No. 792,549. PATENTED JUNE 13, 1905.

W. B. PENROSE.

SHOCK OR GRAIN LOADER.

APPLICATION FILED JUNE 8, 1904.

5 SHEETS—SHEET 1.

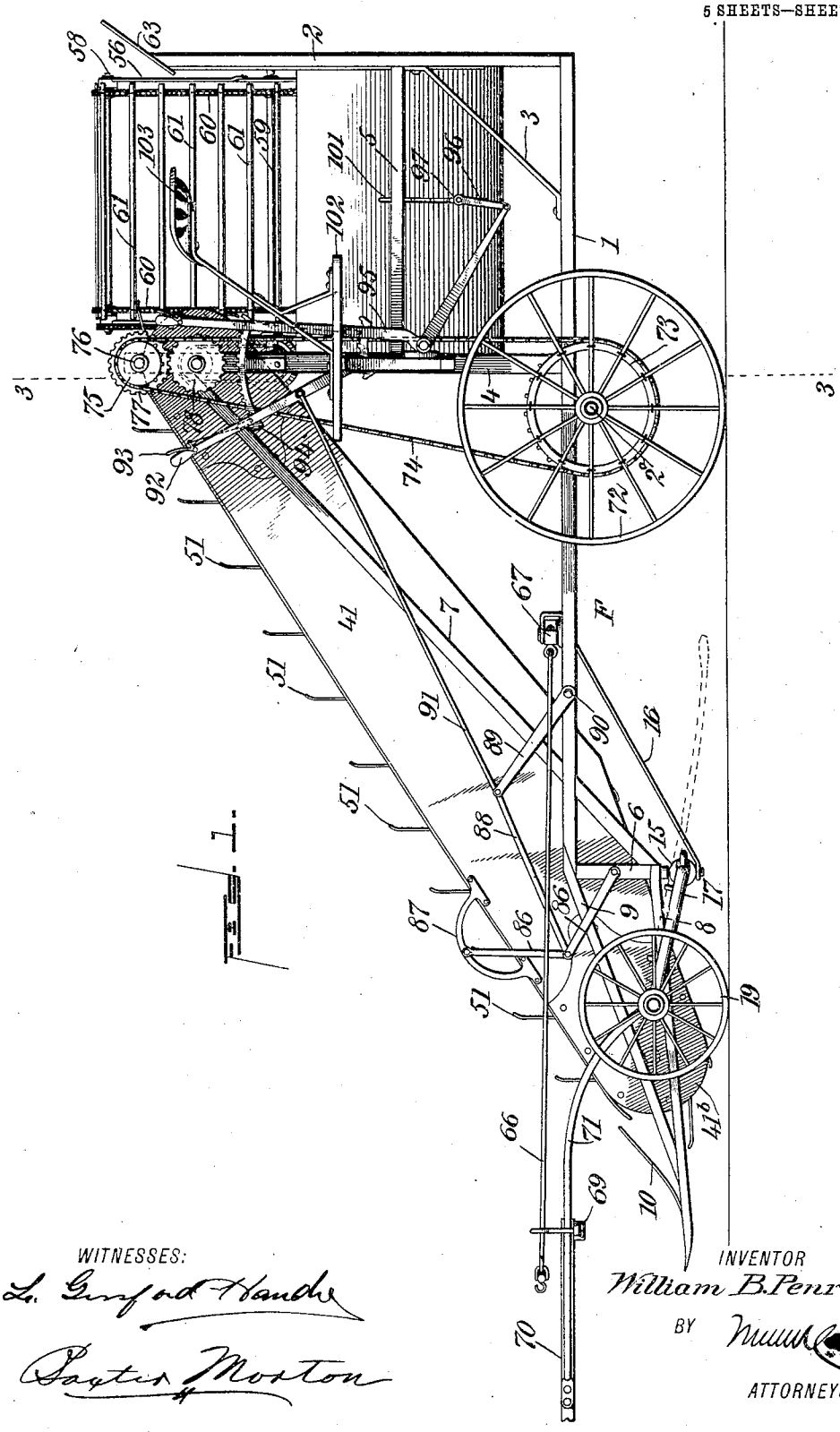


Fig. 1.

