

No. 635,809.

W. W. RICHARDSON.
STRAW STACKER.

(Application filed Dec. 23, 1898.)

Patented Oct. 31, 1899.

(No Model.)

2 Sheets—Sheet 1.

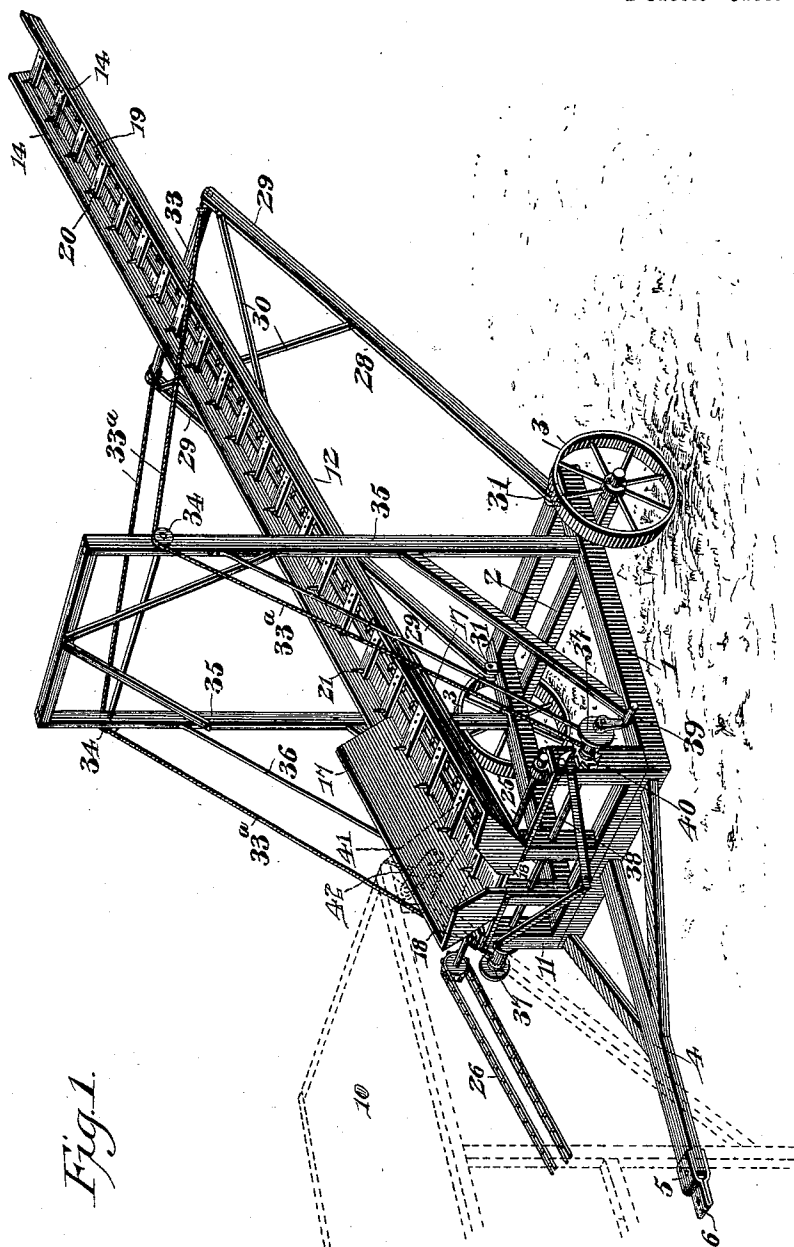


Fig. 1.

Witnesses

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Fig. 4.

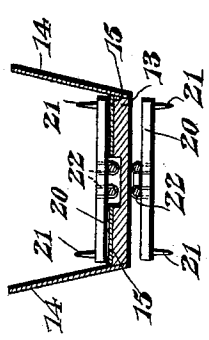


Fig. 2.

