W. W. TATE.

STACKING APPARATUS.

APPLICATION FILED JAN. 13, 1915.

1,149,796.

Patented Aug. 10, 1915.

2 SHEETS—SHEET 1.

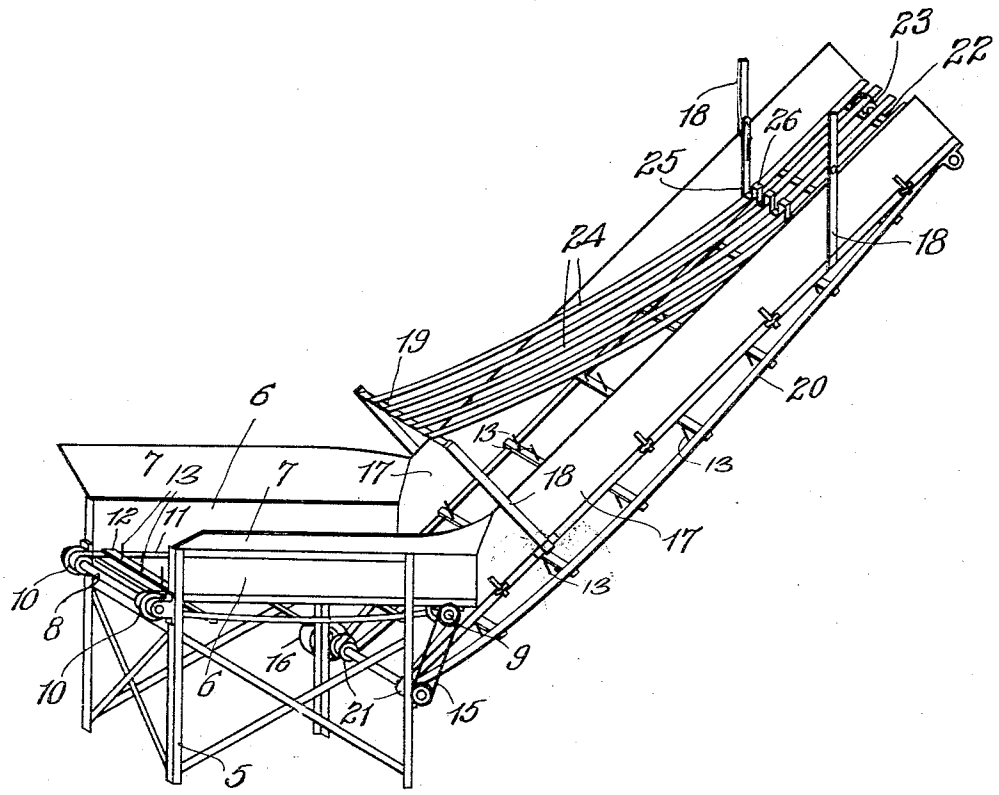


Fig. 1

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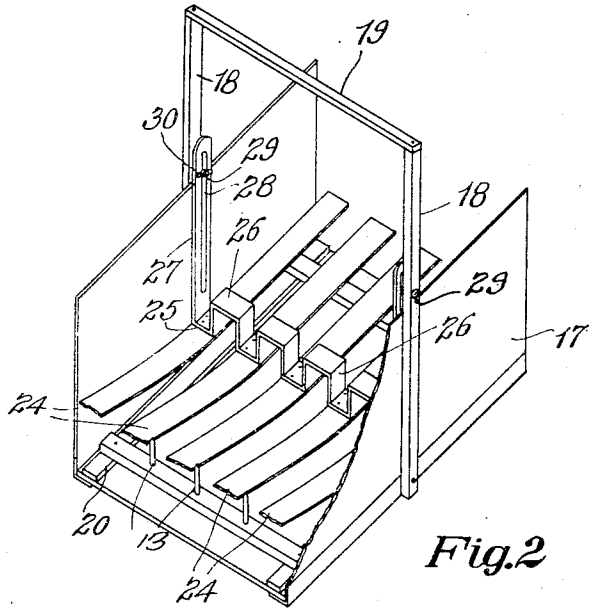


