No. 790,239. PATENTED MAY 16, 1905.

C. B. WOOD.

STRAW STACKER.

APPLICATION FILED MAY 26, 1904.

2 SHEETS—SHEET 1.

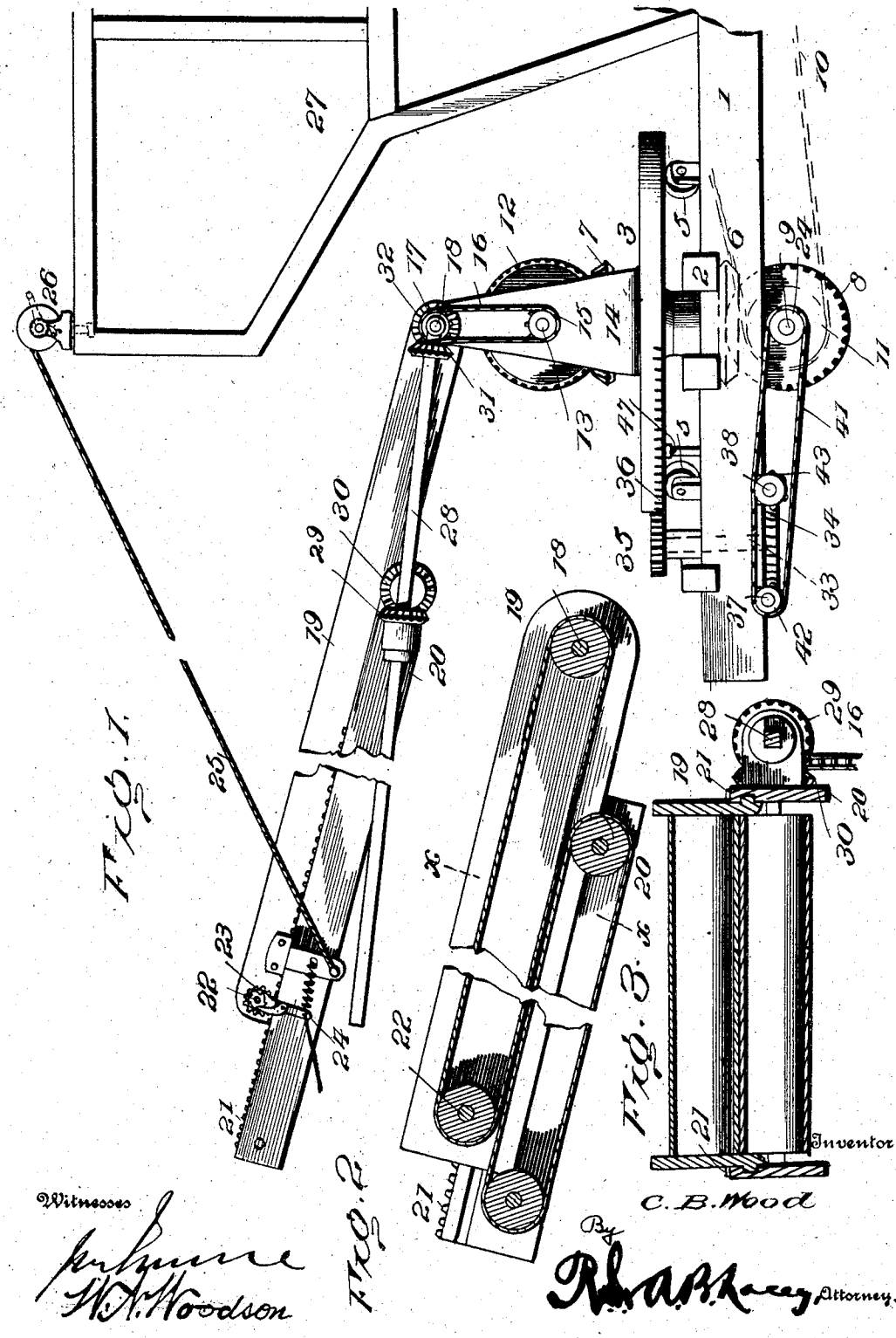


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2 SHEETS—SHEET 2.

Fig. 4.

