

(No Model.)

2 Sheets—Sheet 1.

A. J. DE WITT.
MACHINE FOR PICKING UP STONES.

No. 598,699.

Patented Feb. 8, 1898.

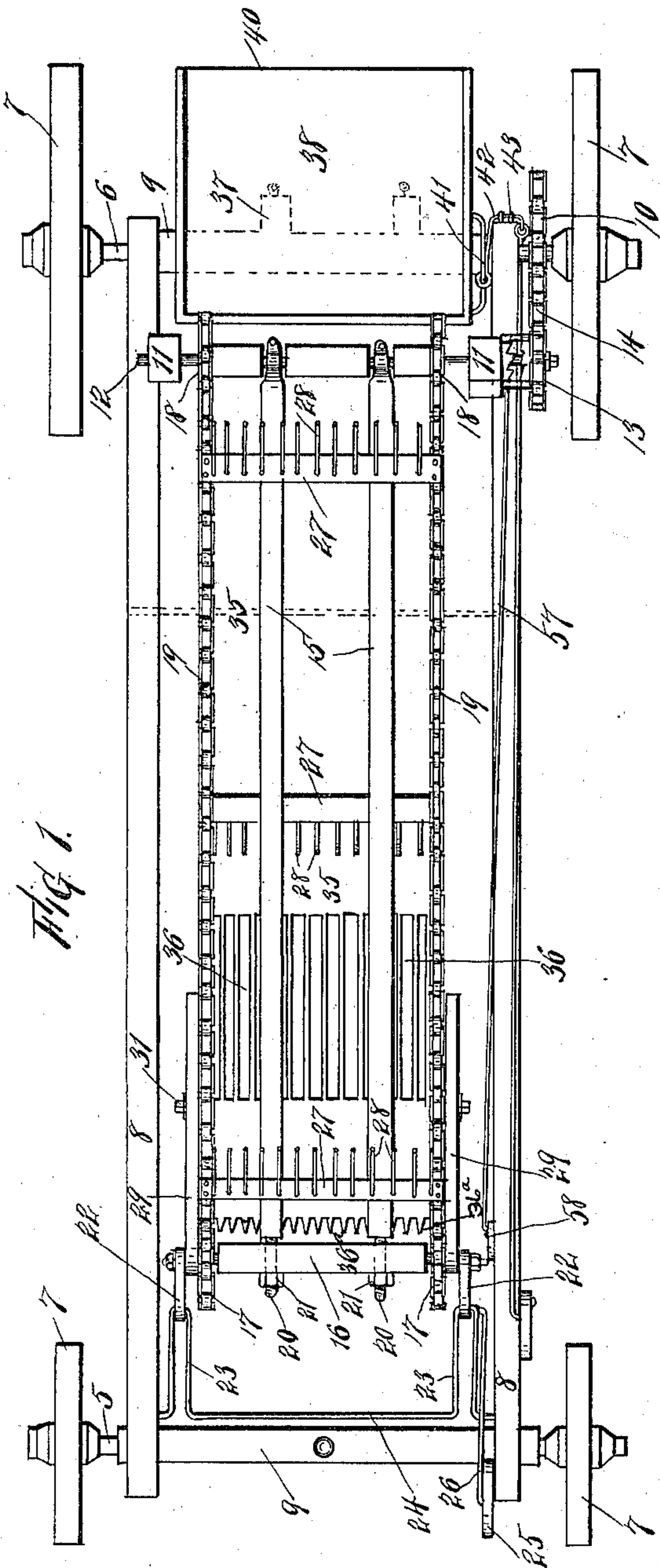


Fig. 1.

