

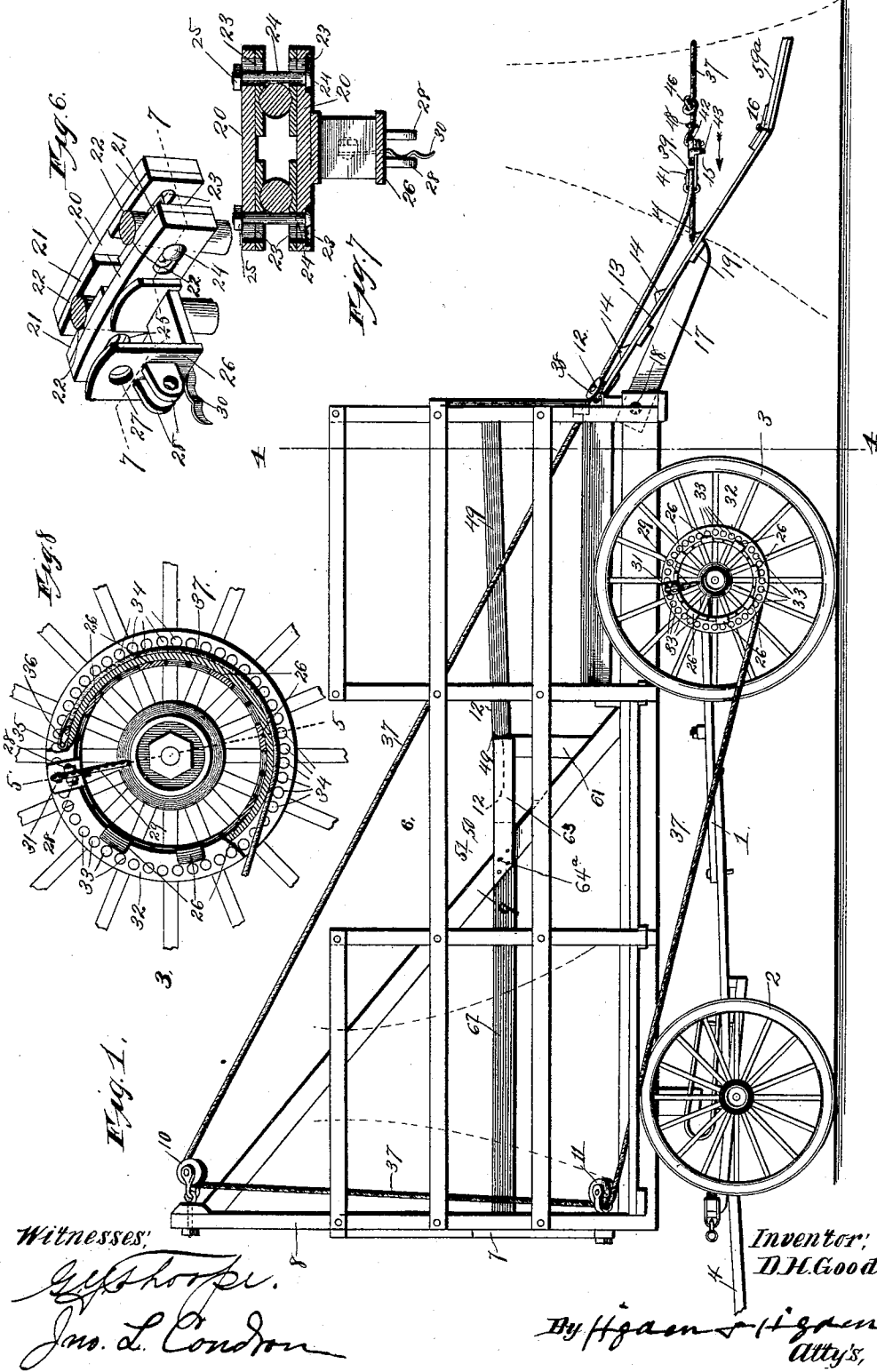
No Model.)

