

No. 677,823.

Patented July 2, 1901.

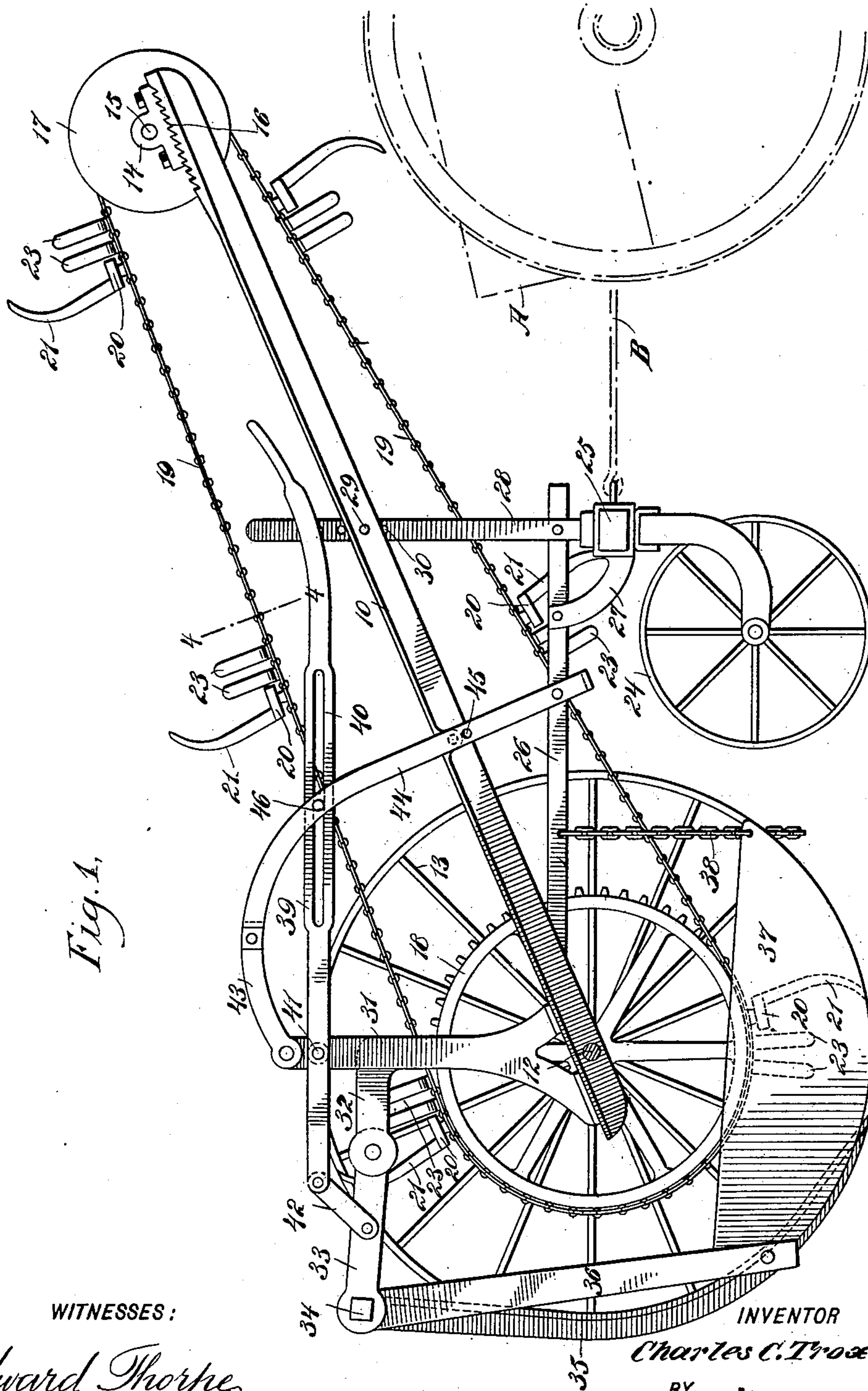
C. C. TROXELL.

STONE AND DIRT LOADING MACHINE.

.(Application filed Oct. 6, 1900.)

(No Model.)