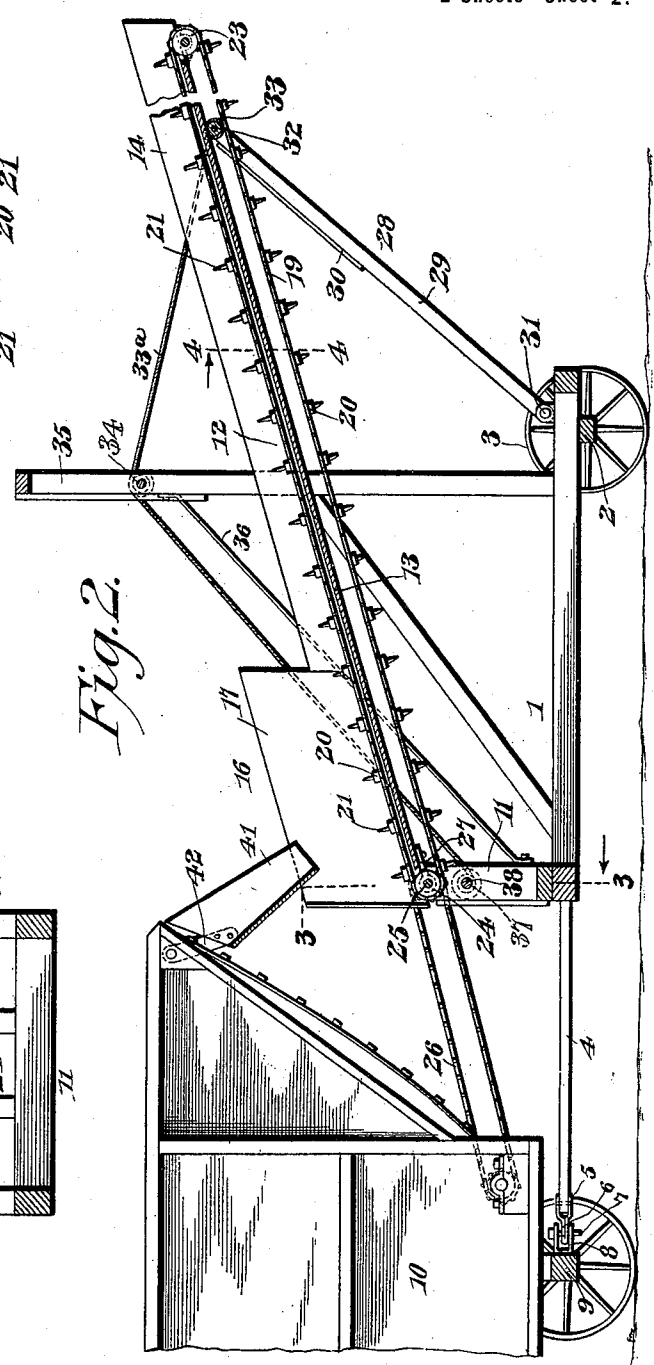
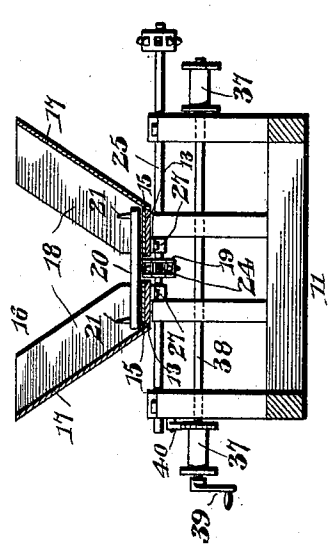


Fig. 3.



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UNITED STATES PATENT OFFICE.

WALTER W. RICHARDSON, OF POMEROY, WASHINGTON.

STRAW-STACKER.

SPECIFICATION forming part of Letters Patent No. 635,809, dated October 31, 1899.

Application filed December 23, 1898. Serial No. 700,144. (No model.)