Fig. 2

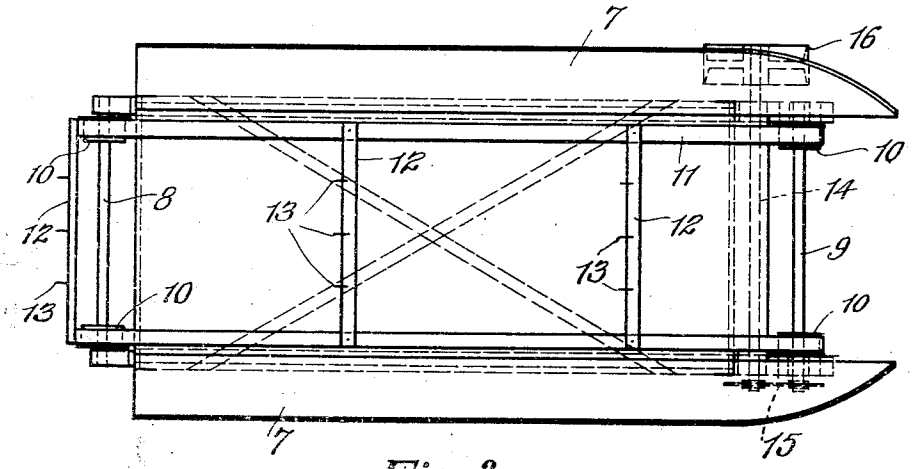


Fig. 3

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STACKING APPARATUS.

1,149,796. Specification of Letters Patent. Patented Aug. 10, 1915.

Application filed January 13, 1915. Serial No. 2,026.

To all whom it may concern:

Be it known that I, WESLEY W. TATE, a citizen of the United States, residing at Spring township, in the county of Center and State of Pennsylvania, have invented certain new and useful Improvements in Stacking Apparatus, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to an improved machine for the mowing and stacking of grain in the sheaf and hay, and has for its primary object to provide improved means for preventing the hay from bunching or gathering in large quantities at the upper end of the elevator so that the hay will be delivered therefrom in practically a continuous straight line and in uniform quantity.

In its more specific aspect, the present invention includes a series of adjustable and resiliently yieldable metal straps disposed above and contiguous to the upper stretch of the elevator at its upper end whereby the purpose above referred to may be attained.

It is an additional object of my invention to generally improve and simplify the construction of apparatus of the above character, and increase its efficiency and serviceability in actual use.

With the above and other objects in view, my invention consists in the novel features of construction, combination, and arrangement of parts to be hereinafter more fully described, claimed, and illustrated in the accompanying drawings, in which,

Figure 1 is a perspective view of a machine embodying my invention in its preferred form; Fig. 2 is an enlarged perspective view of the upper end portion of the device; and Fig. 3 is a top plan view of the receiving hopper and conveyer.

Referring in detail to the drawings, 5 designates a suitable frame structure or support upon the upper end of which the parallel longitudinal side walls 6 of the hopper are suitably mounted or secured. Outwardly inclined directing walls or ledges 7 are fixed upon the upper edges of the hopper walls 6. In suitable bearings secured upon the frame structure 5 at its opposite ends, the transversely disposed shafts 8 and 9, respectively, are journaled. Each of these shafts is equipped with a pair of rollers 10 upon which the parallel flexible straps or belts of an endless apron or conveyer 11 are engaged. These belts are connected by transverse slats 12 in each of which a series of pins 13 are fixed. An operating shaft 14 is also journaled in bearings secured upon one end of the frame structure 5, and one end of this shaft is connected to the corresponding end of the conveyer shaft 9 by means of a chain or other flexible power transmitting element 15. Upon the other end of the operating shaft 14, the belt wheel 16 is fixed to receive a drive belt extending from an engine or other suitable source of power.

To one end of the walls 6 and 7 of the receiving hopper, the upwardly inclined parallel walls 17 of the elevator frame are secured. Uprights or standards 18 are fixed upon the outer sides of each of these walls adjacent its opposite ends and are connected by transverse bars 19.

20 designates the endless elevator which is similar in construction to the conveyer 11 and extends around rollers 21 secured upon the operating shaft 14 and rollers 23 fixed upon a transverse shaft 22 mounted in the upper end of the elevator frame.

Upon the transverse bar 19, at the lower end of the elevator frame, the ends of a series of flexible sheet metal strips or plates 24 are secured. These metal strips extend upwardly over the upper stretch of the elevator 20 and adjacent to their upper ends are secured to spaced portions of a transverse metal bar 25. This metal bar between the points of attachment of the strips 24 thereto, is formed into a series of upwardly extending rectangular loops 26. The extremities of the bar 25 are vertically disposed as at 27, and provided with longitudinal slots 28. Through these slots the inner ends of bolts 29, mounted in the uprights 18, are disposed. Clamping nuts 30 are threaded upon said bolts whereby the bar 25 may be securely clamped in its adjusted position with respect to the frame of the elevator.

From the foregoing description, taken in connection with the accompanying drawings, the construction, manner of operation, and several advantages of my invention, will be clearly and fully understood.

