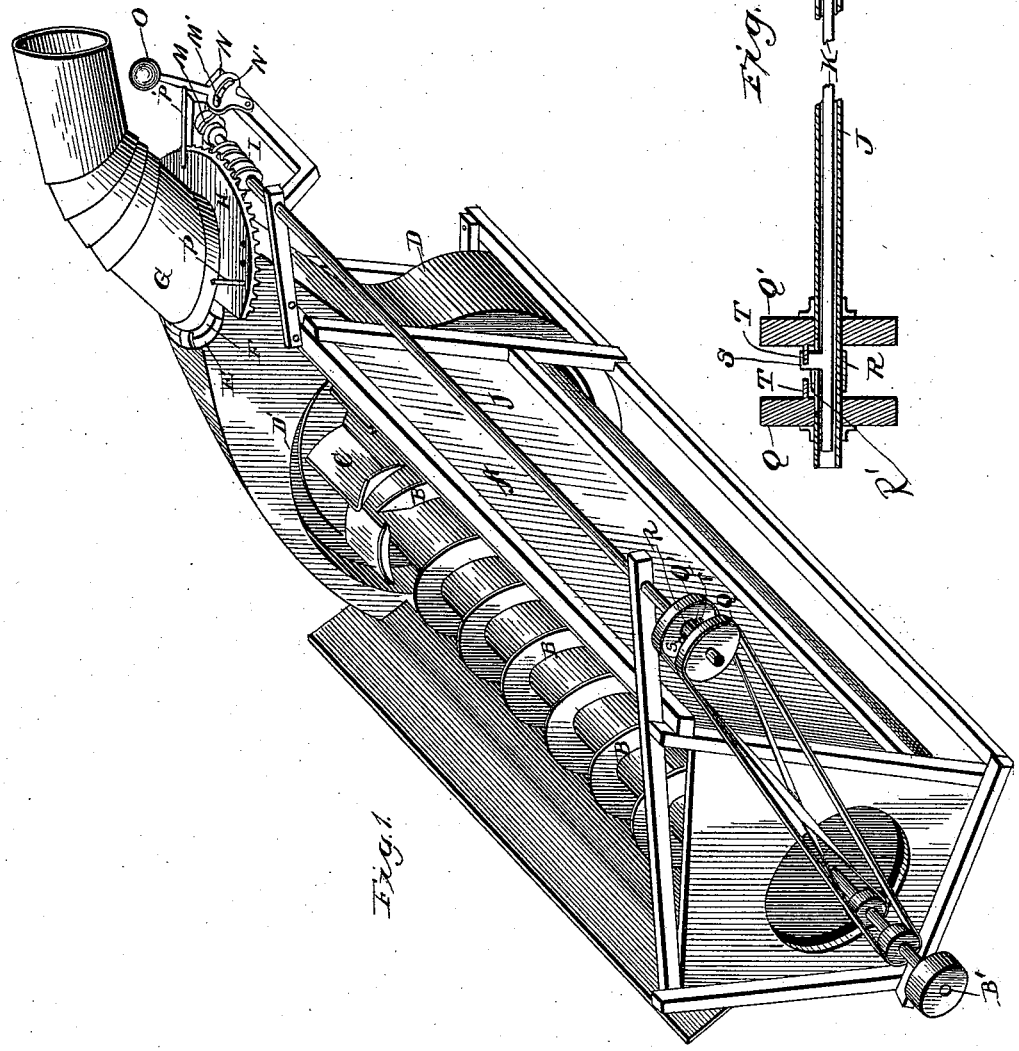

Fig. 1.

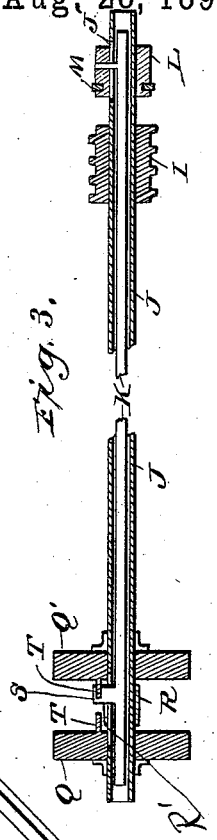

Fig. 3.

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 2.

