

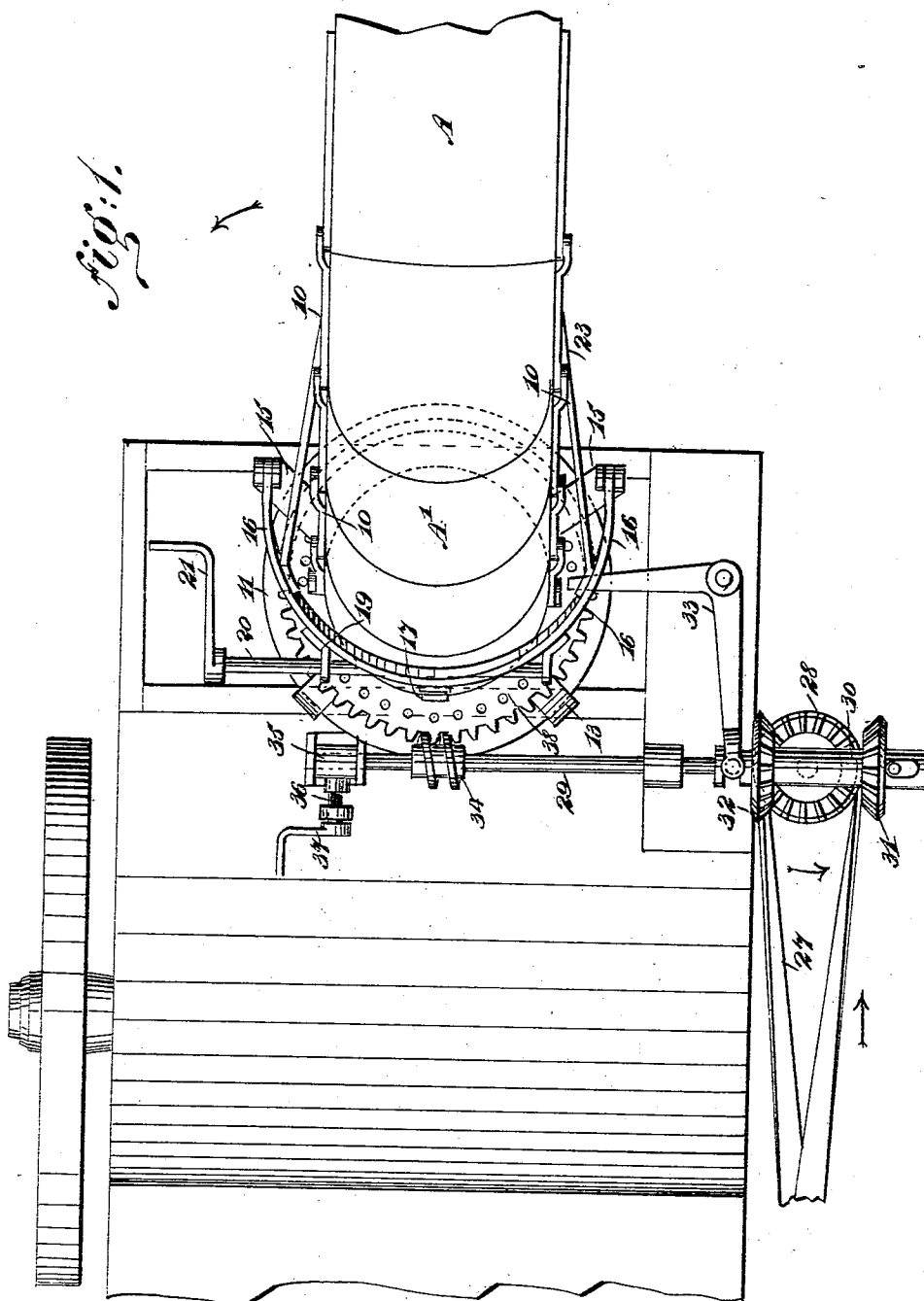
(No Model.)

2 Sheets—Sheet 1.

P. KNAPP.
STRAW STACKER.

No. 555,379.

Patented Feb. 25, 1896.



WITNESSES:

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Chas. Viola
J. R. Acker

INVENTOR

P. Knapp

BY *Munn & Co*

ATTORNEYS.