3 Sheets—Sheet 1.

D. H. GOOD.
CORN SHOCK LOADER.

No. 480,767.

Patented Aug. 16, 1892.



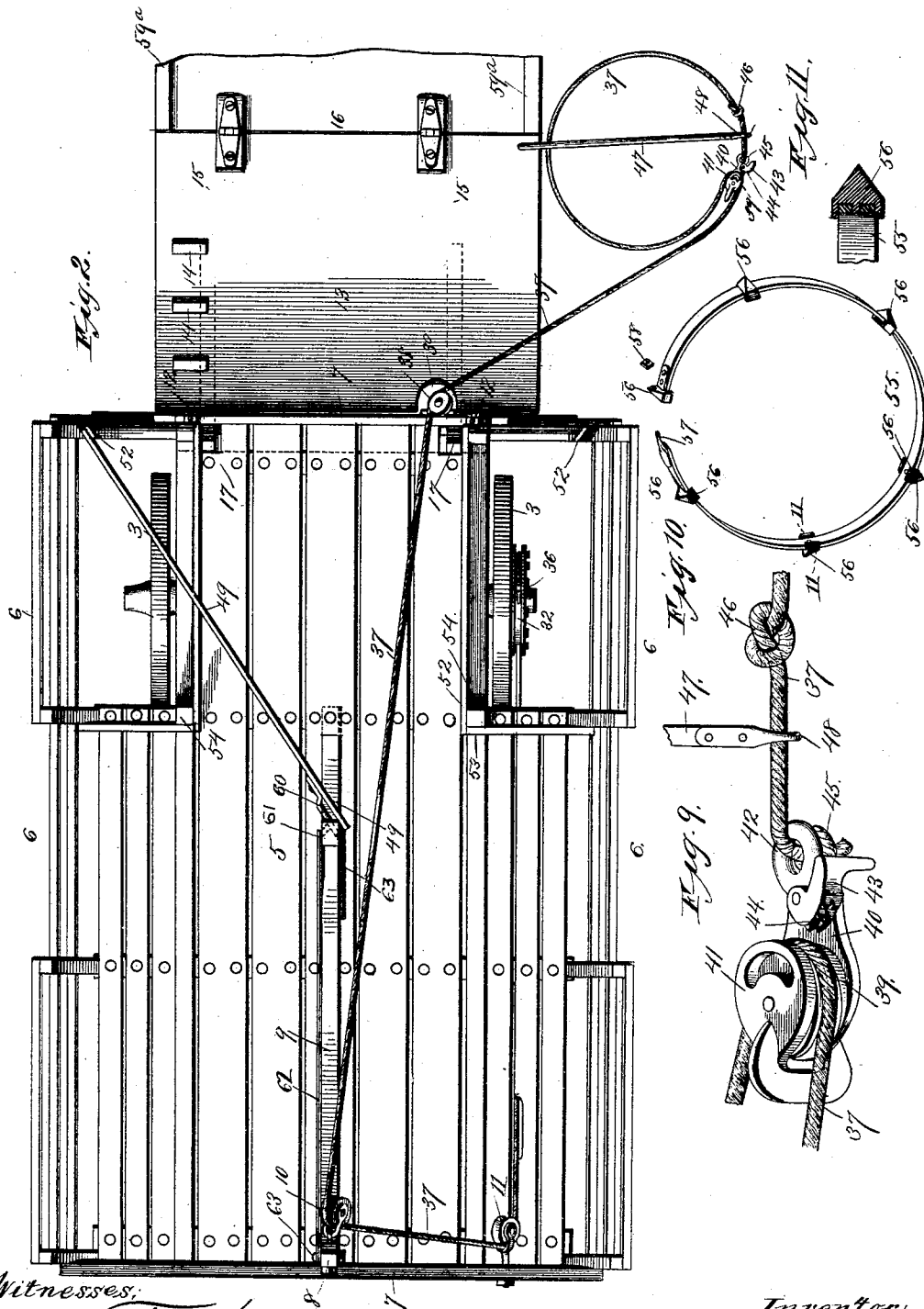