In operation, the hay is fed into the hopper and delivered by the conveyer 11 upon the lower end of the inclined elevator 20. The hay is carried upwardly by this elevator and as it approaches the upper end thereof the resilient metal strips 24 exert a con-

stantly increasing pressure upon the same. The hay which will thus force its way upwardly through the spaces between these spaced strips, may move freely through the loops 26 in the adjustable bar 25, so that said bar will not constitute an obstruction against the continuous movement of the hay. In this manner, it will be appreciated that the hay is prevented from gathering or bunching at the upper end of the elevator, which it is most likely to do, owing to the tendency of the hay to fall over and gravitate downwardly upon the elevator. Thus, the hay is delivered in a flattened condition and a continuous uniform stream from the upper end of the elevator.

It will be manifest that by the use of my invention, the hay may be stacked to better advantage and with greater expedition. The upper ends of the resilient pressure strips 24 may be very easily and quickly adjusted by raising or lowering the bar 25, in accordance with the rapidity of feed of the hay to the machine and the capacity thereof.

It will be apparent that with the adoption of obvious modifications, the apparatus may be suitably mounted upon a mower to receive the hay as it is cut and deliver the same to a suitable hayrack or other vehicle drawn along side of the mower. The invention is also suscepticle of a great many modifications in the form, proportion, and arrangement of the several elements employed, and it is, therefore, to be understood that I reserve the privilege of resorting to all such legitimate changes as may be fairly embodied within the spirit and scope of the appended claims.

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

1. In a machine of the class described, an endless elevator, and means vertically adjustable with respect to the upper stretch of the elevator to yieldably hold the material in place thereon.

2. In a machine of the class described, an endless elevator, a plurality of longitudinally disposed resilient members arranged above the upper stretch of the elevator and fixed at one of their ends, and means for adjusting said members at their other ends with respect to the elevator to vary the pressure of the same upon the material.

3. In a machine of the class described, an endless elevator, a plurality of longitudinally disposed resilient members arranged above the upper stretch of the elevator and fixed at one of their ends, and vertically adjustable means connecting said members adjacent their other ends to vary the pressure of said members upon the material.

4. In a machine of the class described, an endless elevator, a plurality of longitudinally disposed resilient members arranged above the upper stretch of the elevator and fixed at one of their ends, and adjustable means for simultaneously adjusting said resilient members at their other ends with respect to the elevator to vary the pressure of said members upon the material.

5. In a machine of the class described, an endless elevator, a plurality of resilient pressure members fixed at one of their ends and converging to their other ends toward the upper stretch of the elevator, and a vertically adjustable bar connecting said members adjacent their free ends to simultaneously adjust the same with respect to the elevator and vary the pressure of said members upon the material.

6. In a machine of the class described an endless elevator, a plurality of pressure members disposed contiguous to one stretch of the elevator, and a single connecting member between said pressure members having spaced offset portions to accommodate the material carried by the elevator.

7. In a machine of the class described, an endless elevator, a plurality of resilient pressure members fixed at one of their ends and converging to their other ends toward the upper stretch of the elevator, and a vertically adjustable bar connecting said pressure members adjacent their free ends and provided with a series of upwardly projecting loops in line with the spaces between said members to permit of the movement of the material in a plane above the plane of said members at their free ends.

8. In a machine of the class described, an endless elevator, a plurality of independently yieldable pressure members disposed contiguous to one stretch of the elevator, and a single rigid bar connecting said pressure members and having offset portions between the pressure members to permit of the movement of the material on the elevator through the spaces between the pressure members.

9. In a machine of the class described, an endless elevator, a plurality of resilient pressure members fixed at one end and having portions disposed contiguous to one stretch of the elevator, and a rigid bar connecting said pressure members and having a series of loops formed therein corresponding with the spaces between the pressure members to permit of the movement of the material through said spaces.

10. In a machine of the class described, an endless elevator, a plurality of independently yieldable resilient pressure members disposed contiguous to one stretch of the elevator, and means for adjusting said members with respect to the elevator to vary the pressure of the same upon the material.

11. In a machine of the class described, an endless elevator, a plurality of resilient members arranged contiguous to one stretch

of the elevator, an element connecting the pressure members, and means for adjustably mounting said element to vary the pressure of said members upon the material.

12. In a machine of the class described, an endless elevator, spaced resilient members disposed contiguous to one stretch of the elevator, and an adjustably mounted element for holding said members in spaced relation and adapted to vary the pressure of said members by adjustment thereof upon the material.

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

WESLEY W. TATE.

Witnesses:
KLINE WOODRING,
W. HARRISON WALKER.