To all whom it may concern:

Be it known that I, WALTER W. RICHARDSON, a citizen of the United States, residing at Pomeroy, in the county of Garfield and State of Washington, have invented a new and useful Straw-Stacker, of which the following is a specification.

This invention relates to straw-stackers; and it has for its object to provide an improved machine of this character that is entirely separate and independent of the threshing-machine, while at the same time providing simple and efficient means for receiving the straw from the threshing-machine and elevating the same to the stack.

With these and other objects in view, which will readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination, and arrangement of parts hereinafter more fully described, illustrated, and claimed.

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

Figure 1 is a perspective view of a straw-stacker constructed in accordance with this invention and shown in operative relation to the rear end of a threshing-machine. Fig. 2 is a vertical longitudinal sectional view of the construction shown in Fig. 1. Fig. 3 is a transverse sectional view on the line 3 3 of Fig. 2. Fig. 4 is a similar view on the line 4 4 of Fig. 2.

Referring to the accompanying drawings, the numeral 1 designates the truck-frame of the stacker, carrying near one end thereof a transversely-arranged axle, upon the opposite spindle extremities of which are mounted the ground-wheels 3, which provide for the ready transportation of the machine with the thresher or independently of the latter, and at its end opposite the location of the wheel-axle 2 the truck-frame 1 has extended therefrom a draft-pole 4, provided at its extremity with a folded plate 5, having a tongue portion 6, with a pin-opening therein and forming a clevis adapted to receive in its opening the

coupling-pin 7, passing through the oppositely-located perforated members of a clip 8, fitted to the rear axle 9 of the threshing-machine 10. This connection between the pole of the stacker-truck and the thresher provides means whereby the stacker may be moved with the thresher, while at the same time being capable of ready disconnection therefrom should it be necessary or desired to move the stacker independently.

When coupled to the rear axle of the threshing-machine in the manner described, the stacker is arranged directly in rear of the discharging end of the thresher and in proper position for receiving the straw to be elevated onto the stack. The wheeled truck-frame 1 of the stacker has projected from its upper side and at one end thereof an elevated bracket 11, forming a support for the lower inner end of the vertically-adjustable inclined elevator-trough 12. The elevator-trough 12 is made materially narrower than the width of the rear discharging end of the threshing-machine, and essentially comprises a flat-bottom platform 13 and the side wings 14, arising from the longitudinal side edges of the platform and flaring slightly in an upward direction, as clearly shown in Fig. 4 of the drawings, to prevent an overcrowding of the material within the trough, while at the same time confining the straw and preventing it from working out over the sides of the trough before reaching the stack.

The flat-bottom platform 13 extends the full length of the elevator-trough and is entirely imperforate to prevent straw from falling out of the trough at its bottom, and in order to insure a proper working of the carrier and to prevent undue wear the said platform 13 of the elevator-trough is preferably provided upon its upper face with a flat metallic surface or wear-plate 15, which plate is coextensive with the length and width of the bottom platform 13.

At its lower end the inclined elevator-trough 12 is fitted with a flared receiving-hopper 16, essentially comprising the opposite upwardly-divergent side walls 17, rising from the sides of the bottom platform 13, at the lower end of

the latter, and of a materially greater width than the width of the main side wings 14 of the trough, and said side walls 17 of the receiving-hopper 16 are provided at their lower ends with the inturned end pieces 18, which serve to hold the straw within the hopper until it is caught up by the endless carrier traveling through the trough, which endless carrier essentially consists of a single endless sprocket-chain 19 and a plurality of regularly-spaced transverse slats 20.

The endless sprocket-chain 19 is arranged centrally between the sides of the elevator-trough and extends the full length of the latter, while the carrier-slats 20 are arranged transversely of said chain and are of a length equaling the width of the bottom platform 13, so as to work completely over the said platform and engage with the straw resting thereon. To facilitate the proper engagement of the carrier-slats 20 with the straw within the elevator-trough, the said slats are preferably provided with a plurality of teeth 21, projecting therefrom, said teeth being usually arranged, respectively, at opposite ends of the slats. The carrier-slats 20 are fastened intermediate their ends to the single sprocket-chain 19 by means of clip-bolts 22 or equivalent fastening means, so that the slats will move in unison with the chain as a part of the complete carrier, which provides for elevating the straw through the trough and onto the stack.

