

F. H. ROSE.
BUNDLE LOADING AND CONVEYING MACHINE.
APPLICATION FILED JULY 28, 1916.

1,219,489.

Patented Mar. 20, 1917.
3 SHEETS—SHEET 1.

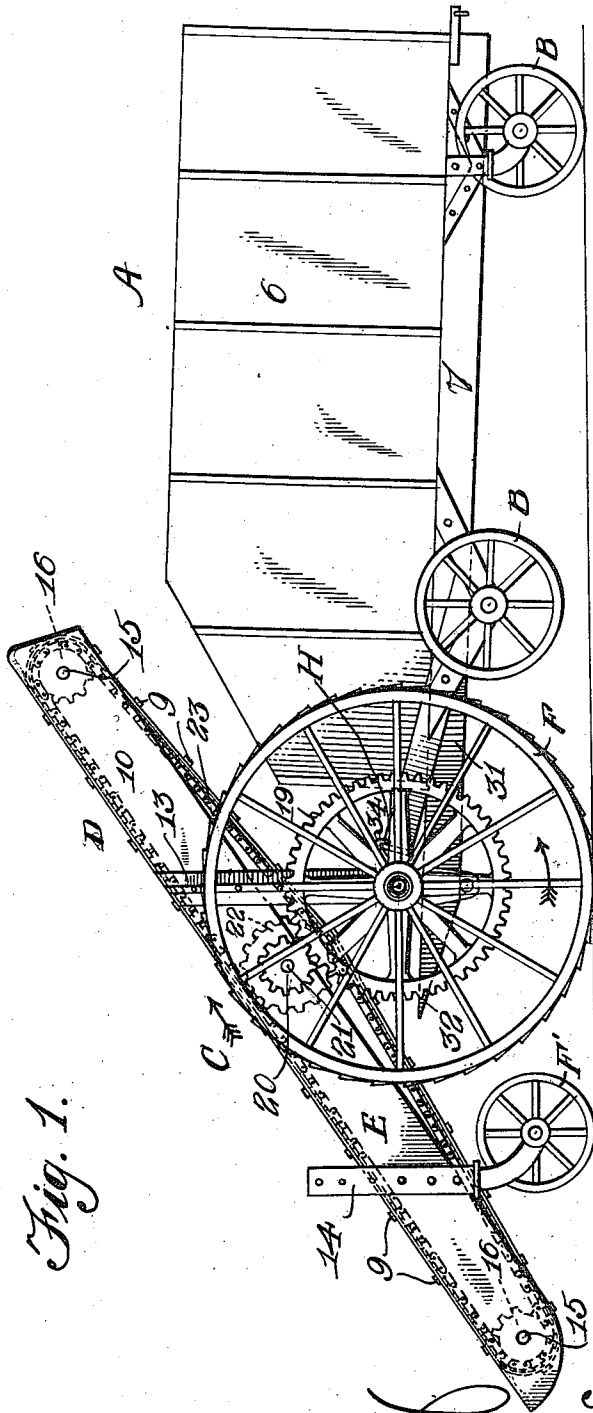


Fig. 1.

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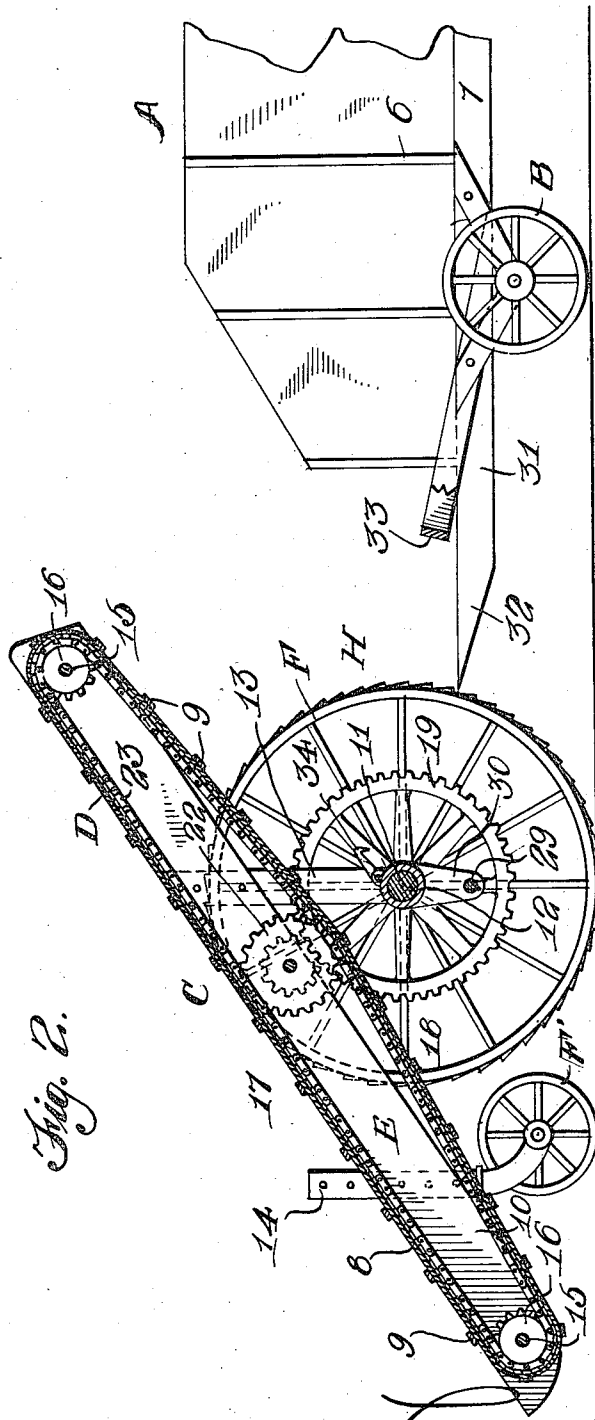