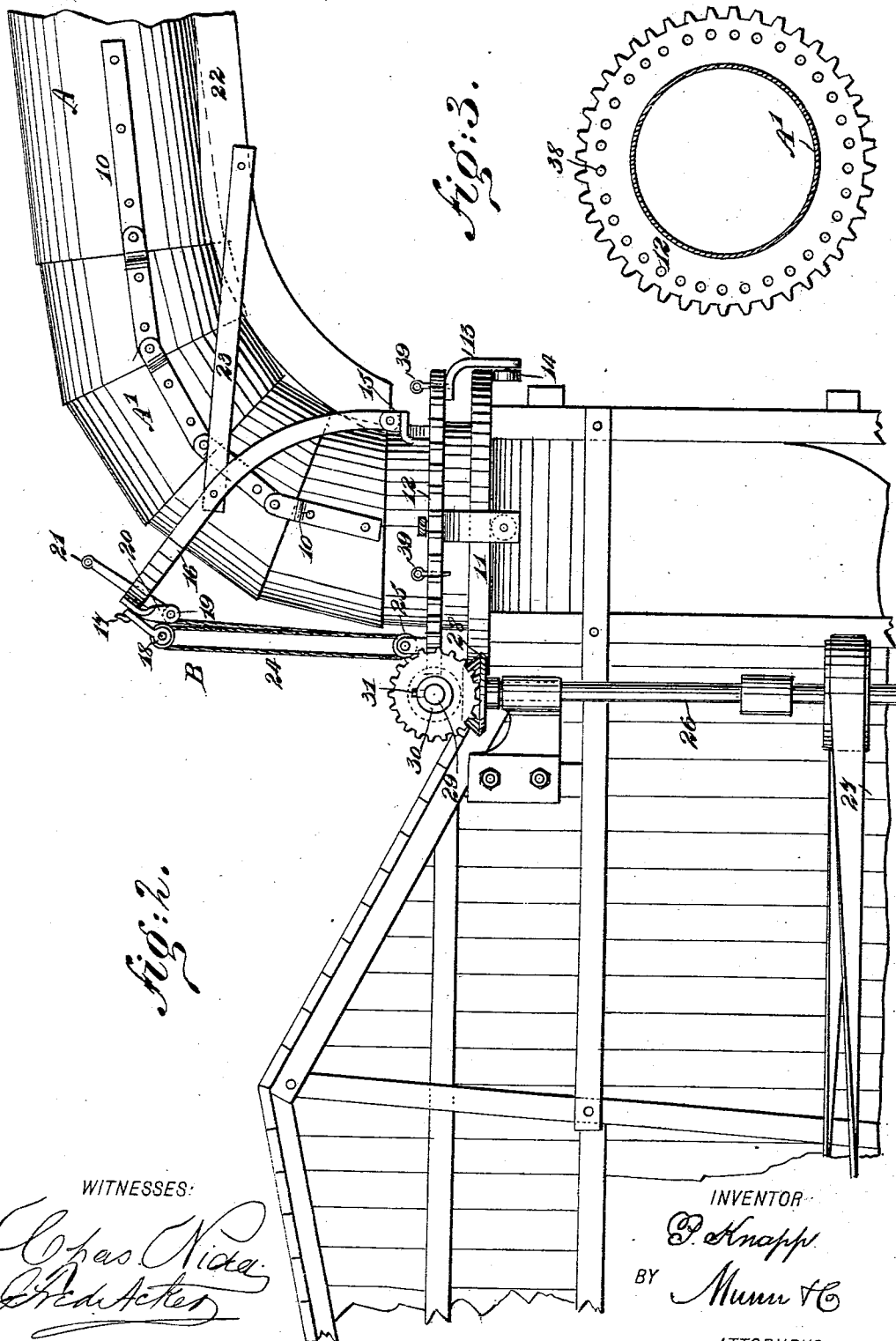
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UNITED STATES PATENT OFFICE.

PETER KNAPP, OF ST. WENDELL, INDIANA.

STRAW-STACKER.

SPECIFICATION forming part of Letters Patent No. 555,379, dated February 25, 1896.

Application filed August 19, 1895. Serial No. 559,771. (No model.)

To all whom it may concern:

Be it known that I, PETER KNAPP, of St. Wendell, in the county of Posey and State of Indiana, have invented a new and Improved Straw-Stacker, of which the following is a full, clear, and exact description.

My invention relates to an improvement in that class of hay and straw stackers known as "wind-stackers," and which stack the hay or straw by means of a pneumatic tube. The object of my invention is to provide a low-lying derrick or hoisting apparatus and apply the same to the stacker in a simple and convenient manner, to the end that the stacker may be easily regulated and used to advantage in barns and other buildings; and a further object of the invention is to provide a means for operating the pneumatic tube laterally by power and controlling the sweep of the same, providing at the same time for an automatically-operated reversing mechanism.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of the improved stacker. Fig. 2 is a side elevation thereof, and Fig. 3 is a horizontal section through the bottom portion of the pneumatic tube immediately above the turn-table attached to the tube.

The tube is attached to a thrashing-machine, and the tube is made in sections—an outer main section, A, and an inner telescopic elbow-section, A'—and said sections are connected and controlled by pivotally-attached links or straps 10, located at opposite sides of the sections, as shown best in Figs. 1 and 2. The inner or lower end of the pneumatic tube is held to turn in any approved manner in a table 11, fixed upon the rear upper portion of the thrashing-machine; and above this fixed table a turn-table 12 is secured to the lower joint of the pneumatic tube, the said turn-table being provided with peripheral teeth. The said turn-table is further provided with downwardly-extending-bracket arms 13 which are passed below the fixed table 11 and

carry friction-rollers 14, which engage with the bottom of the aforesaid fixed table.