3 Sheets—Sheet 1.



WITNESSES:

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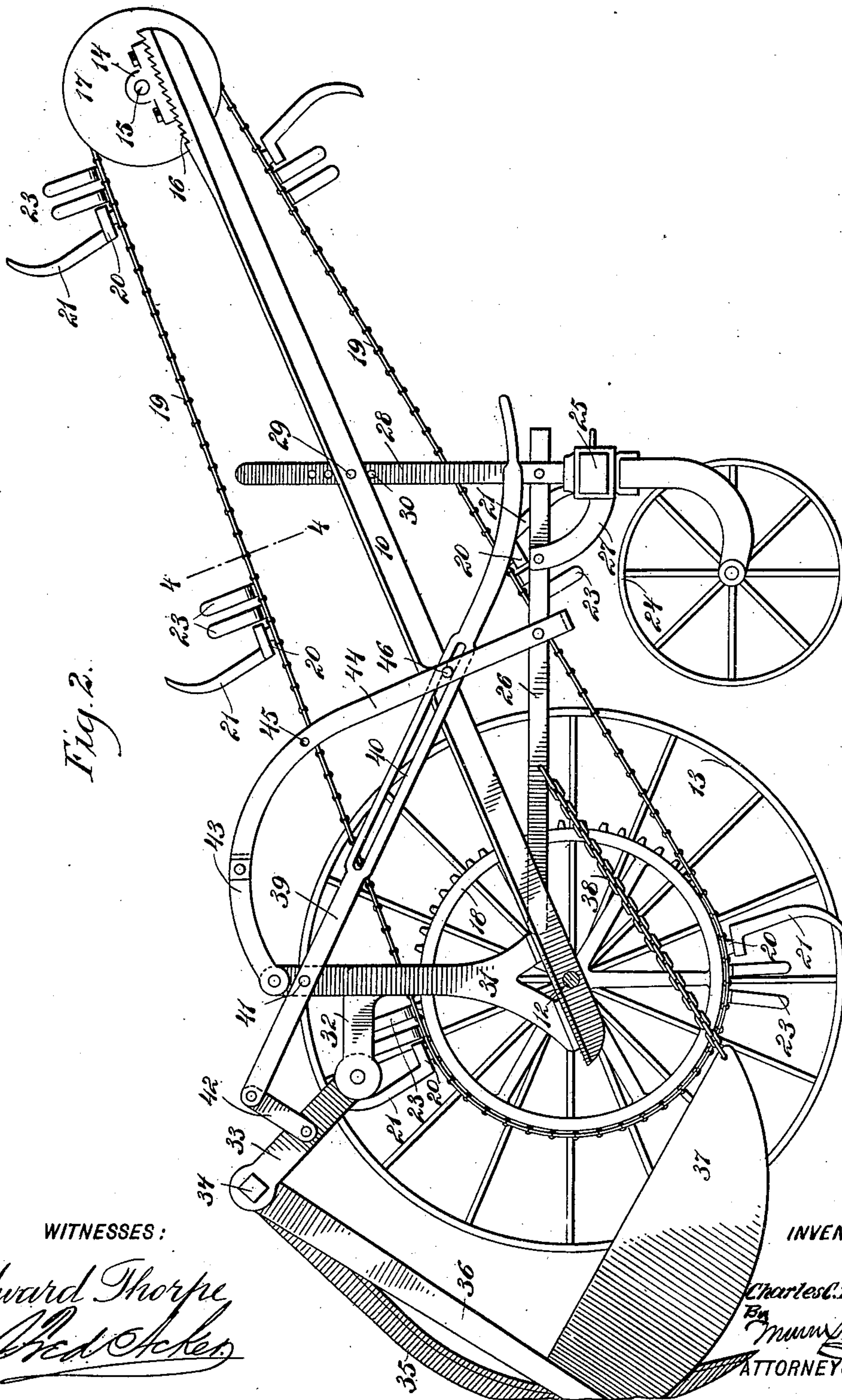
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3 Sheets—Sheet 2.