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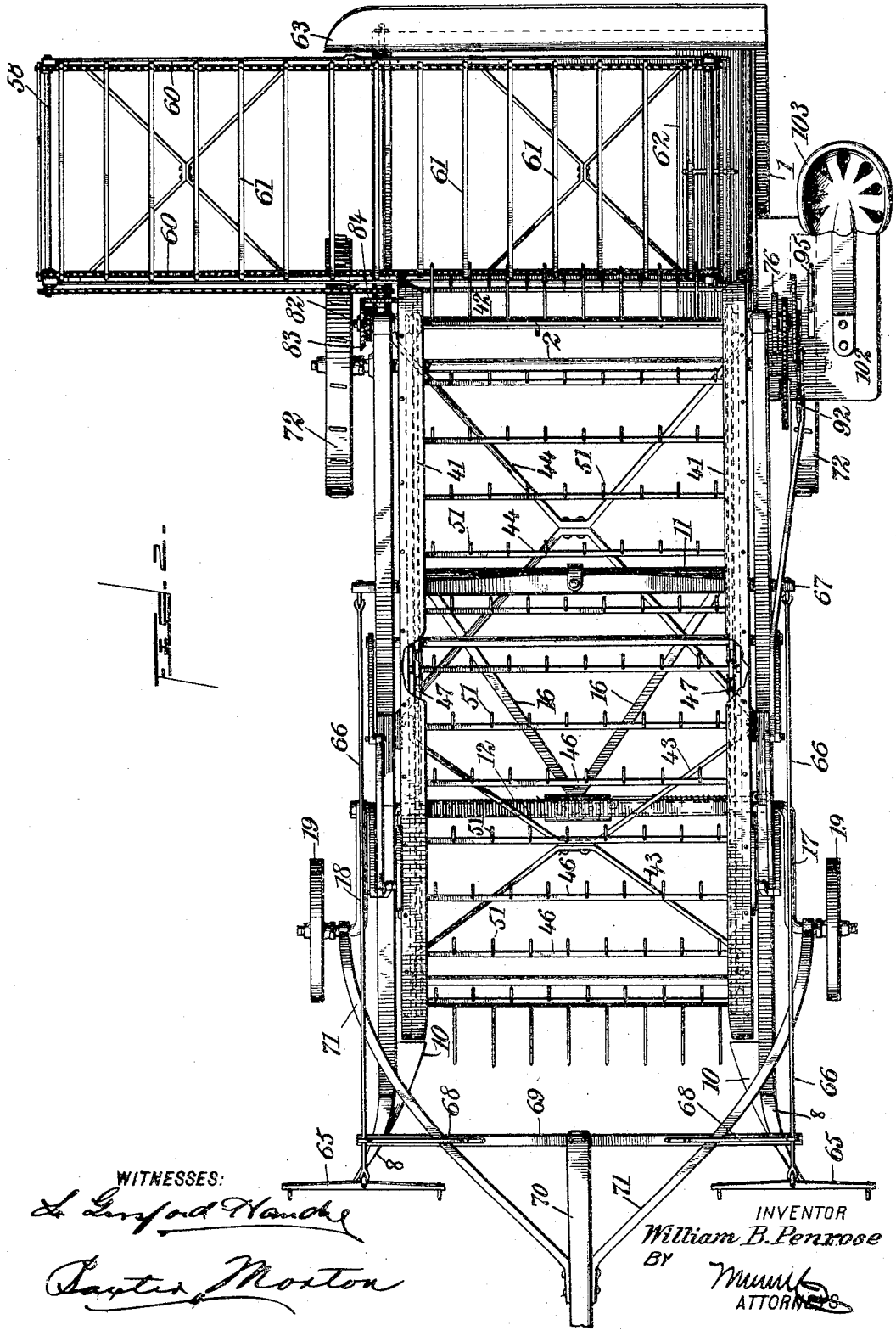
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5 SHEETS—SHEET 2.



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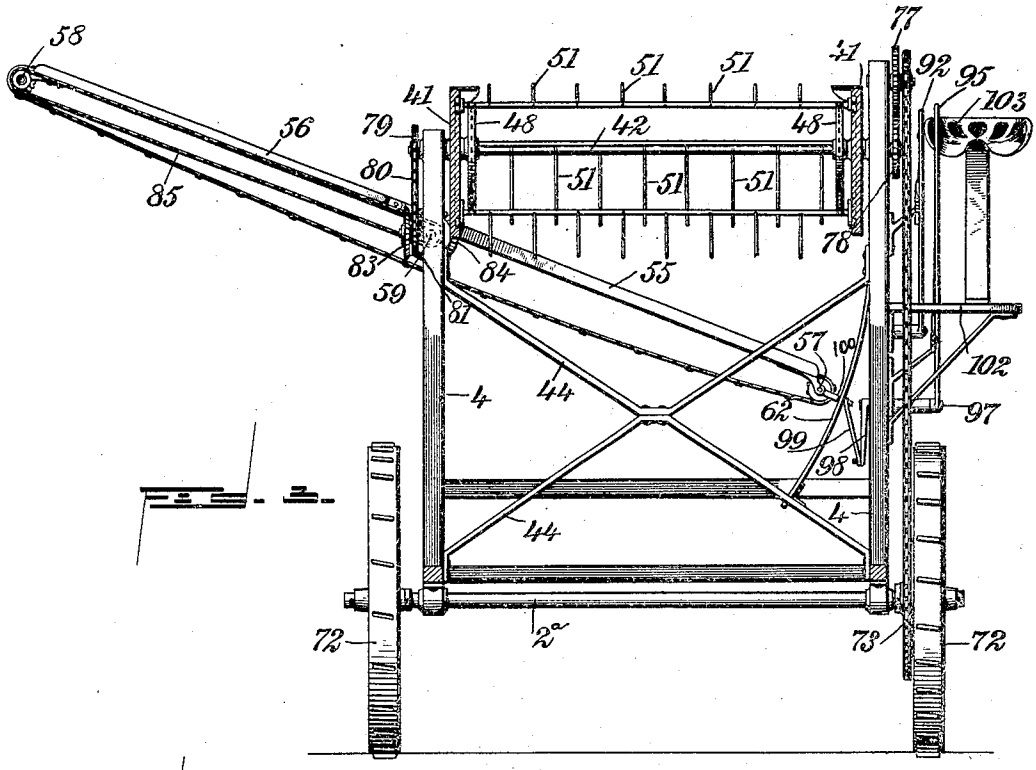


FIG. 2.

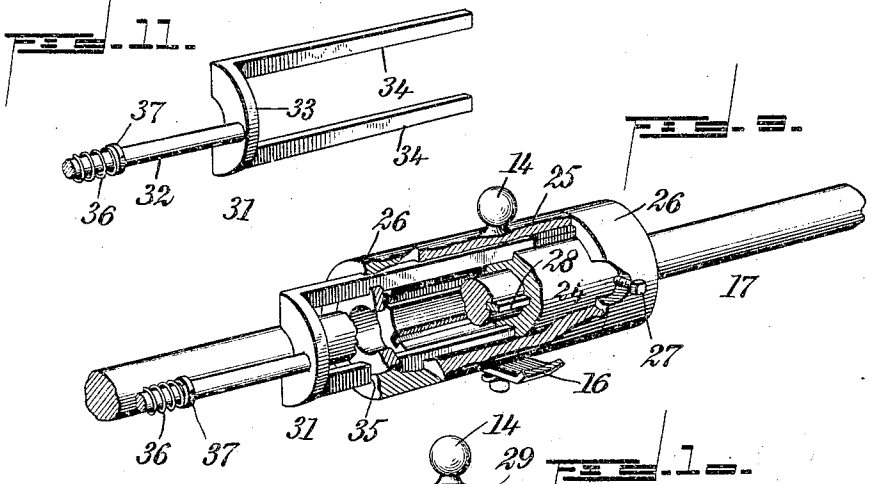


FIG. 3.