Fig. 2.

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Fig. 3.

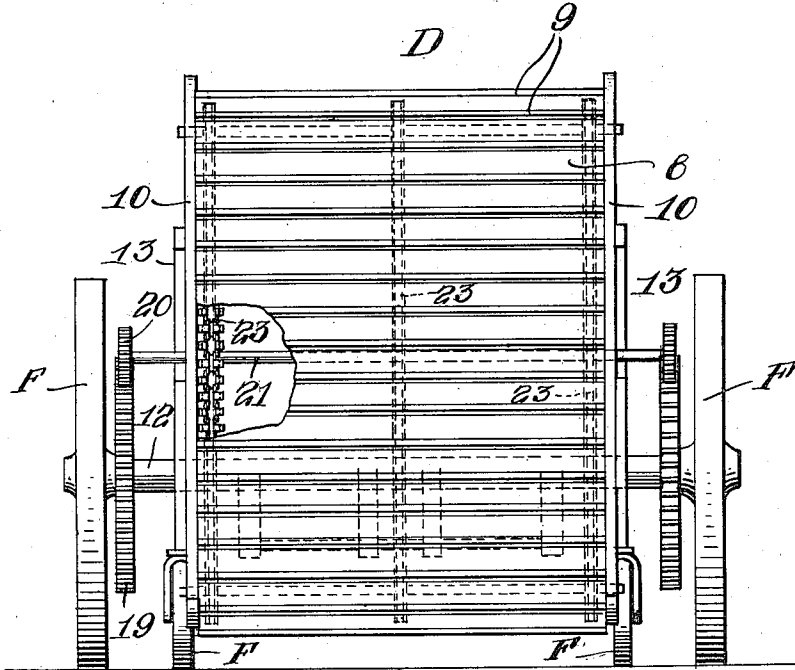


Fig. 4.

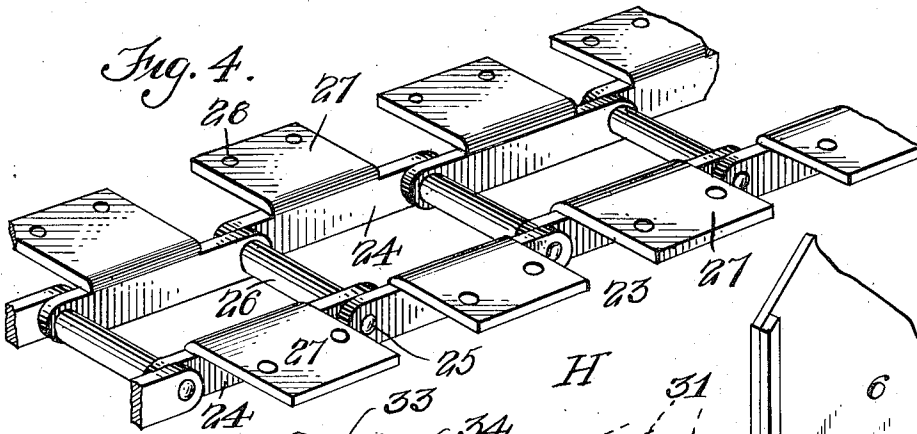
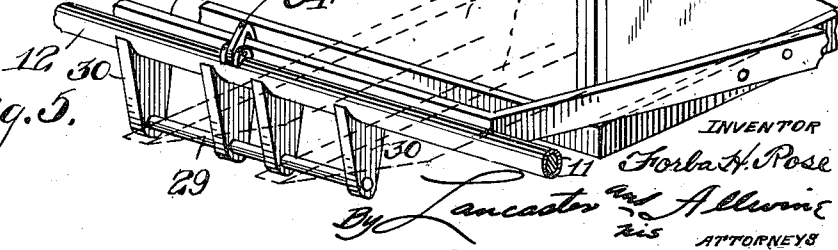


Fig. 5.