The single endless sprocket-chain 19 of the straw-carrier passes over the oppositely-arranged sprocket-wheels 23 and 24, located, respectively, at the upper and lower ends of the elevator-trough, the lower of said sprocket-wheels 24 being mounted on the horizontal drive-shaft 25, mounted in suitable bearings on top of the elevated bracket 11 at one end of the truck-frame. Motion may be conveniently transmitted to the drive-shaft 25 by means of a suitable driving-chain connection 26 with one of the operating-shafts of the threshing-machine 10, and at this point it will be observed that the drive-shaft 25 also forms a pivotal support for the lower end of the inclined elevator-trough 12, which trough has suitable clip or bearing connections 27 with the said shaft.

To provide for swinging the inclined elevator-trough 12 on its pivot, and thereby change the inclination or angular disposition thereof, the swinging adjusting-frame 28 is employed. The said frame 28 essentially consists of opposite side bars 29, connected together by suitable cross-bracing 30 and pivotally mounted at their lower ends, as at 31, on the truck-frame 1 at one end of the latter. The upper ends of the side bars 29 of the swinging adjusting-frame 28 are connected by a rod 32, supporting a roller 33, bearing under the outer end portion of the trough, where- by the raising and lowering of the frame 28

will correspondingly raise and lower the trough, and thereby change the inclination thereof. The adjustment of the frame 28 is effected through the medium of the adjusting-cables 33^a, connected at one end to the upper end of the frame 28 at opposite sides of the elevator-trough and respectively passing over the oppositely-arranged guide-pulleys 34, mounted at opposite sides of an upright rectangular supporting-frame 35, arising from the truck-frame 1 and rigidly sustained in its upright position by means of suitable braces 36. The terminals of the adjusting cables or ropes 33^a opposite their connection with the adjusting-frame 28 are arranged to wind and unwind on the spools 37 at opposite ends of a windlass-shaft 38, mounted in suitable bearings on the elevated bracket 11 and carrying at one end a crank 39. The said windlass-shaft 38 is also fitted with a pawl-and-ratchet check device 40, which prevents the shaft from turning after the swinging adjusting-frame 28, together with the elevator-trough, have been adjusted to the desired elevation.

As the flared receiving-hopper 16 at the lower end of the elevator-trough is also of a materially less width than the discharging end of the threshing-machine, it is necessary to provide supplemental means for delivering all of the straw into said hopper. This is preferably effected through the medium of a tapering spout 41, attached to the rear end of the threshing-machine casing by means of pivotal hanger-links 42, which permit the spout to be swung back on top of the thresher when not in use and also to hang in a pendant position directly overhanging the hopper, so as to receive all straw passing out of the discharge - opening at the rear end of the thresher and deflect such straw into the hopper 16, where it is caught up by the endless carrier and carried through the inclined elevator-trough onto the stack.

From the foregoing it is thought that the construction, operation, and many advantages of the herein-described straw-stacker will be readily apparent to those skilled in the art without further description, and it will be understood that changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

In a straw-stacker, the combination of a truck-frame, an elevator-trough pivotally supported at one end on the truck-frame and having a flat bottom, said trough being further provided at its inner end with a receiving-hopper having upwardly-divergent side walls formed at their lower ends with inturned end pieces, an endless straw-carrier work-

ing within the trough and the receiving-hopper thereof, a delivery or feed chute suspended from the thrasher-casing, and overhanging said receiving-hopper, and an adjustable support for the unpivoted portion of the elevator-trough, substantially as set forth.

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

WALTER W. RICHARDSON.

Witnesses:

JOHN H. SIGGERS,
ROBT. E. CRUMP.