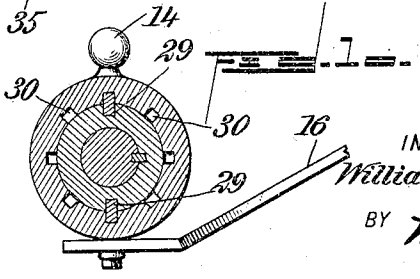


FIG. 1.

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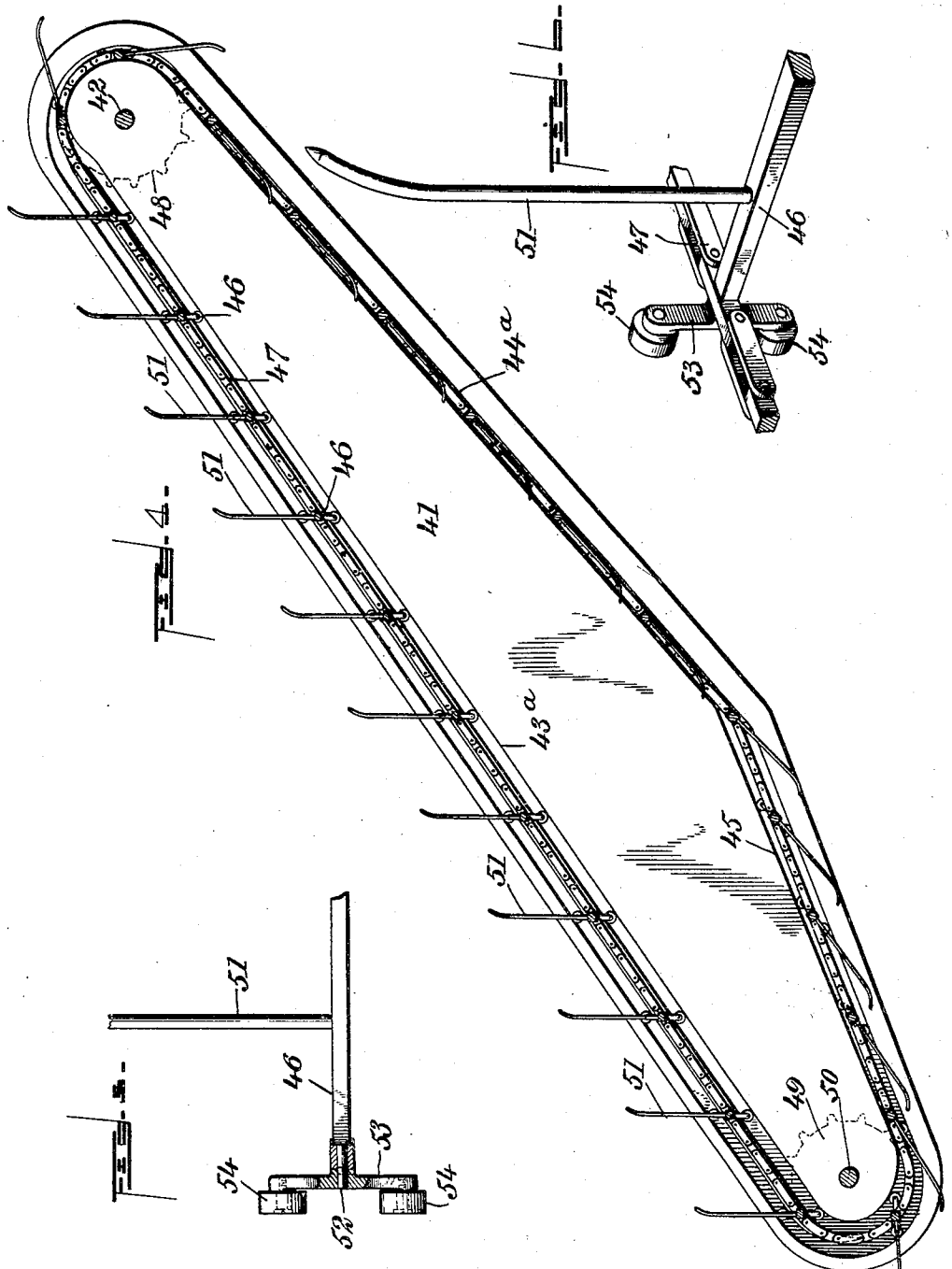
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5 SHEETS—SHEET 4.



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5 SHEETS—SHEET 5.

Fig. 7.