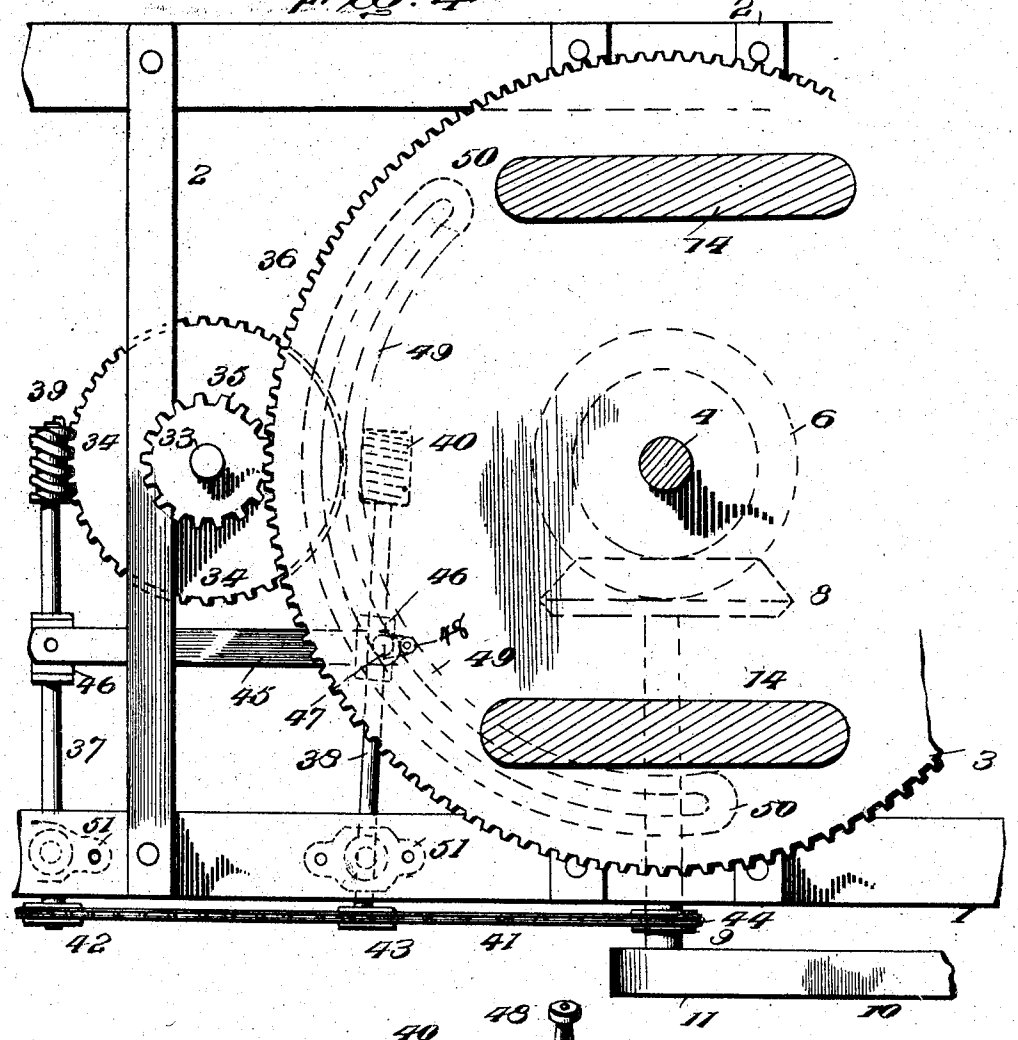
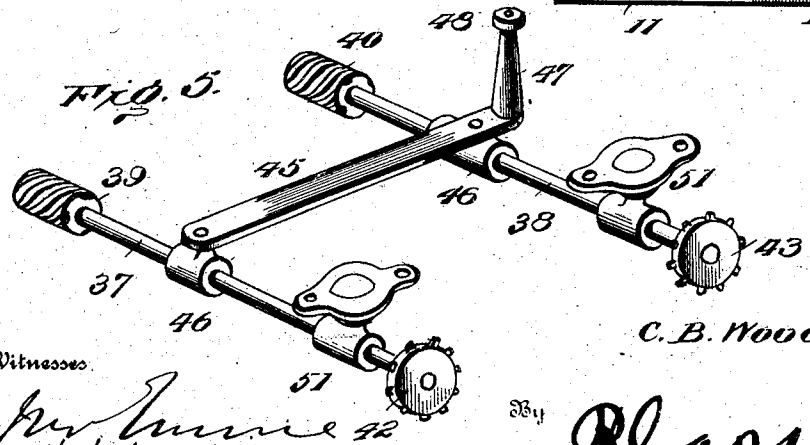


Fig. 5.