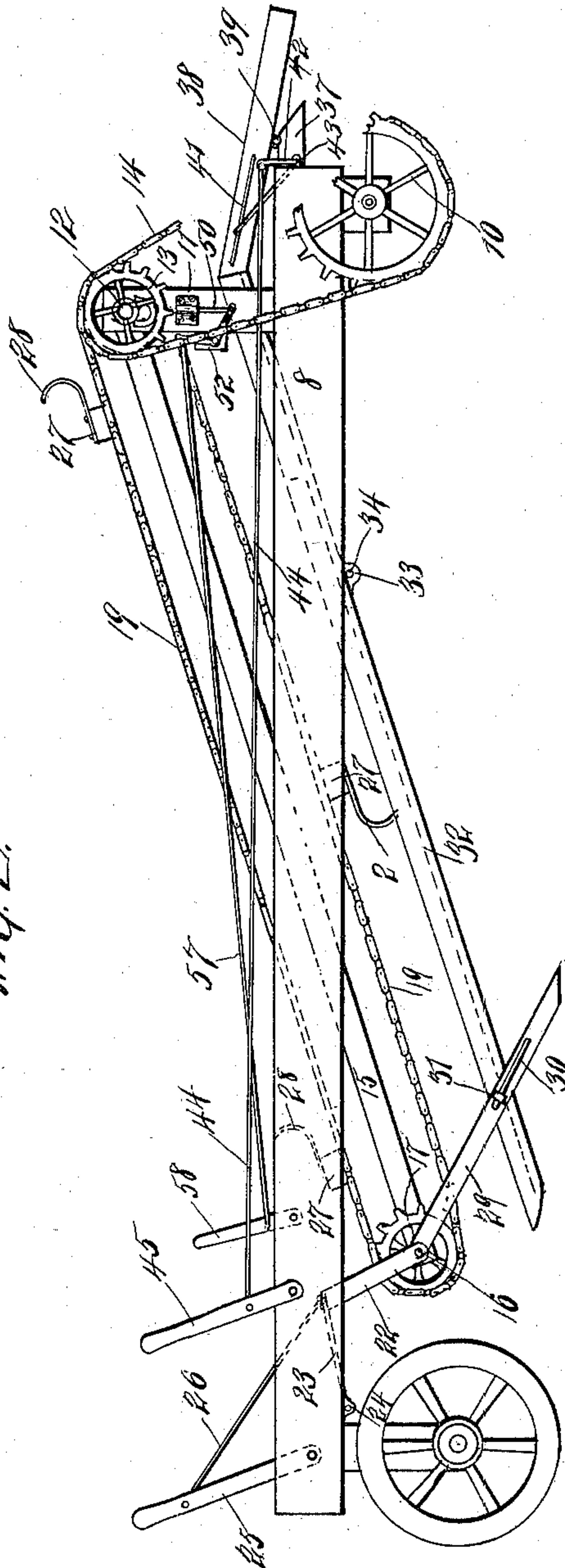


Fig. 2.