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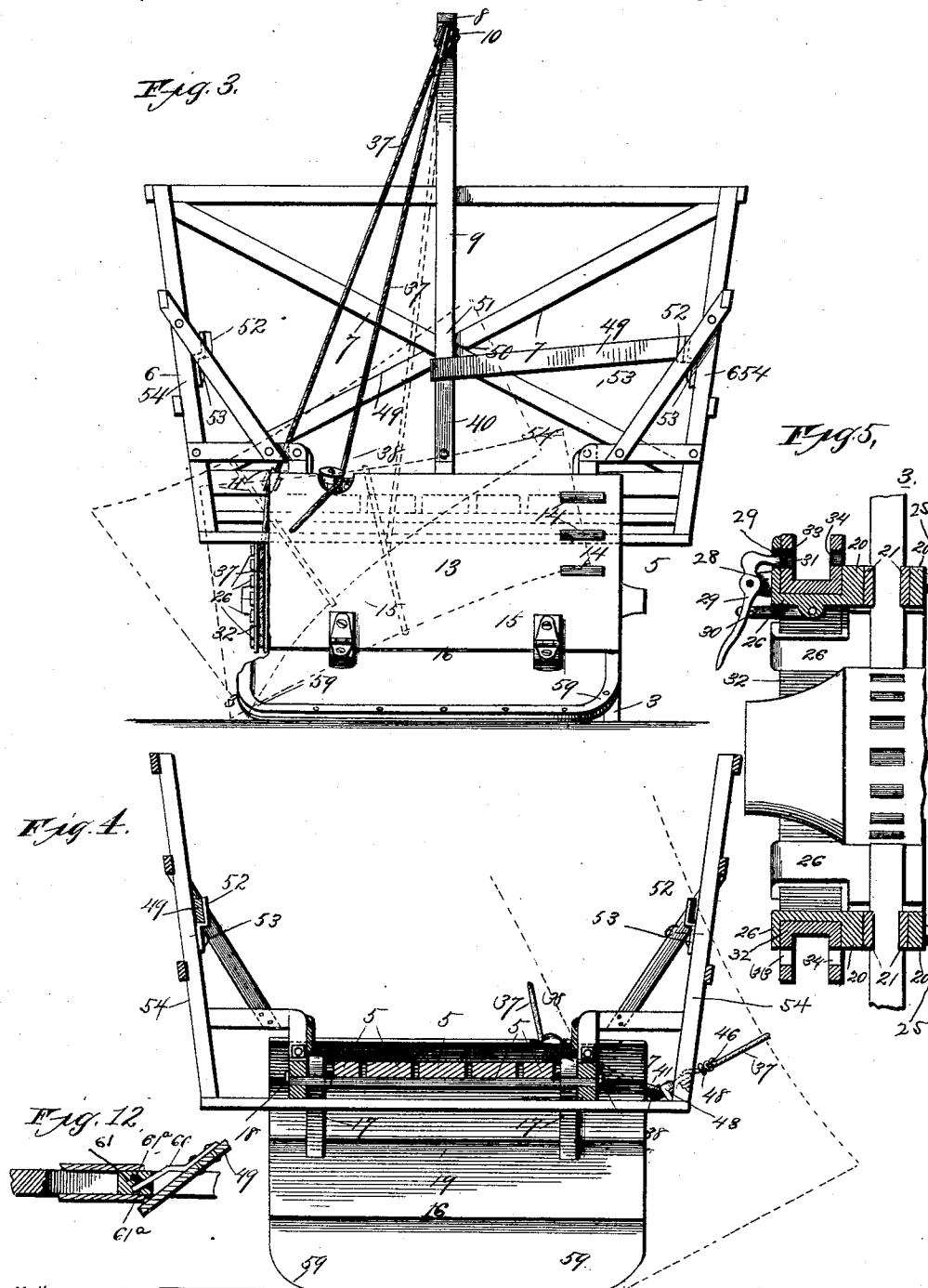
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UNITED STATES PATENT OFFICE.