Witnesses.

W. N. Woodson.

Inventor

C. B. Wood

By R. A. B. Lacy, Attorneys

No. 790,239. Patented May 16, 1905.

UNITED STATES PATENT OFFICE.

CHARLES BURTON WOOD, OF ROCKWELL, IOWA.

STRAW-STACKER.

SPECIFICATION forming part of Letters Patent No. 790,239, dated May 16, 1905.

Application filed May 26, 1904. Serial No. 209,899.

To all whom it may concern:

Be it known that I, CHARLES BURTON WOOD, a citizen of the United States, residing at Rockwell, in the county of Cerro Gordo and State of Iowa, have invented certain new and useful Improvements in Straw-Stackers, of which the following is a specification.

This invention belongs to apparatus for stacking straw as the same is delivered from a thresher or separator, and aims to improve the general construction whereby the device is rendered subservient to the will of the operator, is more responsive to the actuating mechanism, and in a general way to prove more satisfactory in result as well as in handling.

In mechanism of the character aforesaid it is of the utmost importance that the straw be distributed over a determinate area and that provision be made for adjustment as the height of the stack increases.

It is the purpose of this invention to provide simple and effective means for attaining these results and which are at all times under control.

The conveyer portion of the stacker is composed of slidable parts or sections, and novel means have been devised for transmitting movement to the sliding section at any adjustment within the range of movement.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result, reference is to be had to the following description and drawings hereto attached.

While the essential and characteristic features of the invention are susceptible of modification, still the preferred embodiment of the invention is illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a straw-stacker embodying the invention. Fig. 2 is a longitudinal section of the conveyer, an intermediate portion being broken away. Fig. 3 is a cross-section of the conveyer on the line X X of Fig. 2. Fig. 4 is a top plan view of the turn-table and adjunctive parts, showing the standards to which the conveyer is pivotally connected in section. Fig. 5 is a perspective view of the companion shafts provided with worm-gearing, whereby the turn-table is oscillated so as to swing the conveyer from side to side.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The base portion of the machine, constituting the substructure upon which the turn-table is mounted, comprises longitudinal bars 1 and cross-bars 2. The turn-table 3 is mounted for movement about a vertical axis represented by the shaft 4, and to reduce the friction to the smallest amount possible said turn-table is mounted upon wheels 5, journaled in frames attached to the substructure. The vertical shaft 4 is provided at its lower end with a gear-wheel 6 and at its upper end with a companion gear-wheel 7. The gear-wheel 6 is in meshing relation with a corresponding gear-wheel 8 upon shaft 9, mounted transversely of the substructure, and connected to any convenient operating portion of the separator or thresher by means of the drive-belt 10, said shaft 9 having band-pulley 11, around which the drive-belt 10 passes. The gear-wheel 7 intermeshes with a gear-wheel 12, secured to a transverse shaft 13, mounted in standards or uprights 14, attached at their lower ends to the turn-table 3. A sprocket-gear 15 is secured to the shaft 13, and a sprocket-chain 16 transmits motion therefrom to a companion sprocket-gear 17, secured upon transverse shaft 18, journaled in the upper ends of the standards 14 and supporting the lower end of the conveyer.