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UNITED STATES PATENT OFFICE.

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BUNDLE LOADING AND CONVEYING MACHINE.

1,219,489.

Specification of Letters Patent.

Patented Mar. 20, 1917.

Application filed July 28, 1916. Serial No. 111,868.

To all whom it may concern:

Be it known that I, FORBA H. ROSE, a citizen of the United States, and resident of Red Oak, in the county of Montgomery and State of Iowa, have invented a certain new and useful Improvement in Bundle Loading and Conveying Machines, of which the following is a specification.

My present invention relates to bundle loading and conveying machines which include a receiver, such as a wagon, an inclined endless carrier, and support therefor adapted to elevate and deposit the bundles into said receiver, and coupling mechanism adapted to detachably connect said receiver and support, to operate as a vehicle rigid throughout its length.

The principal objects of my invention are to provide a bundle loader and conveying machine which may be driven with the elevating mechanism in advance of the receiver so that, in acting upon the grain, the kernels will not become separated from the straw when loading inasmuch as the grain is in no way disturbed by the ground wheels of the machine; to provide machines of the character described wherein the elevating mechanism is readily detachable from the receiver, so that it is not necessary to transport the elevating mechanism to and from the field when the receiver is loaded thus reducing wear and tear on the machine to a minimum and relieving the draft animals of unnecessary work, the receiver being easily assembled into operative relation to the elevating mechanism; and, to provide means for coupling the receiver and elevating mechanism in such a manner that a pair of wheels of the receiver are raised from the ground and the machine rendered rigid throughout its length, facilitating the guiding thereof in and about the field, or over roadways.

Other objects of my invention are to provide a machine of the character described which is light in weight, simple in construction, durable, and easily maintained in good repair.

Further objects of my invention will appear in the following detailed description, taken in connection with the accompanying drawings, forming a part of this specification, and in which drawings:

Figure 1 is a side elevation of a machine constructed according to my invention, and showing the receiver in coupled engagement with the elevating mechanism.

Fig. 2 is a view similar to Fig. 1 showing the receiver separated from the elevating mechanism.

Fig. 3 is a front elevation of the elevating mechanism.

Fig. 4 is a perspective view of an improved form of chain used in connection with an endless carrier.

Fig. 5 is a perspective view of coupling mechanism.

In the drawings, where similar characters refer to similar parts throughout the several views, A designates a receiver, such as a wagon including two sets of ground wheels B; C elevating mechanism including an endless carrier D, a support E therefor, including ground wheels F, and mechanism G for imparting movement of said wheels F to carrier D; and, H mechanism for detachably connecting the receiver A with mechanism C.

The receiver C may be any suitable vehicle including a body 6 to receive the bundles, and running gear 7 including the wheels E.

Referring first to the elevating mechanism C, the endless carrier D may be of any suitable type and in the example shown includes an endless flexible main body portion 8 to the outer face of which is secured slats 9, transversely of the carrier, said slats designed to prevent the bundles from sliding down the inclined upper run of the carrier when assembled into operative relation to its support E. With regard to said support, it includes longitudinally extending members 10 supported at one side of the center of gravity by ground wheels F, the axle 11 of which extends through a casing 12, uprights 13 being rigid with said casing and secured to said longitudinal members 10. The members 10 may be supported at the other side of the center of gravity as by caster ground wheels F' adjustably connected with members 10 as through uprights 14. The members 10 are inclined to the horizontal, and at the end portions are provided with shafts 15, carrying wheels 16, in the example shown, these wheels being sprocket wheels, about which the endless carrier is trained, presenting an inclined upper run 17 and an inclined lower run 18 from the lower end of the support to the upper end thereof, as is clearly shown in Figs. 1 and 2 of the drawings. As to the mechanism G for imparting movement of the wheels F to the carrier D, it may comprise a gear wheel 19, rigid with axle 11; a pinion 20 co-meshing with said

gear wheel, and supported by a shaft 21 extending transversely between the runs 17 and 18 of the carrier D, said shaft supported by longitudinal members 10; sprocket wheels 22 rigid with shaft 21; and, a plurality of chains 23 secured to the inner face of carrier D and extending longitudinally thereof, it being preferred to provide a chain 23 adjacent each marginal edge of the endless carrier D and one chain intermediate said chain, as is clearly indicated in Fig. 3 of the drawings. The sprockets 22 engage both runs of their respective chains, so that, as the ground wheel F rotates in the direction indicated by arrow in Fig. 1, the flexible carrier D is moved in the direction indicated by arrow, and any bundles placed upon the carrier are elevated and deposited into the body 8 of receiver A.