WITNESSES

W. Danielson Jr.
C. Gersh

INVENTOR

Alpha J. De Witt
BY *Edgar Tate & Co.*
ATTORNEYS

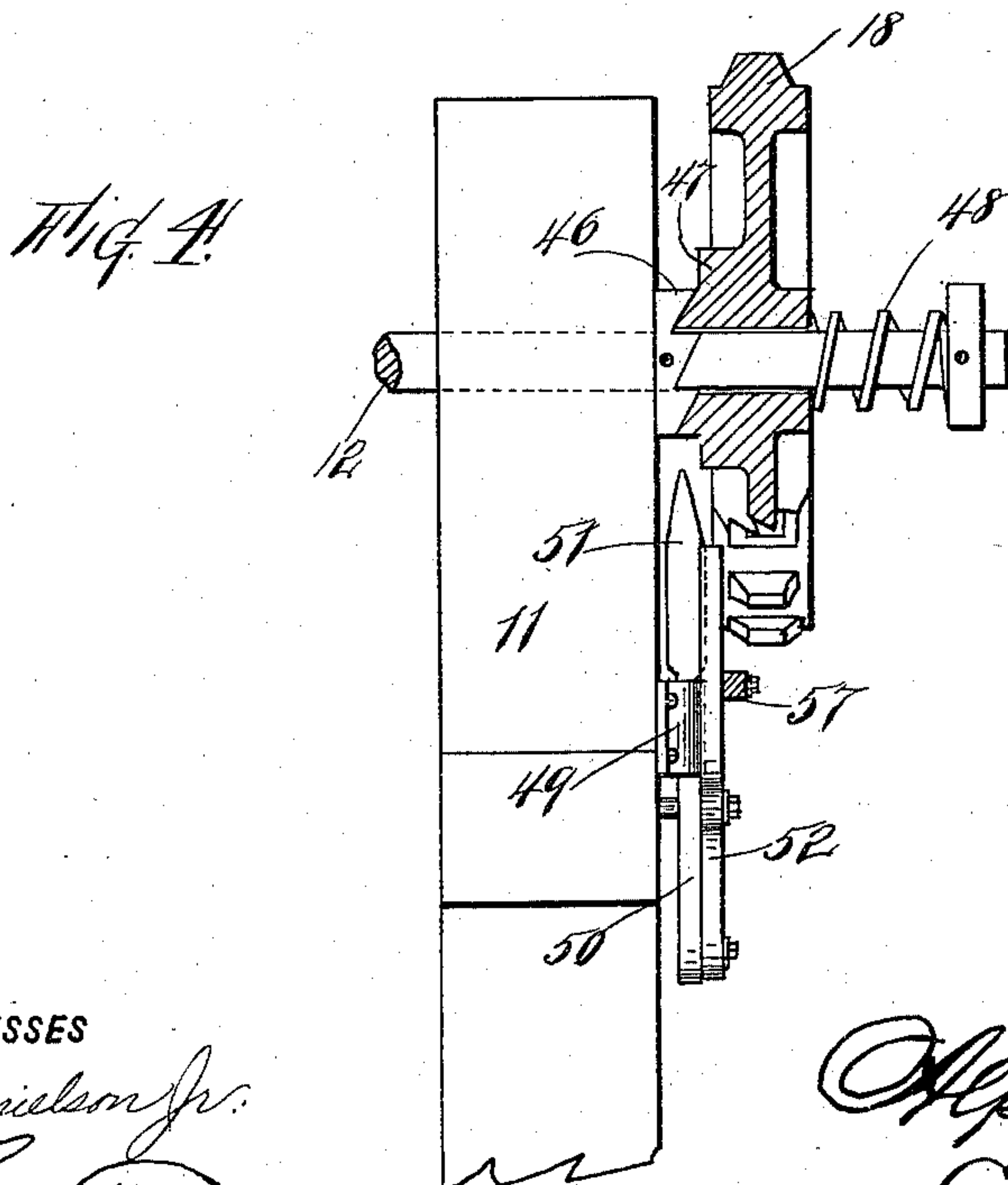
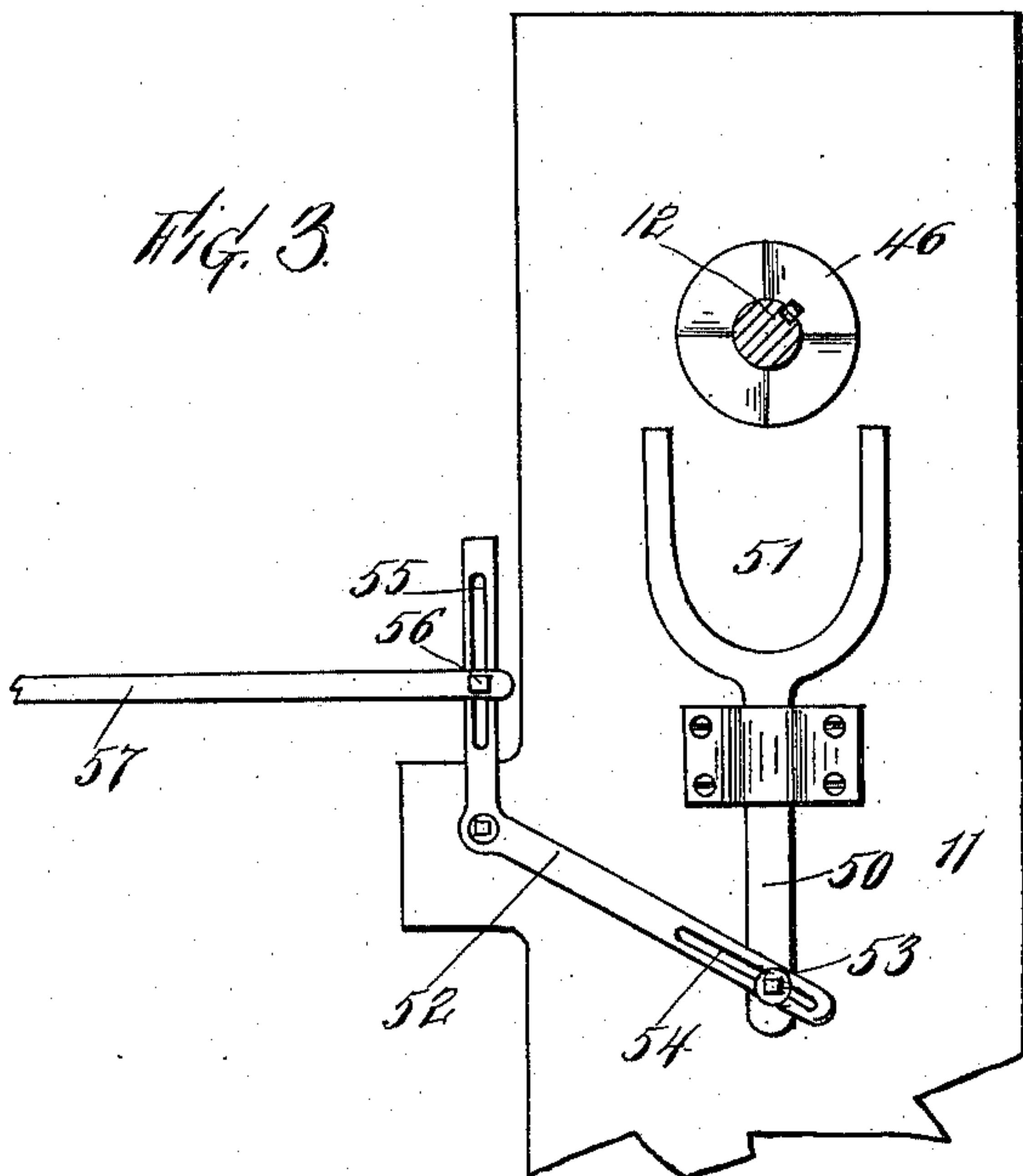
(No Model.)

