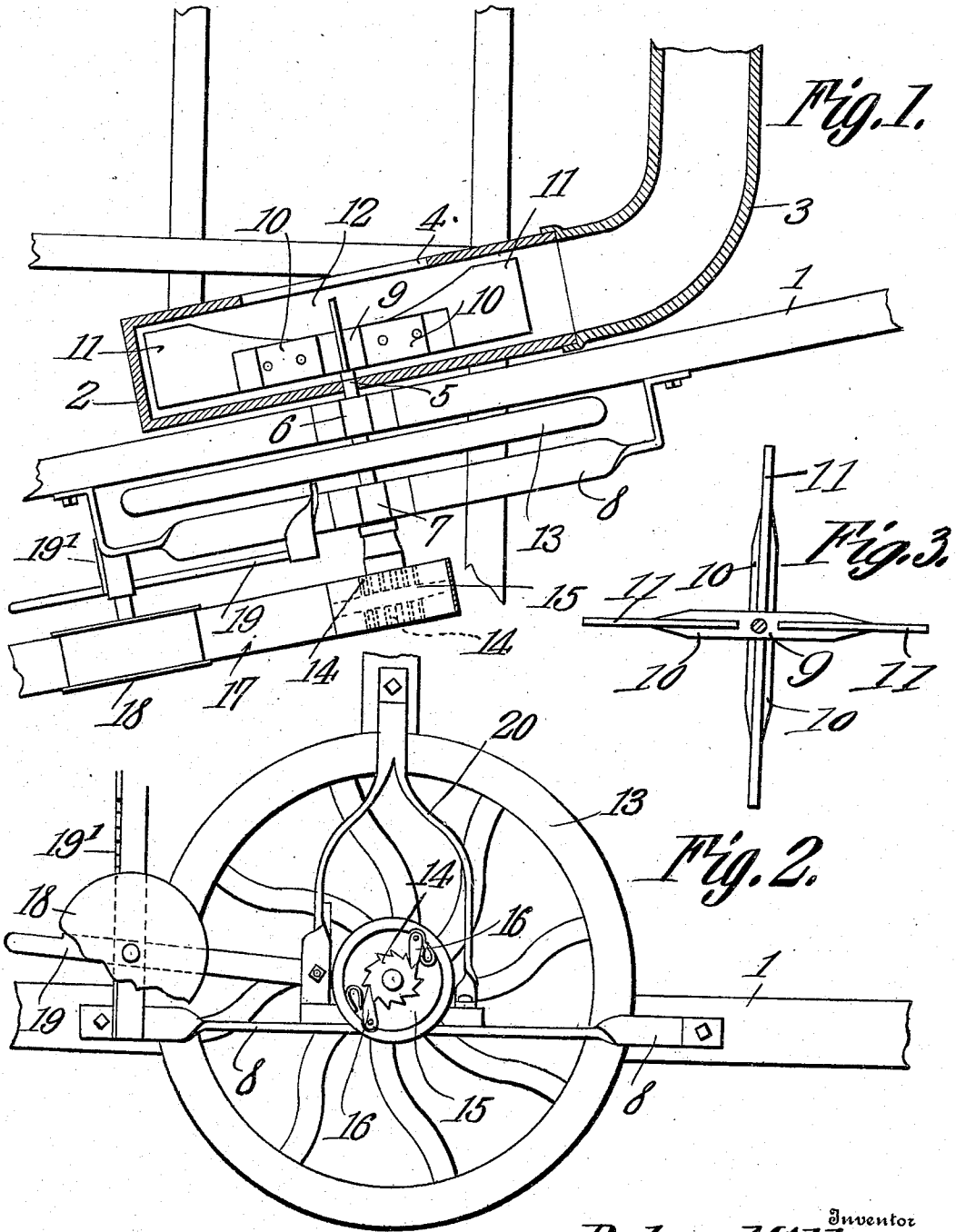


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PNEUMATIC STACKER.
APPLICATION FILED JAN. 16, 1909.

941,583.

Patented Nov. 30, 1909.



Witnesses
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UNITED STATES PATENT OFFICE.

PETER MILLER, OF MINTO, NORTH DAKOTA.

PNEUMATIC STACKER.

941,583.

Specification of Letters Patent.

Patented Nov. 30, 1909.

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To all whom it may concern:

Be it known that I, PETER MILLER, a citizen of the United States, residing at Minto, in the county of Walsh and State of North Dakota, have invented a new and useful Pneumatic Stacker, of which the following is a specification.

This invention relates to pneumatic straw stackers of that type wherein the straw is supplied to the stacking mechanism by an endless carrier, both the blast-producing means and the carrier being driven by the same mechanism.

Heretofore in devices of this character considerable damage has often resulted through the inadvertent stopping of the driving mechanism and the consequent stopping of the fan, this causing the machine to become choked with straw.

The object of the present invention is to provide simple and efficient means whereby the operation of the fan may be caused to continue should the driving mechanism be retarded or completely stopped for a short period.