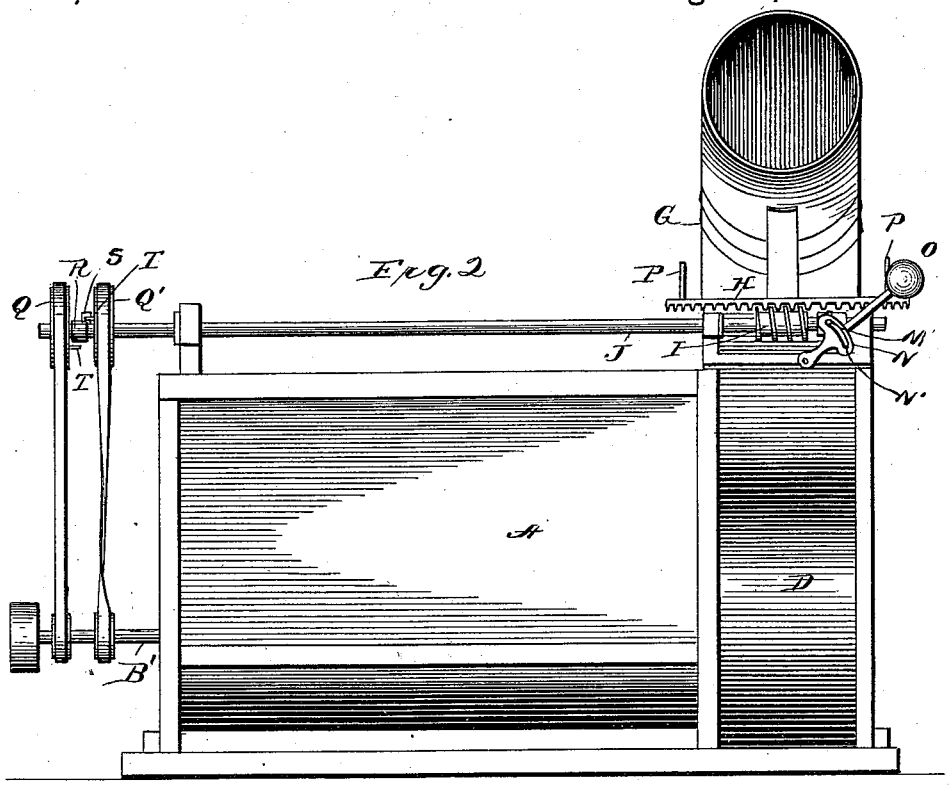
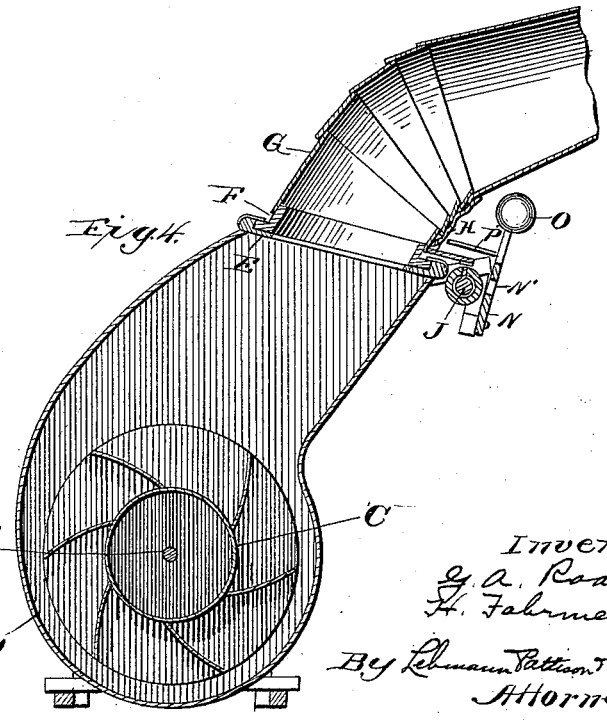


Fig. 4.



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UNITED STATES PATENT OFFICE.

GUSTAVUS A. RAASCH AND HENRY FAHRMEIER, OF HIGGINSVILLE, MISSOURI.

PNEUMATIC STACKER.

SPECIFICATION forming part of Letters Patent No. 525,281, dated August 28, 1894.

Application filed March 23, 1894. Serial No. 504,847. (No model.)

To all whom it may concern:

Be it known that we, GUSTAVUS A. RAASCH and HENRY FAHRMEIER, of Higginsville, in the county of Lafayette and State of Missouri, have invented certain new and useful Improvements in Pneumatic Stackers; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

Our invention relates to an improvement in pneumatic stackers; and it consists in the novel features of construction hereinafter fully described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of our improved machine. Fig. 2 is a rear elevation of the same. Fig. 3 is a sectional view of the tube oscillating mechanism. Fig. 4 is a vertical sectional view.

The object of our invention is to construct an improved stacker having an oscillating tube for discharging the material evenly from one end of the stack to the other; and a further object is to so arrange the tube operating mechanism that the movement of the tube will be reversed automatically when its limit in either direction has been reached.