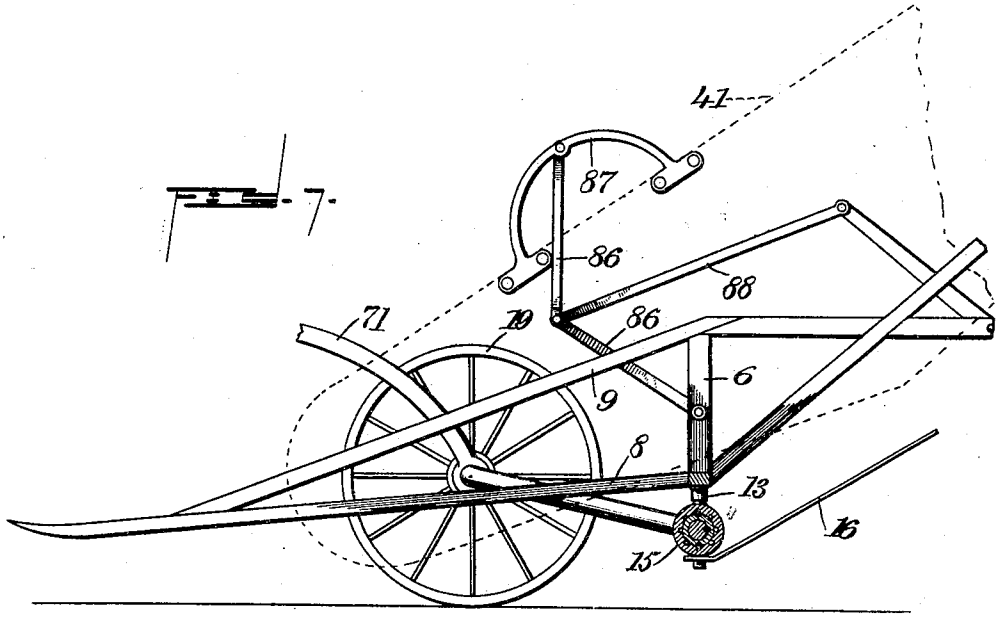
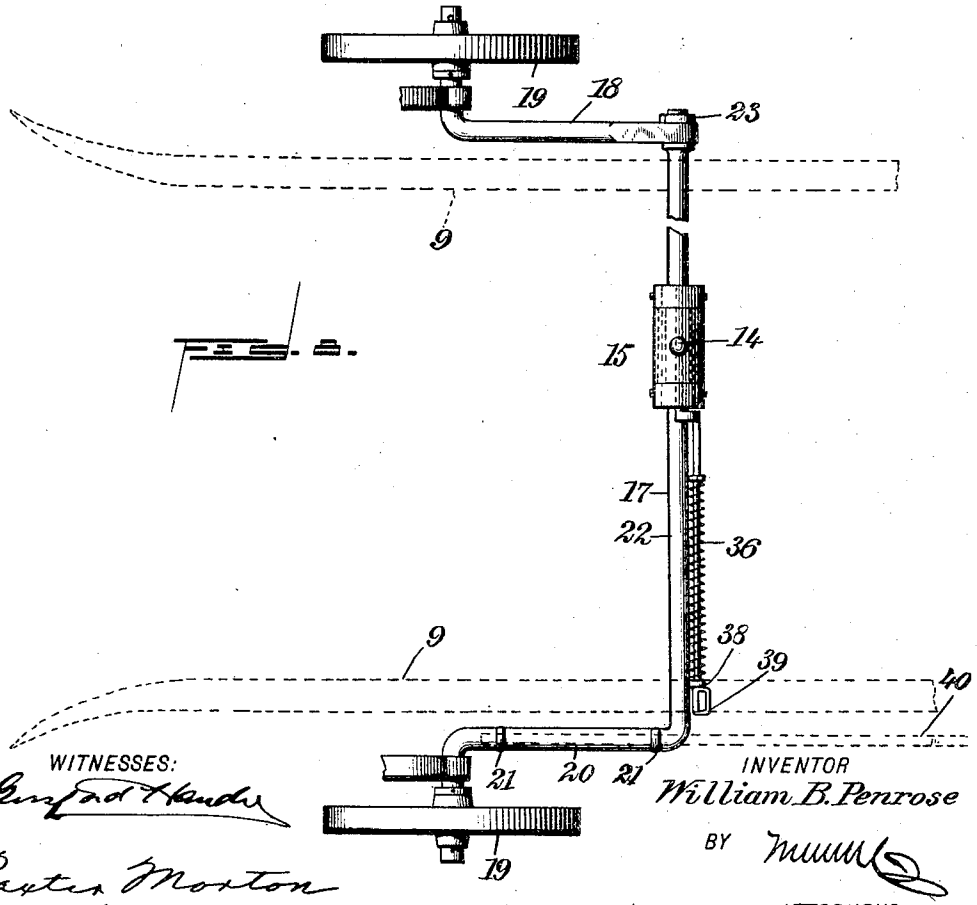


Fig. 8.



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No. 792,549. Patented June 13, 1905.

UNITED STATES PATENT OFFICE.

WILLIAM B. PENROSE, OF ANTHONY, KANSAS.

SHOCK OR GRAIN LOADER.

SPECIFICATION forming part of Letters Patent No. 792,549, dated June 13, 1905.

Application filed June 8, 1904. Serial No. 211,644.

To all whom it may concern:

Be it known that I, WILLIAM B. PENROSE, a citizen of the United States, and a resident of Anthony, in the county of Harper and State of Kansas, have invented a new and Improved Shock or Grain Loader, of which the following is a full, clear, and exact description.

This invention relates to apparatus for gathering shocks or sheaves of grain in the field and transferring them to a wagon or other vehicle moving alongside of the loader.

The principal object of the invention is to provide a light, comparatively inexpensive, and easily-operated loader which may be driven and controlled by one man and which will effectively gather sheaves or shocks of grain from the ground, elevate them to the necessary height, and deposit them in a wagon or other vehicle moving at one side of the loader.

Further objects of the invention are to provide, in apparatus of the type specified, improved gathering and elevating devices for the shocks and sheaves of grain, to provide means for adjusting the frame of the machine for travel along a road or for operation in a field, and to provide means for raising and lowering the forward end of the elevating-conveyer to adapt it to the character of the surface over which the loader is advancing and to avoid obstructions.

Still other objects of the invention are to provide, in apparatus of the character specified, improved draft devices and improved means for operating the gathering and discharging mechanism and generally to improve the design and construction of apparatus of the character specified.

One specific embodiment of the invention in which all of the objects above stated and others of minor character, which will hereinafter appear, are attained will be hereinafter described in detail, and the scope of the invention will be set forth in the appended claims. It is, however, to be understood that the machine described represents only one embodiment of the invention, and changes therein within the scope of the appended claims may be made without departing from the spirit of the invention.