The conveyer comprises the sections or parts 19 and 20 of similar formation, each consisting of a frame and endless carrier. The parts or sections are slidably mounted, whereby the conveyer may be lengthened and shortened as required to meet existing conditions. The parts 19 and 20 may be connected in any manner, and suitable means may be provided for relatively moving them and holding the parts in the adjusted position. As shown, the section 20 is provided with cog-teeth 21, forming a rack-bar, and the section 19 is provided with a shaft 22, carrying pinions 23 in mesh with the cog-teeth 21, said shaft 22 being

turned by any means, such as the lever 24, and ordinary ratchet mechanism coöperating with said lever and shaft 22. The conveyer may be raised and lowered at its outer or delivery end by any suitable means, such as the rope or cable 25 and windlass 26, the latter being mounted upon the framework of the separator or thresher 27. The endless carrier of the section 19 receives motion direct from the shaft 18, whereas the endless carrier of the slidable section 20 receives motion through shaft 28 and intermeshing gearing 29 and 30, the shaft 28 being geared to the shaft 18 by means of the gearing 31 and 32 and having the gear-wheel 29 slidable thereon and connected thereto for rotation. The gear-wheels 29 and 30 are at all times in meshing relation, and in any position of the section or part 20 the endless carrier thereof is driven through the instrumentality of the connections just described.

The turn-table is oscillated by means of the gearing now to be described. A vertical shaft 33 is journaled to the substructure and is provided at its lower end with a worm-gear 34 and at its upper end with a gear-wheel 35, which is in mesh with cog-teeth 36 of the turn-table 3. Horizontal shafts 37 and 38 are provided at their inner ends with worm-gearing 39 and 40, which is adapted to alternately mesh with the cogs of the worm-gear 34, so as to impart a reverse movement thereto. The shafts 37 and 38 are driven continuously in the same direction and are connected to the shaft 9 in any suitable way, as by means of the drive-belt 41 and sprocket-gears 42, 43, and 44. When the worm 39 is in mesh with the worm-gear 34, it is rotated in one direction, thereby causing the turn-table 3 and carrier to swing to one side, and when the worm-gear 40 is in mesh with the worm-gear 34 the latter is reversed, thereby swinging the turn-table and conveyer to the opposite side. To effect this result, it is necessary to mount the shafts 37 and 38 in such a manner as to admit of their movement, and for this purpose a bar 45 connects sleeves 46, mounted upon said shafts, said bar 45 having an arm 47, carrying a roller 48 at its upper end, to travel in the groove or track 49 of the turn-table. The parts are so proportioned that both worm-gears 39 and 40 may not make connection with the teeth of the worm-gear 34 at the same time. When the worm-gear 39 is in mesh with the worm-gear 34, the worm-gear 40 is out of mesh, and vice versa. The track or groove 49 comprises parallel portions united at their ends by short turns 50. When the roller 48 reaches the end of one member or portion of the groove 49 and enters the short turn 50, the bar 45 is moved longitudinally, thereby shifting the worm-gears 39 and 40, so as to reverse the motion of the turn-table. The shifting is effected at the ends of the members or parts of the groove 49, and when the roller 48 is traveling in the main portion of the groove either one of the worm-gears 39 or 40 is held in engagement with the worm-gear 34, as will be readily comprehended. In order to admit of the shifting of the worm-gears 39 and 40, the shafts 37 and 38 are mounted in bearings 51, connected to the substructure by a loose joint.

Having thus described the invention, what is claimed as new is—

1. In a straw-stacker, the combination of a turn-table, a support therefor, the gear element 34, means for connecting said gear element with the turn-table, shafts 37 and 38 provided with gear elements to alternately mesh with the gear element 34, loose bearings for the shafts to admit of their having an oscillatory movement, connecting means between the said shafts, a track upon the turn-table having parallel concentric portions connected at their respective ends by short turns, and an arm extended from the connecting means between the aforesaid shafts and arranged to travel in the parts of the said track, substantially as described.

2. In a straw-stacker, the combination of a turn-table provided with a carrier, shaft 33, gearing between the turn-table and said shaft, gear element 34 secured to shaft 33, shafts 37 and 38 provided with gear elements arranged upon opposite sides of the gear element 34, a bar connecting the shafts 37 and 38, and a track upon the turn-table for receiving a projecting part of said bar, said track comprising concentric portions joined at their ends by short curves, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES BURTON WOOD. [L. S.]

Witnesses:
J. P. HERLEY,
HENRY KING.