DAVID H. GOOD, OF CANADA, KANSAS.

CORN-SHOCK LOADER.

SPECIFICATION forming part of Letters Patent No. 480,767, dated August 16, 1892.

Application filed March 14, 1892. Serial No. 424,787. (No model.)

To all whom it may concern:

Be it known that I, DAVID H. GOOD, of Canada, Marion county, Kansas, have invented certain new and useful Improvements in Loaders for Corn-Shocks, &c., of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to machines for loading cornstalks, canes, millet, sorghum, or any coarse fodder and also ensilage and similar materials upon vehicles, in which latter the load is to be conveyed from the field.

The objects of my invention are to produce a loading mechanism which shall be simple, durable, and inexpensive in construction and rapid and effective in its operation, and, furthermore, which shall utilize the action of the vehicle as the power for dragging the shocks or piles into the vehicle, and which shall, finally, avoid virtually all waste of the corn or other vegetation while being loaded.

To the above purposes my invention consists in certain peculiar and novel features of construction and arrangement, as hereinafter described and claimed.

In order that my invention may be fully understood, I will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1 is a side elevation of a vehicle provided with loading connections embodying my invention. Fig. 2 is a plan view of the same. Fig. 3 is a rear elevation of the same. Fig. 4 is a transverse vertical section of the same on the line 4 4 of Fig. 1. Fig. 5 is a transverse vertical section of the power-wheel of the vehicle on the line 5 5 of Fig. 8 and also on an enlarged scale. Fig. 6 is a detached perspective view, also on an enlarged scale, of the clamp for carrying the clutching-pin. Fig. 7 is a longitudinal section of the same on the line 7 7 of Fig. 6. Fig. 8 is a view, partly in outer side elevation and partly in transverse vertical section and on an enlarged scale, of the center portion of the power-wheel and its winding-drum. Fig. 9 is a detached perspective view, on an enlarged scale, of the clamping-pulley, its operating and attaching ropes, and the adjacent end of the shock pin or bar. Fig. 10 is a detached perspective view, on a reduced scale, of the spike-carry-

ing bend for the power-wheel. Fig. 11 is a cross-section of the same, on an enlarged scale, and also on the line 11 11 of Fig. 10, and also on an enlarged scale. Fig. 12 is a horizontal section, also on an enlarged scale, of the front supporting-post of the deflecting-bar on the line 12 12 of Fig. 1.

In the said drawings, 1 designates the reach or running-gear of a vehicle; 2, the front carrying-wheels; 3, the rear carrying-wheels of the same, and 4 designates the pole or tongue of the running-gear or reach. Upon this running-gear is mounted a rack, the bottom 5 of which may be of skeleton form or otherwise, as preferred, and which is provided with skeleton side pieces 6, which are preferably connected together at their ends by crossed braces 7, as shown. It is to be understood that if desired the sides of the rack may be provided with longitudinally-extending wires and connecting snap-hooks in lieu of the slats shown without departing from the essential spirit of my invention.

8 designates a vertical standard, which is located at the front end of the rack midway of the same and which is braced in its desired position by an oblique brace 9, said brace extending rearwardly and downwardly and having its lower end bolted or otherwise strongly secured to the bottom 5 of the rack, this standard being of sufficient height to stand the shock on the end in the rack, as hereinafter explained. To the upper end of this standard 8 is secured a pulley 10, for a purpose to be also hereinafter explained, while a second pulley 11, the purpose of which will also be hereinafter explained, is secured to one of the lower rear corners of the rack, preferably the lower left-hand corner of the same.