A further object is to so mount the shaft of the fan and the parts carried thereby as to reduce vibration to the minimum and increase the efficiency of the machine.

With these and other objects in view the invention consists of certain novel details of construction and combinations of parts hereinafter more fully described and pointed out in the claims.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings:—Figure 1 is a view, partly in section and partly in side elevation, of a pneumatic stacker embodying the present improvements, only that portion of the stacker adjacent the fan and the adjoining mechanism being illustrated. Fig. 2 is a bottom plan view of the fan shaft and the mechanism thereon, the driving belt being removed. Fig. 3 is a plan view of the middle portion of the fan.

Referring to the figures by characters of reference 1 designates a portion of the frame of the pneumatic stacker, said frame carrying a fan casing 2, communicating with a pipe 3, such as ordinarily employed in devices of this character. One face of the casing 2 has an inlet 4, to which straw is designed to be supplied by means of a suitable carrier, (not shown) and project-

ing into the middle portion of the casing is a shaft 5 journaled, at points between its ends, within bearings 6 and 7 carried by the frame 1 and by a bracket 8 respectively. Said bracket is secured to the frame 1 and coöperates with the said frame, to prevent the shaft 5 from vibrating while rotating at a high speed.

Secured to that end of shaft 5 within the casing 2 is a hub 9 from which radiates arms 10 each of which is slotted longitudinally to receive the reduced inner end portion of a fan blade 11. It will be noted that the lower edges of these blades are straight, whereas the upper edges thereof are curved inwardly toward the arms 10. When the fan thus constructed is mounted in the casing 2 the reduced inner portions of the blade 11 are disposed below the inlet opening 4, thus forming a receiving space 12, to which the straw is fed, and from which it is directed by the blades into the pipe 3.

Secured to the shaft 5 at a point between the frame 1 and the bracket 8 is a fly-wheel 13 which may be of any preferred construction and which is sufficiently heavy to cause the fan to rotate for a considerable period after the driving mechanism hereinafter described has stopped, through the momentum imparted to the wheel.

Secured to the shaft 5 adjacent its lower end are spaced ratchets 14, and loosely mounted on the shaft between these ratchets is a pulley 15 the rim of which extends around each of the ratchets. Spring-controlled pawls 16 are pivotally mounted upon each side of the pulley as shown in Fig. 2, and these pawls normally engage the ratchets 14, the teeth of the ratchets and the pawls being so disposed with relation to each other that when the pulley is rotated in one direction motion will be transmitted therefrom through the pawls and ratchets to the shaft 5, but, should the rotation of the pulley be retarded or completely stopped said shaft 5 will be free to continue to rotate as before. When the pulley is viewed as in Fig. 1, the rim thereof conceals the pawls surrounded thereby and also conceals portions of the ratchets.

The pulley 15 is designed to be driven by a belt 17 receiving motion from the mechanism utilized for actuating the straw carrier. This mechanism however constitutes no part of the present invention, and has not therefore been illustrated.

If desired, and as shown in the drawings, a tightener may be used in connection with the belt, the same consisting of a pulley 18, carried by a lever 19, which is pivotally mounted on the bracket 8 and is designed to be locked in any desired position by means of a toothed strip 19', mounted on the bracket 8.

If preferred, and as shown in Fig. 2, that portion of the bracket 8 on which the shaft 5 bears, may be reinforced by an auxiliary bracket 20, one end portion of which is forked and straddles the bearing 7, while the other end thereof is attached to the frame 1.

It is thought that the operation of the mechanism herein described will be fully understood from the foregoing description when read in connection with the accompanying drawings.

The pulley 15 is rotated normally in such a direction as to cause motion to be transmitted therefrom through the pawls and ratchet to the shaft 5 and the parts mounted thereon. Straw is fed to the casing 2 through the opening 4, and the fan blades 11 force it through the pipe 3 in the ordinary manner. It is of course understood that these blades rotate very rapidly and that the fly-wheel 13 moves therewith. Should the driving mechanism be stopped or its speed slackened from any cause, as, for example, choking of the carrier, the

fly-wheel 13 will continue to revolve, and the fan-blades 11 will thus continue to drive the straw from the inlet 4 and into and through the pipe 3. Choking of the pipe and consequent injury to the fan is thus prevented. It is of course to be understood that various changes may be made in the construction and arrangement of the parts without departing from the spirit or sacrificing the advantages of the invention.

What is claimed is:—

In a pneumatic stacker, a casing having an inlet and an outlet, said inlet being disposed adjacent the center of one face of the casing, a bracket below the casing, a shaft journaled within the bracket and casing, fan blades radiating from the shaft within the casing, a fly wheel secured to the shaft and between the casing and bracket, a pulley loosely mounted upon the shaft below the bracket, ratchet wheels secured to the shaft adjacent opposite sides of the pulley, pawls carried by the pulley and engaging the ratchets to rotate the shaft in one direction with the pulley.

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

PETER MILLER.

Witnesses:

H. C. DE PUY,
M. FEDJE.