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 views.

Figure 1 is a view in side elevation of the loader. Fig. 2 is a plan view of the loader. Fig. 3 is a sectional view approximately in the vertical plane indicated by the line 3 3 of Fig. 1. Fig. 4 is a detail view showing the inner face of one of the side members of the frame of the elevating-conveyer and the means for guiding the movement of the upper and lower leads of the endless apron of the conveyer. Figs. 5 and 6 are detail views showing the mode of mounting the transverse bars of the conveyer-apron in the chains at the sides of the said apron. Fig. 7 is an elevational view, upon an enlarged scale, of the forward portion of the supporting-frame and the toggle-joint mechanism for adjusting the position of the conductor-frame. Fig. 8 is a plan view showing the construction of the forward axle and the parts connected therewith. Fig. 9 is a detail view, with parts broken away, of the clutch provided on the front axle. Fig. 10 is a transverse sectional view through the clutch upon the front axle, and Fig. 11 is a perspective view of the locking-plunger employed in the clutch.

Described in general terms, the invention consists of a suitable supporting-frame mounted upon wheels in such manner that the greater portion of the weight of the apparatus is balanced upon the rear wheels, an elevating-conveyer mounted in the forward portion of the supporting-frame and provided with gathering devices, a discharging-conveyer arranged in the rear of the supporting-frame, and suitable mechanism for adjusting both of said conveyers and for imparting movement thereto from driving-wheels provided upon the rear axle of the machine.

Referring to the drawings for a more detailed description of the invention, F designates generally the supporting-frame. The frame consists, preferably, of a rear portion balanced upon the rear axle and a forward portion which is dropped below the level of the rear portion and is connected with the front axle. The rear portion of the frame F

has horizontal members 1, resting upon the rear axle 2^a, behind which the said members 1 extend to a considerable extent, as shown in Fig. 1. Upon the horizontal members 1 at the rear are vertical frame members 2, braced by oblique brace-bars 3, and somewhat in front of the vertical members 2 are other vertical members 4. The vertical members 2 and 4 are connected by suitable transverse members 5 to give sufficient stiffness to that portion of the frame, and other bracing members may be provided, if necessary. At the forward ends of the horizontal members 1 downwardly-disposed members 6 are provided, and oblique braces 7 extend from the lower ends of the said members 6 to the upper ends of the vertical members 4. The forward portion of the frame F lies in front of the downwardly-disposed members 6 and consists, preferably, of side members 8 and 9, converging forwardly, as shown in Fig. 1. The lower members 8 at the sides of the forward portion of the frame are bent outward, as shown in Fig. 2, and these outwardly-bent ends of the members 8 are provided with guards 10, which direct the sheaves or shocks of grain inward to the gathering and elevating apparatus presently to be described. To give to the frame F the requisite lateral stiffness, transverse bars 11 and 12 are provided, as best shown in Fig. 2, and on the latter of these bars I secure a downwardly-disposed bolster 13, having a socket therein for engagement with a ball 14, provided upon the outside of a clutch mechanism (indicated generally as 15) which is carried by the front axle of the machine. Suitable deflecting brace members 16 extend rearwardly and upwardly from the bolster to the transverse frame-bar 11.

The mechanism comprising the operating portions of the machine is supported upon the frame F in such manner that by far the greater portion of the weight rests upon the rear axle 2^a, and only enough weight is borne by the front axle to make the front wheels rest upon the ground and serve as means for guiding the movements of the apparatus. The clutch above mentioned upon the front axle is provided in order that the forward portion of the supporting-frame may be raised or lowered and the machine so adapted for travel over a road or for operation in a field. The front axle consists, preferably, of two members 17 and 18. The member 17 comprises a journal for one of the front wheels 19, a portion 20, bent rearwardly from the said journal and provided with eyes 21, whose use will presently appear, and a transversely-disposed portion 22, upon which the clutch 15 is mounted. At the end of the transverse portion 22, opposite the rearwardly-disposed portion 20, the axle member 18 is secured in position by means of a jam-nut 23. The member 18 affords a journal for one of the front wheels 19 and also comprises the rearwardly-extending portion through which the member 17 extends.

The clutch 15, which is mounted upon the transverse portion 22 of the front axle, consists, preferably, of an inner sleeve 24 and an outer sleeve 25 and two collars 26, arranged outside of the inner sleeve 24 between opposite ends of the outer sleeve 25 and secured in position by means of a pin or the like upon the sleeve. The inner sleeve 24 is rigidly secured upon the front axle by means of a feather 28, and this sleeve is provided on its outer surface with directly-opposed longitudinal grooves 29. The outer sleeve 25 surrounds the inner sleeve and is held in position thereon by means of the collars 26. This sleeve bears the ball 14, which engages with the socket in the bolster 13, and upon its under surface the sleeve 25 is rigidly attached to the brace members 16. In its interior the sleeve 25 is provided with a plurality of longitudinal grooves 30 of dimensions corresponding to the grooves 29 in the inner sleeve. The grooves 30 are spaced equidistant within the sleeve 25, and in the form of the invention illustrated eight of the grooves 30 are shown. Working in the grooves 29 of the inner sleeve 24 is a plunger 31, comprising a rod or stem 32, a semi-annular yoke 33 to embrace the front axle, and a pair of parallel arms 34, which fit within the grooves 29 and within those of the grooves 30 which may be in registration with the grooves 29. To provide for the passage of the arms 34, one of the collars 26 is provided with grooves 35, registering with the grooves 29 in the inner sleeve 24, and when the plunger 31 is withdrawn as far as possible from the clutch the ends of the arms 34 will be held by the inner sleeve 24 and the collar 26. The plunger 31 is normally held in engagement with both the inner and outer sleeves by a spring 36, coiled around the stem of the plunger and disposed between a collar 37 on the stem of the plunger and a lug 38 upon the axle through which the stem 32 of the plunger extends. To facilitate the withdrawal of the plunger from engagement with the grooves in the sleeve 25, a loop 39 or other equivalent device is formed on the end of the stem, as shown in Fig. 8.