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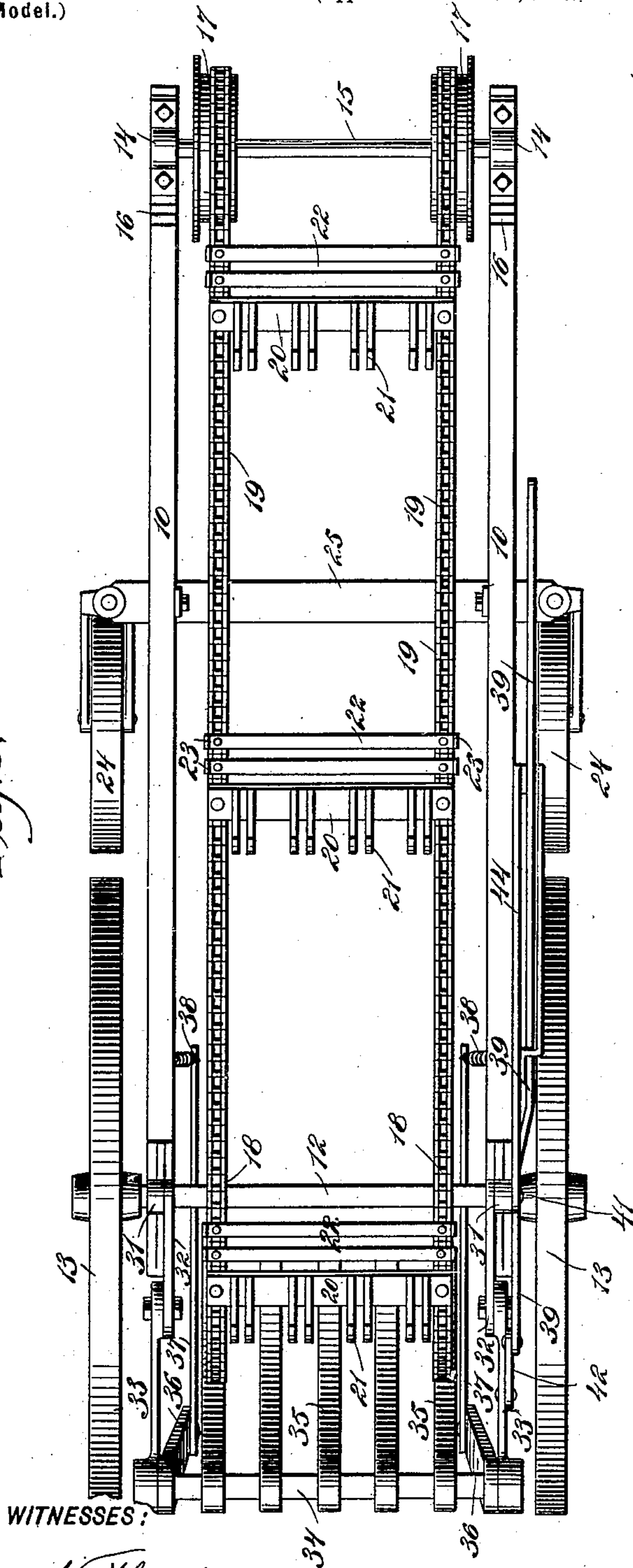
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3 Sheets—Sheet 3.