To the rear end of the bottom 5 of the rack is attached by two or more hinges 12 an extension 13, which is of somewhat less width than the bottom 5 and which extends obliquely rearward and downward from the rear end of the rack. On its upper surface this extension is formed or provided with a number of cleats 14, which facilitate the ascent and descent of the extension by an attendant. To the outer edge or margin of this extension 13 is attached by two or more hinges 15 an additional extension 16, which when in operative position extends obliquely downward and rearward

from the main extension 13, the outer or rear edge of this additional extension resting upon the ground when the parts are position for operation. A beading or strip 59^a is secured upon the upper side of the outer extension 16 at the side and rear margins thereof, said beading or strip serving to prevent any cobs or ears of corn from rolling off of the said lower extension. It is to be observed that the lower corners of this additional extension 16 are shown as rounded off, as at 59, the purpose of such form of said corners being to prevent the extension 16 from sticking into the ground at its corners, and thus preventing the vehicle from being turned as freely as desired. The main extension 13 is supported in its operative position by two or more braces 17, each of which is pivoted at its inner end, as at 18, to the rear of the bottom 5 of the rack, and the outer end of each of which engages a cross-cleat 19, which is secured to the under side of the extension 13.

Upon the left-hand rear carrying-wheels 3 are secured a number of brackets 20, which are arranged in pairs and each of which is of short segmental form, one bracket of each pair lying against the inner sides of two of the spokes of said wheel 3 and the companion bracket lying against the outer sides of said spokes. On its inner side each of the brackets 20 is provided with two plates 21, which come into direct contact with the spokes and each of which at its point of contact with the spoke is formed with a recess or groove 22 to receive the adjacent side of the spoke.

Through the ends of the brackets 20 and bearing-plates 21 are formed segmental registering slots 23, said slots being disposed oppositely from each other in pairs, and through these slots extend clamping-bolts 24, having clamping-nuts 25, as shown. The outer brackets 20 are each formed or otherwise provided with an L-shaped bracket 26, and the outer arm of one of these brackets is extended upward and provided at its outer or upper end with an opening 27. A lever 29 is pivoted between two brackets 28, which project outwardly from the outer side of this bracket, the lower end of said lever being engaged by a detent-spring 30, which is formed with two concave portions to receive the lower part of the said lever, the said two concave portions being so located as to engage the lever at the limit of its inward and outward movement, respectively. The upper end of this lever 29 is formed with an inwardly-extending clutch bar or bolt 31, which works through the opening 27 in the bracket-arm, for a purpose to be hereinafter explained.

Within the brackets 26 is placed a ring or winding-annulus 32, the periphery of which is of substantially U form in cross-section and which is arranged to turn with the wheel 3 or independently of said wheel, as hereinafter fully explained. The outer limb or flange of the margin of this annulus 32 is formed with a number of openings 33, and the

inner limb or flange is formed with a similar number of openings 34. One office of all of these openings is to permit mud and dirt to escape from within the periphery of the annulus, and this is the sole purpose of the openings 34. The openings 33, however, serve another important purpose—that of causing the annulus to revolve with the wheel 3. This is accomplished by moving the lower end of the lever 29 outward, and thus causing its upper end to move inward. This inward movement of the lever 29 causes the clutch rod or bolt 31 to enter one of the openings 33, and consequently compels the annulus to revolve with the wheel. When the lower end of the lever is moved inward, its upper end draws the clutch rod or bolt outward, and thus permits the annulus to revolve upon the brackets 26 and consequently independently of the wheel. At one point in its periphery the annulus 32 is formed with a cross-pin 35, (see Fig. 8,) which is embraced by a hook 36, the said hook being secured to one end of a rope 37. This rope is laid within the periphery of the annulus 32 and extends thence forward and upward to and beneath the pulley 11, said pulley serving to properly guide the rope from the annulus to the forward end of the rack, thence upward over the pulley 10, and thence obliquely rearward and downward over a pulley 38, said pulley being journaled in a bracket 39 at the rear end of the bed 5 of the rack or otherwise secured in such position. From the pulley 38 the rope 37 extends around the wheel of a clamping-pulley 39 and is thence caused to encircle the shock, as hereinafter fully explained. The wheel 39 is journaled in a frame 40, which is formed with a cap 41, overlying said wheel, and also at one end with an eye 42, through which the end of the rope 37 is passed and knotted, as at 45, the said frame being thus open at one side for the insertion of the rope 37. Adjacent to the eye 42 the frame 40 carries a pivoted clamp or dog 43, the inner surface of which is serrated, as at 44. A knot 46 is formed in the rope 37 at a point considerably beyond the eye 42 of the frame 40, and between its knot and rear extremity the rope is embraced by the eye 48 of a shock bar or pin 47.