As the sleeve 24 is fast to the axle and the sleeve 25 is rigidly connected with the frame, the axle may be rigidly held in a given relation to the frame when the plunger has the arms 34 thereof disposed in registering grooves of the two sleeves. On the other hand, when the plunger is withdrawn until the arms 34 are not in engagement with the grooves in the sleeve 25 the axle may be raised or lowered and the sleeve 24 will be turned within the sleeve 25. To facilitate the raising and lowering of the axle to adjust the height of the forward portion of the frame, a lever 40 (indicated in dotted lines in Fig. 8) may be

introduced into the eyes 21, provided upon the rearwardly-disposed portion 20 of the axle member 17. When the axle has been brought into the desired position in relation to the ground and the frame has been raised or lowered, the plunger will be allowed to advance under the influence of the spring 36 until the arms 34 again engage grooves in the sleeve 25, registering with grooves in the sleeve 24. If none of the grooves in the sleeve 25 register with the grooves 29 in the sleeve 24 when the axle has been brought into the desired position, the plunger cannot enter the sleeve 25, but will be checked by the contact of the ends of the arms 34 with the ends of the sleeve. It will then be necessary to raise or lower the axle a trifle to bring a pair of the grooves in the sleeve 25 into registration with the grooves 29 in the sleeve 24, and as soon as such registration occurs the plunger will advance to its normal position and lock the two sleeves together.

The grain gathering and elevating mechanism is supported in the frame F by the standards 4 and the portions of the frame in front of the said standards. In the preferred form of the invention illustrated the gathering and elevating mechanism consists of a conveyer comprising a frame pivotally mounted between the standards 4 and an endless apron traveling in the frame and provided with fork-fingers of a novel type. The endless apron is of a special construction, and means are provided in the frame of the conveyer for changing the position of the fork-fingers as they travel, so as to make them operate effectively both as grain gatherers and carriers.

The conveyer-frame comprises side plates or members 41, pivotally mounted upon a shaft 42, journaled in the standards 4 near their upper ends, and suitable brace members 43 and 44, arranged between the side members of the frame to give the frame sufficient lateral stiffness. Each of the side members 41 of the conveyer-frame is preferably straight along its upper edge, as shown in Fig. 4, and the lower edge of each of the side members comprises a long rear portion and a short forward portion meeting at an obtuse angle. Upon its inner face each of the side members 41 of the elevating-conveyer frame is provided with an endless channel comprising an upper portion 43^a, parallel with the upper margin of the said side member, a narrow portion 44^a, parallel with the long rear portion of the rear edge of the side member, and a portion 45 of a width intermediate between the widths of the portions 43^a and 44^a of the channel and disposed parallel to the short forward portion of the lower edge of the side member. The portion 43^a of the channel is connected at its upper end with the portion 44^a by a narrow curved portion of the channel, and at its lower end the wide portion 43^a of the channel is connected with the portion 45 by a wide bend. The significance of the different widths of the several portions of the channel in each of the side members of the conveyer-frame will presently appear.

The traveling apron of the elevating-conveyer consists of a plurality of square bars 46, journaled at their ends in the links of two endless chains 47, which travel over sprockets 48 and 49, mounted upon the shaft 42 at the upper end of the elevating-conveyer, and a shaft 50 at the lower end of the elevating-conveyer, respectively. Each of the square transverse bars 46 has a plurality of fork-fingers 51 projecting therefrom at comparatively short intervals. The fingers 51 are rigidly set in the bars 46, and the ends thereof are all bent in the same direction, as shown. Each of the bars 46 is journaled in two chain-links, one in each of the chains 47, and each end of each of the bars 46 presents a squared portion 52, upon which is mounted a bar 53, which is disposed parallel to the fork-fingers 51, carried by the bar. At each end each of the bars 53 is provided with a roller 54, journaled on a stud projecting from the outer face of the bar. The rollers 54 are disposed in the channels formed in the inner faces of the side members 41 of the conveyer-frame, and the bars 53 are of such length that when they lie in the portion 43^a of one of the said channels said bars are disposed at angles of about seventy-five degrees to the said portions of the channels, and the bars assume a substantially vertical position, as clearly shown in Fig. 4. When, however, the rollers 54 pass around the bends at the upper end of the conveyer-frame and enter the portions 44^a of the said channels, the bars 53 extend longitudinally of the said portions of the channels, as also shown in Fig. 4. Passing from the portions 44^a of the channels into the somewhat wider portions 45, the bars 53 turn so as to extend across the said portions of the channels at very oblique angles. The fork-fingers carried by the bars 46, which support the bars 53, occupying these portions of the channels, extend obliquely downward and forward, so that the bent ends of the said fork-fingers are substantially horizontal and are adapted to gather the grain from the ground as the said fork-fingers pass around the shaft at the lower end of the conveyer-frame. In passing from the portion 45 of the channels in the said movements of the conveyer-frame to portions 43^a of the channels the bars 53 are turned, as shown in Fig. 4, and any material gathered by the fork-fingers in making the turn will be shifted back against the bars 46, upon which it will be spread for the most part as dust carried upward on the traveling apron.

The material carried upward by the traveling apron of the elevating-conveyer is discharged at the upper end of the said conveyer-frame and falls upon a discharging-conveyer disposed transversely of the supporting-frame

of the machine. The discharging-conveyer has a frame comprising two side portions, each composed of two hinged sections 55 and 56, respectively, and shafts 57 and 58, arranged at the ends of the said side pieces. The frame of the discharging-conveyer is pivotally mounted upon a horizontal shaft 59 between the standards 2 and 4 and at one side of the supporting-frame of the machine, and a traveling apron is supported in the frame upon sprockets carried by the shafts 57 and 58. The apron consists, preferably, of endless sprocket-chains 60 and transverse bars 61, mounted upon the sprocket-chains at suitable intervals.