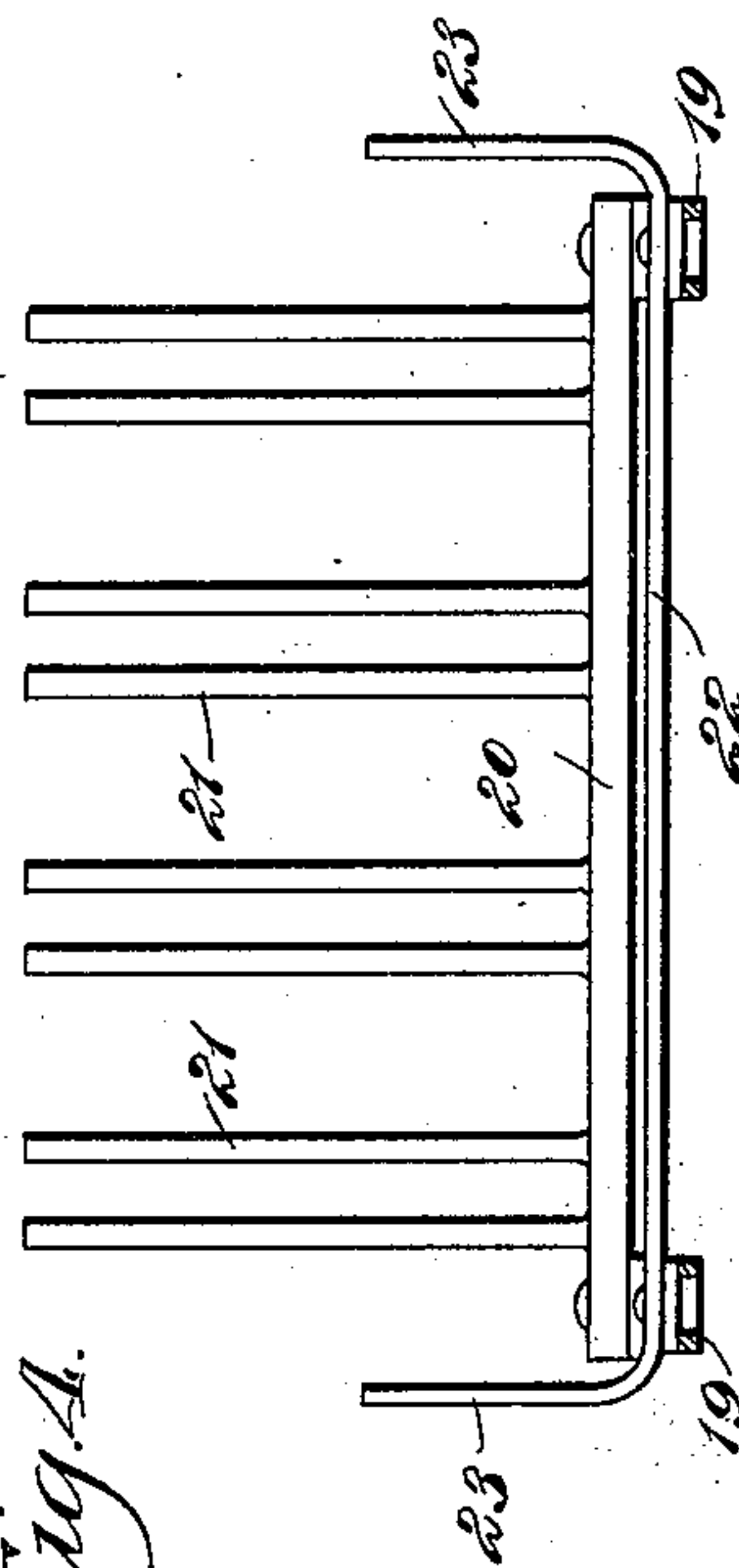
Fig. 3.



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Fig. 4.



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UNITED STATES PATENT OFFICE.

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STONE AND DIRT LOADING MACHINE.

SPECIFICATION forming part of Letters Patent No. 677,823, dated July 2, 1901.

Application filed October 6, 1900. Serial No. 32,215. (No model.)

To all whom it may concern:

Be it known that I, CHARLES C. TROXELL, a citizen of the United States, and a resident of Cornwall-on-the-Hudson, in the county of Orange and State of New York, have invented a new and Improved Stone and Dirt Loading Machine, of which the following is a full, clear, and exact description.

One purpose of the invention is to provide a simple, light and economic machine especially adapted for picking up stones or for elevating dirt and delivering the gathered material to a cart or other receptacle connected with the machine.

A further purpose of the invention is to construct a machine of the character described which will effectually and automatically pick up, maintain, and finally deliver stones or dirt to any desired receptacle.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

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 figures.

Figure 1 is a side elevation of the improved machine, the guards which serve to prevent the material from sliding off the carrier being shown in working position. Fig. 2 is a view similar to Fig. 1, the guards being shown elevated and the machine being in position to be drawn to or from a field. Fig. 3 is a plan view of the machine, and Fig. 4 is a transverse section taken practically on the lines 4-4 of Figs. 1 and 2.