49 designates a dividing or deflecting bar, the front end of which is provided at one side with a supporting-arm 60, which engages one of two oppositely-inclined horizontal sockets 61^a, which are formed in the upper part of the rear side of a post or standard 61. This standard or post 61 is secured to the rear end of the brace 9 and rises vertically therefrom, and said post is braced and retained in its required vertical position by two horizontal braces 62 and 63, the rear ends of which are secured to the upper part of the post at opposite sides thereof. The brace 62 is the longer of these two braces, and its front end is suitably secured, as at 64, to the corresponding side of the standard 8. The shorter brace 63 is suitably secured at its front

end, as at 64^a, to the corresponding side of the lower part of the brace 9.

When in use, the supporting-arm 60 of the dividing-bar is inserted into one of the sockets 61^a, as stated, and the rear end of the bar is placed in the corresponding one of two L-shaped brackets 52, the said bracket being suitably secured, as at 53, to two posts 54 at opposite sides of the rear end of the rack. Thus as the shocks are drawn into the rack, as hereinafter explained, the deflector-bar 49 directs them to one or the other side of the front of the rack.

55 designates an auxiliary tire, which is designed to be placed upon the tire of the wheel 3, which carries the annulus 32, the purpose of said auxiliary tire being to prevent the wheel 3 from slipping upon snow or ice or frosted, thawy, or other slippery ground while the shock is being drawn into the rack. This auxiliary tire 55 is provided with a number of spurs 56, which project from the outer surface of the tire and which are preferably of the pyramidal form shown. At one end the auxiliary tire 55 is formed with an extension 57, which serves as a screw-bolt and which is inserted through an opening in the spur 56 at the opposite end of the tire, a nut 58 being screwed upon the end of this extension, and thus serving to retain the tire upon the wheel 3.

The operation of the above-described machine is as follows: Normally the extension 16 is folded upward and rests upon the extension 13 and the bolt 31 is out of engagement with the annulus 32; but when the machine is to be used this extension 16 is turned outward and rearward, as shown in the drawings. The driver now brings the vehicle along the right side of the shock or pile to be loaded and moves the lever 29 so as to draw the clutch rod or bolt 31 into engagement with the annulus 32. The shock bar or stick 47 is now thrust through the shock, and the rear end of the rope 37 is caused to embrace the shock, a loop being formed in the rope and laid so as to extend over the wheel 39, the pulley-frame 40, and the eye 48 of the shock-bar 46, being at the outer side of the shock or at that side which is remote from the rack. The vehicle is now moved ahead, and this movement of the vehicle causes the shock to be partially rotated and then tilted laterally upon the lower extension, owing to the lateral movement of the shock-bar, and at the moment when the shock tilts, the pulley-frame 40 is tilted laterally, so that the dog 43 automatically drops and its serrations 44 engage the rope 37, clutching the rope and preventing the formation of slack in the rope around the shock. The continued movement forward of the vehicle draws the rope 37 tightly around the shock, binding the same firmly, this being due to the presence of the pulley 39, and the continued further movement of the vehicle after the shock has been tilted draws the shock upward upon the ex-