To prevent any of the sheaves of grain discharged by the elevating-conveyer upon the discharging-conveyer from falling off at the lower end, a curved guard-plate 62 is mounted on the frame at the lower end of the discharging-conveyer, the curvature of the guard-plate being in an arc having the shaft 59 as its center. At the back of the frame another guard-plate 63 is provided to deflect the sheaves of grain downward upon the discharging-conveyer.

As shown, the upper end of the discharging-conveyer is disposed at such a height that sheaves of grain passing over that end of the conveyer will drop readily into a wagon or other vehicle moving alongside of the loader and having the body thereof beneath the outer end of the discharging-conveyer.

The power for operating both the elevating-conveyer and the discharging-conveyer is supplied by draft-animals attached to swingletrees 65 at the front of the loader. These swingletrees are mounted on the ends of rearwardly-extending rods 66, which are attached to a doubletree 67, mounted on the transverse frame-bar 11, as shown in Fig. 2. The forward ends of the rods 66 are held in proper position relatively to the frame by guide-loops 68, mounted on a transverse bar 69 at the rear end of the tongue 70. The tongue 70 is connected by the rearwardly-diverging curved arms 71 with the front axle, attached to the front wheels 19.

As the machine is drawn forward by the draft-animals the rear wheels 72, which are preferably provided with flukes on the tires, as shown, are turned with the axle 2 and motion is imparted to a large sprocket 73, which is rigidly mounted upon the inner face of one of the rear wheels. A sprocket-chain 74, traveling over the sprocket 73, imparts motion to a sprocket 75, mounted on a stub-shaft 76 in the upper end of one of the vertical members 4 of the supporting-frame. The sprocket 75 is rigidly connected with a pinion 77 upon the same stub-shaft, and this pinion meshes with a similar pinion 78 upon the shaft 42, carrying the driving-sprockets of the elevating-conveyer.

From the shaft 42 motion is transmitted to the discharging-conveyer also, and for this purpose a sprocket 79 is provided upon the end of the shaft 42 opposite the pinion 78. A sprocket-chain 80, running over this sprocket and over a sprocket 81 on a stub-shaft 82, imparts movement to the sprocket 81 and to a bevel-gear 83 upon the same stub-shaft. The bevel-gear 83 meshes with a similar bevel-gear 84, mounted upon the shaft 59, upon which the discharging-conveyer is pivoted. From the shaft 59 movement is transmitted through a sprocket mounted thereon to a chain 85, running over a sprocket on the end of the shaft 58, which is the driving-shaft of the discharging-conveyer.

In order to prevent injury to the elevating-conveyer in passing over rough ground and over obstructions, means are provided at the forward end of the frame of the elevating-conveyer to raise and lower it. The devices employed for this purpose consist, preferably, of a pair of toggle-levers 86, arranged at each side of the elevating-conveyer frame, as best shown in Fig. 7. One of the toggle-levers 86 of each pair is attached to the supporting-frame of the machine, and the other is attached to an arched hanger 87, mounted upon one of the side members of the elevating-conveyer frame. A link 88 extends rearwardly from the pivot connecting the two toggle-levers and is connected to an arm 89, mounted on a rock-shaft 90, extending transversely of the supporting-frame F. A connecting-rod 91 extends rearwardly from the arm 89 to an operating-lever 92, pivotally mounted upon one of the uprights 4, and preferably provided with a locking member 93, coöperating with a segmental rack 94 to hold the lever in adjusted position. Only one of the rods 91 is provided, but any movement imparted thereby to the arm 89 upon the other end of the rock-shaft 90 will be accompanied by an equal movement of the arm 89 upon the other end of the rock-shaft and an equivalent lifting effect will be produced at both sides of the elevating-conveyer frame.

In order to vary the height of the discharging end of the discharging-conveyer to adapt it to vehicles of different heights, a bell-crank lever 95 is mounted upon a bracket extending outward from one of the vertical frame members 4 and is connected with a crank-arm 96 upon a rock-shaft 97, having another arm 98, pivotally connected with a link 99, fastened at its other end to a rod 100 at the lower end of the discharging-conveyer. The rod 100 projects through a slot 101 in the curved guard-plate 62, so that the adjustment of the conveyer may not be prevented by the guard-plate.

As the levers for adjusting the positions of the elevating-conveyer and the discharging-conveyer are both upon one side of the machine, it is desirable that the driver should have his seat adjacent thereto, and I there-

fore provide a platform 102, upon which a driver's seat 103 of ordinary type is mounted at a convenient height for the driver to observe the entire operation of the machine.

The operation of the machine will be readily understood from the foregoing description and the drawings illustrative thereof. When the machine is to be put in use, the height of the front axle above the ground is first adjusted, by means of the clutch 15, so as to bring the gathering-arms at the front of the frame into proper position. Then the machine is set in motion, and as it advances motion is imparted from the rear axle through the sprocket-wheels, chains, and gearing to the elevating-conveyer and the discharging-conveyer, the latter of which is adjusted in position to correspond to the height of the wagon or other vehicle into which the grain is to be discharged.

The grain, whether in shocks or sheaves, is guided by the gathering-arms at the front of the supporting-frame into position to be engaged by the fork-fingers of the elevating-conveyer, and as the fork-fingers pass under the grain they elevate it and throw it back upon the bars of the apron of the elevating-conveyer, upon which it is carried upward and forward and discharged at the upper end of the said conveyer upon the discharging-conveyer.