It is to be understood that any suitable type of chain 23 may be provided, however, in the example shown, the side plates 24, connected by pins 25, having sleeves 26, are provided with extensions 27, perforated as at 28, facilitating attachment of the links to the body 8 or slats 9 of the carrier D. By the provision of a chain and sprocket intermediate the outermost chains and sprockets, the carrier is effectively supported at its center against sagging should the bundles be heavy.

Referring now to mechanism H for coupling the receiver with the elevating mechanism, it comprises a support 29, such as a rod, rigid with the member 12, as by depending brackets 30; bars 31 carried by the receiver, at its one end, said bars provided with lower faces 32 inclined to the horizontal, as clearly shown in Fig. 2 of the drawings, and adapted to ride upon support 29; a transverse member 33, carried by receiver A adapted to engage the transverse frame member 12 when the bars 31 are in engagement with support 29, so as to raise one set of ground wheels B of receiver A, from the ground, as clearly shown in Fig. 1 of the drawings; and, a catch 34 carried by elevating mechanism C adapted to engage the transverse member 33, so as to hold the receiver in coupled engagement with the elevating mechanism. It is to be observed that the inclined faces 32 of bars 31 are such that the high ends of the faces are foremost, and, as the receiver is advanced toward the elevating mechanism, these faces 32 ride upon the support 29, raising the receiver, so that its one pair of ground wheels B adjacent the bars 31, are moved out of engagement with the ground. As soon as the transverse member 33 engages the transverse member 12, the catch 34 may be swung into place and because of the engagement between these two members 12 and 33, the machine is rendered rigid throughout its length.

It is to be observed that, in operation, the machine is advanced with the lower end of the endless carrier D foremost, and the ground wheels B, F and F' are not drawn over the bundles, which would have a tendency to knock or dislodge the kernels from the straw, as when grain is being elevated and conveyed. As soon as there is a sufficient number of bundles within the carrier D to justify transportation to another point, the receiver may be readily detached from the elevating mechanism and it is not necessary to draw said elevating mechanism over the field with the loaded receiver.

Changes in details may be made without departing from the spirit or scope of my invention; but,

I claim:—

1. A bundle loading and conveying machine comprising in combination, elevating mechanism including an axle and ground wheels thereon, a receiver including ground wheels, and mechanism detachably connecting said elevating mechanism in operative relation to said receiver and pendently supporting one end portion of the latter from the axle of the ground wheels of said elevating mechanism.

2. A bundle loading and conveying machine comprising in combination, elevating mechanism including ground wheels, a receiver including two sets of ground wheels, and mechanism detachably connecting said elevating mechanism into operative relation to said receiver with one set of the wheels of the latter lifted from the ground and the elevating mechanism and receiver in rigid relation throughout their length.

3. A bundle loading and conveying machine comprising in combination, elevating mechanism including ground wheels, a receiver including two sets of ground wheels, a horizontal support carried by said elevating mechanism, bars carried by said receiver at one end thereof, said bars provided with lower faces inclined to the horizontal adapted to ride upon said support of said elevating mechanism and lift the adjacent set of wheels of said receiver from the ground, and a catch means for retaining said elevating mechanism and receiver in operative relation one to the other for the delivery of bundles elevated by said elevating mechanism to said receiver and with said bars in engagement with said support.

4. A bundle loading and conveying machine comprising in combination, elevating mechanism including ground wheels and a transverse frame member, a receiver including two sets of ground wheels, a horizontal support carried by said elevating mechanism transversely thereof, bars carried by said receiver at one end thereof, said bars provided with lower faces inclined to the horizontal, adapted to ride upon said support

of said elevating mechanism and lift the adjacent set of wheels of said receiver from the ground, a transverse member carried by said receiver adapted to engage the said
5 transverse frame member of said elevating mechanism when the said set of wheels is raised from the ground, and a catch carried

by said elevating mechanism adapted to engage said transverse member of said receiver to retain the latter in operative relation to said elevating mechanism for delivering bundles elevated thereby, to said receiver. 10

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