A derrick or hoisting apparatus B is employed for raising and lowering the tube, and this apparatus preferably consists of arms 15 projected from the bottom section of the tube, one at each side, or from the turn-table, as may be found most desirable, and a bow-frame 16 is pivotally connected with these brackets, and the bow-frame extends rearwardly around the rear portion of the elbow-section of the tube. At the central portion of the bow-frame 16 a hook 17 is preferably made, adapted to support a pulley 18, while back of this pulley and upon each side of the center of the frame hangers 19 are secured, which hangers serve to journal a winding-shaft 20, having a crank-arm 21 at one of its ends.

The long forward section A of the pneumatic tube rests upon a beam 22, and this beam is connected with the bow-frame 16 by bars 23, located one at each side of the tube. A cable 24 is secured to the winding-shaft and is passed over a double pulley 25, carried by the turn-table, and also over the upper pulley 18, and it is evident that by winding the cable on the winding-shaft or permitting the cable to unwind therefrom the pneumatic tube may be raised or lowered to any desired extent, and it will be understood that any form of locking device may be provided for the winding-shaft if found necessary—as, for example, a pawl and ratchet.

A driving-shaft 26 is journaled at one side of the thrashing-machine, being driven by a belt 27 connected with a driving-pulley of the thrashing-machine, and the drive-shaft 26 is provided with a beveled gear 28 at its upper end. A shaft 29 is journaled on the top of the thrashing-machine back of the pneumatic tube, as shown in Fig. 1, and this shaft extends over the beveled gear 28 of the driving-shaft, having a sleeve 30 splined upon the shaft at that point. The sleeve is fitted with two opposing beveled gears, either of which may be carried into mesh with the beveled gear 28 of the drive-shaft, and the said adjustable gears are designated respectively as 31 and 32, being brought into or carried out of action through the medium of a shifting-lever 33, usually of the elbow type, having one of its members connected with the sleeve

30 and the other member extending over the top of the turn-table 12.

The shaft 29 carries a gear 34, which meshes with the teeth of the turn-table to revolve the same, and the inner end of the shaft 29 is journaled in an adjustable box 35, the movement of which is controlled ordinarily by a screw-shaft 36, provided with a crank-arm 37, so that by carrying the box 35 rearward the driving-gear 34 may be carried entirely out of engagement with the turn-table.

A number of apertures 38 are made in the turn-table adjacent to its toothed surface, and one or more pins 39 may be placed in these apertures. The shafts 26 and 29 will be constantly revolving while the thrasher is in operation, and consequently the tube will be given lateral movement by reason of the turn-table being revolved from the shaft 29, and according to the distance that the tube is to travel laterally the pins 39 will be placed nearer together or farther apart in the turn-table, and as each pin comes in engagement with the shifting-lever 33 it will cause the lever to shift the sleeve 30, and if the machine-tube were formerly traveling to the right it will then be made to return or travel to the left until one or the other of the pins again strikes the shifting-lever, when the direction of revolution of the shaft 29 will be reversed.

This stacker is exceedingly simple, durable, and economic in its construction, and the lateral movement of the pneumatic tube is automatically controlled, while the vertical adjustment of the said tube may be quickly and conveniently effected.

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

1. In a stacker, the combination with a turn-table, and a pneumatic tube carried thereby, of a bow-frame pivoted to the turn-table, a beam upon which the pneumatic tube rests, bars connecting the beam with the bow-frame, a winding-shaft carried by the bow-frame, a pulley also carried by the said bow-frame, a pulley on the turn-table, and a cable secured

to the winding-shaft and passed around said pulleys, substantially as described.

2. In a stacker, the combination with a pneumatic tube, comprising a long outer section, and inner telescopic elbow-sections of straps secured to opposite sides of the several sections, the ends of the straps of one section being pivoted to the ends of the straps of the adjacent sections, substantially as described.

3. In a stacker, the combination with a drive-shaft provided with a gear-wheel at its upper end, a toothed turn-table provided with stops on its upper face, and a pneumatic tube carried by the turn-table, of a horizontal shaft having one end journaled in an adjustable box, means for adjusting said box, a gear on the horizontal shaft and meshing with the teeth of the turn-table, connected gears on said shaft, and adapted to alternately engage the gear of the drive-shaft, and a shifting-lever having one end engaging the sleeve of the connected gears and its other end projecting between the stops of the turn-table, substantially as described.

4. In a stacker, the combination with a vertical drive-shaft provided with a gear-wheel at its upper end, a toothed turn-table provided with apertures, pins in said apertures, and a pneumatic tube carried by the turn-table, of a horizontal shaft having one end journaled in a sliding box, a screw-shaft secured to the box, working in a support and provided with a handle at its end, a gear on the horizontal shaft meshing with the teeth of the turn-table, connected gears on the said shaft and adapted to alternately mesh with the gear of the vertical shaft, and an elbow shifting-lever having one member engaging the sleeve of the connected gears and its other member projecting into the path of the pins of the turn-table, substantially as herein shown and described.

PETER KNAPP.

Witnesses:

JOHN SCHIFF,
NIK SEILE.