As the fork-fingers of the elevating-conveyer pass around the driving-shaft at the upper end of the said conveyer they turn into a position parallel with the lower edges of the side members of the elevating-conveyer frame and pass down until they reach the angle between the channel portions 44^a and 45, at which point they swing into an oblique position between the line of travel of the elevator, but present bent ends parallel with the surface of the ground, so that they are adapted to lift the shocks and grain gathered thereby.

The sheaves of grain discharged at the upper end of the elevating-carrier fall upon the discharging-conveyer and are carried thereby upward and outward in a direction at right angles to the line of travel of the machine, to be deposited in the body of a wagon or other vehicle moving alongside of the loader and beneath the outer end of the discharging-conveyer.

Owing to the way in which the supporting-frame is balanced upon the rear axle of the loader, it moves very easily over comparatively rough ground without any excessive strain upon the frame of the machine, and it is easy to adjust the height of the frame at its forward end to adapt the machine for ready travel or for use in a field, and the effective action of the elevating and discharging devices is facilitated thereby.

By means of the novel movement imparted to the fork-fingers upon the elevating-carrier apron the said fork-fingers are caused to act very effectively in gathering grain from the ground and also in carrying the grain upward upon the conveyer-apron.

Owing to the peculiar connection between the clutch on the front axle and the forward portion of the supporting-frame, the machine is adapted to pass over ground presenting an unusual degree of irregularity of surface without difficulty and without injury to the machine.

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

1. The combination of a transportable supporting-frame, an elevating-conveyer mounted on said frame and comprising an endless apron provided with a plurality of fork-fingers, means for advancing said frame and means for guiding the movement of said fork-fingers so that they will lie substantially parallel to their line of travel during a part of each complete movement and so that they will stand substantially vertical during another portion of each complete movement.

2. The combination in a transportable supporting-frame, of an elevating-conveyer comprising an endless apron having a plurality of fork-fingers carried thereby, means for advancing said frame and means for holding said fork-fingers substantially vertical during their ascent and for holding said fork-fingers so that their ends are substantially horizontal during their descent.

3. The combination with a transportable supporting-frame, of a conveyer carried thereby, said conveyer comprising a supporting-frame having channeled side members and an endless apron having a plurality of transverse bars provided with fork-fingers, means for advancing said frame and means upon said bars for engaging said channels and holding said fork-fingers substantially vertical during their ascent but holding the ends of said fork-fingers substantially horizontal during their descent.

4. The combination of a transportable supporting-frame and an elevating-conveyer carried thereby, said conveyer comprising a frame having side members provided with guides, an endless apron having transverse bars provided with fork-fingers, means for advancing said frame and members at the ends of said bars fixed thereon and provided with rollers engaging said guides, whereby said fork-fingers are held substantially vertical during their ascent and are held with their ends substantially horizontal during their descent.

5. The combination with a transportable supporting-frame, of an elevating-conveyer pivotally mounted thereon in inclined position, toggle mechanism at the lower end of said elevating-conveyer, and means for operating the said toggle mechanism to raise and lower the lower end of the elevating-conveyer.

6. The combination with a transportable supporting-frame, of an elevating-conveyer

mounted at its upper end upon a horizontal pivot carried by said frame, a pair of toggle-levers arranged at each side of said conveyer near its lower end and connected with the said supporting-frame and said conveyer, and means comprising a transversely-disposed rock-shaft extending beneath said conveyer and connected with both pairs of toggle-levers for imparting movement to said toggle-levers to raise and lower the lower end of said conveyer.

7. The combination with a supporting-frame and gathering and elevating mechanism carried thereby, of rear wheels upon which the greater portion of said supporting-frame is mounted at a fixed height above the ground, front wheels, a bent axle composed of sections upon which said front wheels are respectively mounted, and clutch mechanism carried by said axle-sections and connected with said frame, whereby the height of the forward portion of the frame above the ground may be adjusted.

8. The combination in apparatus of the character specified, of a supporting-frame, gathering and elevating mechanism carried by the frame, rear wheels upon which the greater portion of the weight of the frame is supported, front wheels, a bent axle upon which said front wheels are journaled, and clutch mechanism carried by said front axle for adjusting the position of said axle relative to said frame, said clutch mechanism comprising an outer sleeve secured to the frame, an inner sleeve secured upon the axle and turnable within said outer sleeve, and means for locking said sleeves in fixed relation.

9. The combination in apparatus of the character specified, of a supporting-frame, gathering and elevating mechanism carried by the frame, rear wheels upon which the major portion of the frame is supported at a fixed height, front wheels, a bent axle upon which said front wheels are journaled, a sleeve fixed upon said bent axle, an outer sleeve surrounding the sleeve on the axle and rotatable relatively thereto, connections between said outer sleeve and said frame, and devices normally disposed between said sleeves, for locking said sleeves in fixed relation.

10. The combination in apparatus of the character specified, of a supporting-frame, gathering and elevating mechanism carried by said frame, rear wheels upon which the greater portion of the weight of the apparatus is supported, a bent front axle, front wheels journaled upon said axle, clutch mechanism mounted upon said front axle to adjust the height of the front portion of the supporting-frame, said clutch mechanism comprising an inner sleeve rigidly secured upon said axle, an outer sleeve turnable on said inner sleeve and connected by a ball-and-socket joint with said supporting-frame, and locking members slidably disposed between said sleeves whereby said sleeves may be locked in fixed relation.

11. The combination in apparatus of the character specified, of a transportable supporting-frame, means carried by the frame for gathering and elevating shocks or sheaves of grain, a discharging-conveyer disposed transversely to the frame and pivoted for movement in a vertical plane, a curved guard-plate mounted adjacent to the lower end of said discharging-conveyer and having a slot therein, a rod at the lower end of said discharging-conveyer extending through said slot, and mechanism connected with said rod for imparting pivotal movement to said discharging-conveyer.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM B. PENROSE.

Witnesses:

WARREN H. HURD,

AARON AUGUSTUS BALL.