The frame of the machine consists of two parallel side beams 10, which are preferably constructed of T-iron. An axle 12 is suitably journaled at the rear portion of the frame, and supporting-wheels 13 are secured to said axle. Boxes 14 are located at the upper portion of the forward end of the frame, and these boxes serve as bearings for a shaft 15. The boxes are adjustable on the frame, being usually provided with teeth which mate with teeth 16, formed on the frame, as is shown in the drawings. The boxes 14 are made thus adjustable in order to keep end-

less chains 19 under proper tension. These chains pass over flanged pulleys 17, secured on the shaft 15, as shown in Fig. 3, and over larger sprocket-wheels 18, attached to the axle 12, as shown in Figs. 1 and 2. These endless chains are connected at suitable intervals by cross-bars 20, and fingers 21 are carried by these cross-bars, the upper ends of the fingers being curved in such manner that the curved portions of the fingers on the upper stretches of the chains or belts face the forward portion of the machine. In front of the cross-bars 20 slats 22 are attached to the said belts, the slats being provided with end sections 23, which are preferably at right angles to the body portions of the slats. The slats and their uprights, together with the cross-bars and their fingers, serve as pockets for the reception of stones which are picked up by the machine and are to be delivered by it to a suitable receptacle.

The central portion of the frame is supported by caster-wheels 24, and these caster-wheels are located at the ends of a cross-bar 25, which is below the main frame, and horizontal side bars 26 are attached pivotally to the side beams of the main frame, near their lower ends, and the cross-bar 25 is attached to these horizontal bars 26, near the forward ends of the bars, by suitable arms 27, as illustrated in Figs. 1 and 2.

Standards 28 are carried up from the end portions of the cross-bar 25. These standards are connected with the horizontal bars 26, and at or near the upper ends of the standards a series of apertures 30 is produced. These standards are connected with the side beams of the main frame by pins 29, passed through the said side beams and any one of the apertures 30, thus permitting the main frame to be adjusted and supported at any desired angle to the ground.

At the rear portion of the main frame uprights 31 are located, and these uprights are provided with rearward extensions 32. Arms 33 are pivotally attached to the extensions 32, the arms being connected by a cross-bar 34 of any desired description. Fingers 35, preferably T-shaped in cross-section, are secured to the cross-bar 34, and these fingers extend

downward and curve forward at their lower ends, as shown in Figs. 1 and 2. Near each end of the said cross-bar 34 a bar 36 is attached, and these bars are carried downward between the supporting-wheels 13 and are attached to the rear portion of crescent-shaped or semicircular guard-plates 37, the forward ends of which guard-plates are connected with chains 38, attached also to the horizontal bars 26 of the main frame. These chains 38 are slack, as shown in Fig. 1, when the guards are in engagement with the ground, which is their position when the machine is to be worked, and these guards serve to prevent the stones picked up by the fingers 21 from sliding out at the end portions of the pockets on the endless chains as the picked-up stones are being delivered at the front end of the machine.

In the operation of the machine the fingers 21 as they approach the ground pick up stones or any loose material in their path and carry said material upward, dumping the material at the upper end of the machine into a cart or wagon body A, connected with the cross-bar 25 by a draft-rod B or its equivalent. When dirt is to be picked up instead of stones or like substances, the ends of the pockets on the endless chains are closed by suitable covers—as, for example, boards—and one or more of such covers are secured to the rear fingers 35 to prevent the escape of the material from the pockets.

It is very desirable to lift the guards 37 from the ground when the machine is in transit to and from the field of operations. To that end I employ a lever 39, preferably located at the right-hand side of the machine, which lever is provided with a longitudinal slot 40 and is pivoted by a stud 41, extending from the right-hand upright 31. The lever 39 extends rearward of the upright 31 and is connected by a link 42 with one of the arms 33, so that when the lever 39 is in a horizontal position, as shown in Fig. 1, the guards 37 will rest upon the ground and the rear fingers 35 will likewise engage with the ground; but when the lever 39 is pressed downward, as shown in Fig. 2, the guards 37 and fingers 35 are raised rearward, so that they clear the ground. The lever 39 passes through the loop-section 44, formed upon a curved bar 43, which bar is secured to the right-hand upright 31, as shown especially in Figs. 1 and 2, and receives the right-hand horizontal bar 26 of the frame. The loop portion of the curved bar 43, which is a guide-bar, is provided with apertures 45, and a pin 46 is passed through these apertures and the slot 40 in the lever 39, serving to hold the lever 39 in its adjusted position.