tensions 16 and 13 and into the rear end of the rack. As the pulling strain is thus brought upon the rope 37 that portion of the rope which surrounds the shock is drawn upon, so that the rope tightly embraces the shock, the knot 46 moving toward the pulley-frame 40 and into contact with the eye of the shock-bar 47. The contact of the knot 46 with the eye of the shock-bar 47 causes the pulley 39 to remain stationary relative to the shock-bar and enables the rope 37 to properly embrace the shock and effect the required rotary and tilting movements of the shock. As the vehicle still continues to move forward the dividing-bar 49 directs the incoming shock to one side or the other of the front of the rack. As the shock tilts laterally upon the lower extension 16 any cobs or ears of corn which may be detached from the stalks are caught by the extension 13 and are stopped by its beading or strip 59^a, and are thus prevented from falling upon the ground and being lost. As soon as this shock has been loaded the lever 29 is moved so as to disengage the bolt 31 from the annulus 32, and the subsequent operations are repetitions of those described above. The bar 49 is moved from side to side as the rack is being loaded, and the shocks are then deflected to the empty parts of the rack.

From the above description it will be seen that I have produced a loader which is simple, strong, durable, and inexpensive in construction and readily operated and one which derives its power solely from the forward movement of the vehicle.

In loading cornstalks which are husked and piled, but not shocked, the pin or bar 47 is simply passed between the bottom of the pile and the ground and the stick is pulled through beneath the pile, correspondingly drawing the rope 37 beneath the pile, said rope being then laid around the pulley 39. The subsequent operations are substantially the same as those above described.

In loading piles of millet, ensilage, &c., an ordinary harpoon-fork may be suitably connected to the rear end of the rope 37, said fork being plunged into the pile and the remaining operations being substantially as before.

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

1. A shock-loader for corn, comprising a carrying-wheel for a suitable vehicle, a number of brackets embracing the spokes of the wheel, an annulus having a grooved periphery and mounted upon the brackets, and a lever pivoted upon one of the brackets and carrying a bolt for engaging the openings in the annulus and compelling the latter to turn with the wheel and for disengaging the openings and permitting the wheel to turn independently of the annulus, substantially as set forth.

2. A shock-loader for corn, comprising a suitable wheeled vehicle, a number of brackets embracing the spokes of one of the vehicle-

wheels and extending outwardly therefrom, an annulus mounted upon the outer portions of said brackets and provided with peripheral flanges having openings or holes, and a lever
 5 pivoted upon one of the brackets and carrying at its upper end a bolt or pin for engaging the holes or openings, and thus compelling the annulus to turn with the wheel, and also for disengaging the holes, and thus per-
 10 mitting the wheel and annulus to revolve independently of each other, substantially as set forth.

3. A shock-loader for corn, comprising a suitable wheeled vehicle having at its front
 15 end a vertical standard, a pulley mounted upon the upper end of said standard, a brace for said standard extending rearwardly and downwardly therefrom and secured at its
 20 lower end to the bottom of the vehicle-body, a pulley mounted upon the front end of the vehicle-body at one side of the stand-
 ard, a second pulley mounted upon the rear end of the vehicle-body near the correspond-
 25 ing side of the same, a number of brackets embracing one of the rear wheels of the ve-
 hicle, an annulus mounted upon said brackets and having a pair of peripheral flanges provided with openings, a lever pivoted upon
 30 one of the brackets and carrying at its upper end a bolt for engaging the flange-openings,

and a flexible connection attached at one end to the annulus and extending through the rear and front pulleys and also through the pulley of the standard, substantially as set forth.

4. A shock-loader for corn, comprising a suitable wheeled vehicle, a vertical standard provided at its upper end with oppositely-disposed oblique horizontal sockets and located
 40 in the middle of the bottom of the vehicle-body, a pair of standards located at opposite sides of the rear end of the vehicle-body, a bracket secured to the inner side of each of said standards, and a movable deflecting-bar
 45 having at one side of its forward end an arm to enter one or the other of the oblique sockets and disposed horizontally in the vehicle-body, the rear end of the bar being engaged
 50 with and supported by one or another of the brackets of the rear standards, and said bar serving to direct the incoming shocks to one or another side of the front end of the vehicle-body, substantially as set forth.

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

DAVID H. GOOD.

Witnesses:

H. E. PRICE,

JNO. L. CONDRON.