The stacker consists of a hopper A in which is suitably journaled the shaft B′, carrying the spiral and leaning conveyer blades B. Upon one end of shaft B′ is fan C which rotates in casing D at one end of the hopper, the hopper and casing communicating through opening D′. The said casing extends upward as shown and upon its top end is a flanged bearing ring E in which is seated the lower flanged end F of tube G.

Secured to the base of the tube is the cogged segment H which is engaged and operated by the worm gear I which is mounted on the hollow shaft J. The latter is suitably journaled in bearings as shown which extend from the hopper. Extended through said shaft is rod K which is connected at its inner end with sleeve L on said shaft, the connection being effected through slot J′ of the latter. The sleeve L is grooved as shown and embraced by yoke M from which projects stud M′ which extends into curved slot N′ of arm N. This arm is pivotally supported at its lower end as shown while at its upper end it carries weight O.

Projecting from the upper side of segment H are the pins P and extending inward from arm N is the arm P′, so that as the segment is rotated by the worm gear before described one of the pins will engage arm P′ and throw the lever to the opposite side, thus shifting sleeve L and with it rod K for the purpose of reversing the movement of shaft J and tube G in the manner now to be explained.

Loosely journaled upon the outer end of shaft J are the band wheels Q, Q′. From the former leads the straight belt to a band wheel on shaft B′ of the conveyer, while from wheel Q′ leads the crossed belt to another wheel on same shaft. Arranged between the wheels Q, Q′ for the purpose of holding them apart is the collar R and beneath it the shaft J is slotted as at R′, and projecting through this slot from rod K is the lug S. On the adjacent sides of the wheels Q, Q′ are the stops T, one of which is engaged by lug S when arm N is in one position while the other stop and band wheel are engaged when the position of the said arm is reversed. The said wheels are loose on the shaft and only engage so as to rotate the same when connected in the manner just described.

As the wheels are driven in opposite directions it will be understood that the direction of rotation of the shaft will be changed each time the arm N is thrown and this latter only occurs when the tube G has reached the end of its oscillation.

The pins P on segment H may be arranged any desired distance apart, according to the throw which it is desired the tube shall have.

In operation the material to be stacked is placed in the hopper A from which it will be carried by the screw conveyer into casing D, in which it is forced upward by the fan C and through tube G to the stack. The outer end of the latter is turned and the same is oscillated in the manner described to distribute the material evenly over the stack which is discharging therefrom.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination of an oscillating conveyer tube, a hollow shaft for actuating it, opposite movable band-wheels on the shaft, a rod within the tube which is adapted to be thrown automatically by the conveyer tube, and a means for alternately clutching the said band-wheels with the rod, substantially as shown and described.

2. The combination of an oscillatory conveyer tube carrying a cogged segment, a shaft, means for propelling the same in reverse directions, a gear on the shaft for engaging the segment, a rod for changing the direction of rotation of the shaft, a slotted arm pivoted at its lower end and weighted at its upper end, a yoke in which the rod revolves and which extends into the slot of the arm, and stops movable with the tube which throw the arm, thereby moving longitudinally the said rod, substantially as shown and described.

3. The combination of an oscillatory conveyer tube carrying a cogged segment, a hollow shaft formed with a slot, a means for propelling the same in reverse directions, a gear on the shaft for engaging the segment, a longitudinally movable rod within the shaft for changing its direction of rotation, a movable collar on the shaft which is connected to the rod through the slot in the shaft, a yoke in which the collar revolves, a slotted arm pivoted at its lower end and weighted at its upper and into the slot of which the said yoke extends, and pins or stops movable with the tube for throwing the arm, thereby moving longitudinally the said rod, substantially as shown and described.

4. The combination of an oscillatory conveyer tube, a hollow shaft for actuating it, oppositely movable band wheels on the shaft, a longitudinally movable rod within the shaft adapted to be thrown automatically by the tube, a lug on the rod which projects through a slot in the shaft and which is adapted to clutch with one or the other of the said wheels, substantially as shown and described.

5. The combination of an oscillatory conveyer tube, a hollow shaft for actuating it, oppositely movable band wheels on the shaft, a longitudinally movable rod within the shaft adapted to be thrown automatically by the tube, a collar arranged between the said wheels, projections on the adjacent sides of the latter, and a lug on the rod which projects through a slot in the shaft and which is adapted to engage either one or the other of the wheel projections, substantially as shown and described.

In testimony whereof we affix our signatures in presence of two witnesses.

GUSTAVUS A. RAASCH.
HENRY FAHRMEIER.

Witnesses:
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