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

1. In combination, a wheel-supported frame, endless carriers mounted to travel on the frame, pockets formed on the carriers, fingers forming parts of said pockets, which fingers

are adapted to pick up material, guard-fingers at the rear of the frame, guard-plates coacting with the fingers, between which guard-plates the carriers pass, and an adjusting mechanism for the fingers and guard-plates, as described.

2. A machine for loading stone and dirt, comprising a wheel-supported frame, endless carriers mounted to travel on the frame, pockets formed on the carriers, curved fingers forming parts of said pockets, which fingers are adapted to pick up material, guard-fingers at the rear of the frame, and guard-plates at the sides of the frame adjacent to the guard-fingers and adapted for engagement with the ground, for the purpose set forth.

3. In a machine for loading stones and dirt, a wheel-supported adjustable frame, endless chains mounted on the said frame, receiving motion from the supporting-wheels of the frame, cross-bars attached to the endless chains, fingers carried by the cross-bars, slats having barriers at their ends, which slats are carried by the chains and are located adjacent to the cross-bars, guard-fingers adjustably located at the rear of the frame, guard plates adjustably placed adjacent to the lower portions of the guard-fingers, and means for raising and lowering the guard plates and fingers, as set forth.

4. In a stone and dirt loading machine, a wheel-supported frame, carriers provided with pockets supported by the frame, a series of downwardly and forwardly curved guard-fingers adjustably connected with the frame, guard-plates connected with the supports for the guard-fingers, the lower edges of which guard-plates are convexed, and a lever connected with the supporting structure for the guard-plates and guard-fingers, which lever serves to raise or lower the said guard plates and fingers, and a locking device for the lever, substantially as described.

5. In a stone and dirt loading machine, the combination, with a main frame, supporting-wheels located at the rear of said frame, caster-wheels adjustably connected with the forward portion of the main frame, pulleys mounted at the forward portion of said main frame, sprocket-wheels secured on the axle connecting the supporting-wheels, endless chains passed over the sprocket-wheels and pulleys, cross-bars connecting the endless chains, curved fingers attached to said cross-bars, and slats also connecting the endless chains, which slats are located adjacent to the cross-bars and in front of the fingers, the slats having their ends at an angle to their body portions, of arms pivotally connected with the rear portion of the main frame, a cross-bar connecting said arms, downwardly and forwardly curved guard-fingers secured to the cross-bar connecting said arms, supporting-bars likewise attached to the cross-bar near its ends, guard-plates secured at one of their ends to the said supporting-bars, a flexible connection between the forward

ends of the guard-plates and the main frame, and an adjusting-lever connected with the said pivoted arms, as and for the purpose set forth.

5 6. In a stone and dirt loading machine, the combination, with a main frame, supporting-wheels located at the rear of the said frame, 10 caster-wheels adjustably connected with the forward portion of the main frame, pulleys mounted at the forward portion of said main frame, sprocket-wheels secured on the axle 15 connecting the supporting-wheels, endless chains passed over the sprocket-wheels and pulleys, cross-bars connecting the endless chains, curved fingers attached to the said 20 cross-bars, and slats also connecting the endless chains, which slats are located adjacent to the cross-bars and in front of the fingers, the slats having their ends at an angle to their body portions, of arms pivotally connected with the rear portion of the main frame, a cross-bar connecting said arms,

downwardly and forwardly curved guard-fingers secured to the cross-bar connecting said arms, guard-plates secured at one of their 25 ends to the said supporting-bars, a flexible connection between the forward ends of the guard-plates and the main frame, an adjusting-lever connected with the said pivoted arms, caster-wheels located beneath the forward portion of the machine, a cross-bar connecting the said wheels, and standards extending from the said cross-bar, which standards have adjustable connection with the 30 main frame, whereby the said main frame may be adjusted to and from the ground, and held in such adjustment, as set forth. 35

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

CHARLES C. TROXELL.

Witnesses:

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EDWARD WATTS.