2 Sheets—Sheet 2.

A. J. DE WITT.
MACHINE FOR PICKING UP STONES.

No. 598,699.

Patented Feb. 8, 1898.



WITNESSES

J. M. Danielson Jr.
C. Gerst

INVENTOR

Alphaf. De Witt
BY
Edgar Tate & Co
ATTORNEYS.

UNITED STATES PATENT OFFICE.

ALPHA JOHN DE WITT, OF MATAMORAS, PENNSYLVANIA.

MACHINE FOR PICKING UP STONES.

SPECIFICATION forming part of Letters Patent No. 598,699, dated February 8, 1898.

Application filed December 16, 1896. Serial No. 615,859. (No model.)

To all whom it may concern:

Be it known that I, ALPHA JOHN DE WITT, a citizen of the United States, residing at Matamoras, in the county of Pike and State of Pennsylvania, have invented certain new and useful Improvements in Machines for Picking Up Stones, of which the following is a full and complete specification, such as will enable those skilled in the art to which it ap-
10 pertains to make and use the same.

This invention relates to machines for picking up small stones, and particularly for picking up stones from loose ground; and the object of the invention is to provide an improved machine of this class which is simple in construction and operation and which may be operated wherever such machines are required.

The invention is fully disclosed in the following specification, of which the accompanying drawings form a part, in which—

Figure 1 is a plan view of my improved machine; Fig. 2, a side view thereof, and Figs. 3 and 4 details of the construction on an enlarged scale.

In the drawings forming part of this specification the separate parts of my improvement are designated by the same numerals of reference throughout the several views; and in the practice of my invention I provide a truck comprising a forward and rear axle 5 and 6 and each of which is provided with wheels 7 of the usual or any preferred construction, and mounted upon the axles 5 and 6 is a main frame, consisting of longitudinal bars 8 and cross-bars 9.

The rear axle 6 of the machine is provided, adjacent to one end thereof, with a sprocket-wheel 10, and the main frame is provided at each side with a vertical standard 11, and mounted in the upper end of said standard 11 is a power-shaft 12, one end of which is provided with a sprocket-wheel 13, and the sprocket-wheels 10 and 13 are geared in connection by a drive-chain 14.

Connected with the shaft 12 are longitudinal bars 15, which extend forwardly almost to the front end of the main frame and are connected with a shaft 16, on the opposite ends of which are mounted sprocket-wheels

17, and the shaft 12 is also provided with corresponding sprocket-wheels 18, and the sprocket-wheels 17 on the shaft 16 and the sprocket-wheels 18 on the shaft 12 are geared in connection by drive-chains 19.

The central portion of the shaft 16 is preferably angular in cross-section, and the longitudinal bars 15 are connected therewith by screws or bolts 20, which pass therethrough and which are provided with nuts or burs 21, and by means of this construction the distance between the shafts 16 and 12 may be regulated to a slight extent, and the bars 15 are free to turn on the shaft 13. Each end of the shaft 16 is also provided with a pivoted arm 22, which is pivotally connected with a crank 23, formed on a transverse shaft 24, and pivotally connected with the forward end of one of the side bars 8 of the main frame is a lever 25, to the upper end of which is pivoted a rod 26, which is also connected with the upper end of one of the arms 22, and by means of the lever 25 the shaft 16 may be raised or lowered and with it the bars 15 and the drive-chains 19.

The drive-chains 19 are provided at suitable intervals with cross-bars 27, each of which is provided with backwardly and forwardly curved teeth 28, and pivotally connected with the ends of the shaft 16 are downwardly and backwardly directed arms 29, each of which is provided with a longitudinal slot 30, through which passes a shaft 31, and the shaft 31 also passes through two similar parallel bars 32, which are pivoted at 33 to the bottoms of the main bars 8 of the frame by means of a rod 34, arranged transversely of the main frame, and the bars 32 are connected throughout their lengths by a bottom plate 35, near the forward end of which are formed longitudinal slots or openings 36, which constitute a brake through which the dirt passes in the operation of the device, as hereinafter described, and which are designed to separate the dirt from the stones, and the forward end of the bottom plate 35, by which the bars 32 are connected, is provided with teeth 36^a.

The rear cross-bar 9 of the main frame is provided with backwardly-directed extensions 37, to which is pivoted a tray or other suit-

able receptacle 38, said tray or receptacle being pivoted centrally thereof, as shown at 39, and the tray or receptacle 38 is open at its rear side, as shown at 40, and provided at one side with a rod 41, with which is connected one arm of a double crank 42, which is pivoted at 43, and to the other arm of which is pivoted a rod 44, which extends forwardly to the forward part of the main frame and is pivotally connected with a lever 45, and by means of the lever 45 the tray or receptacle 38 may be dumped whenever desired, or the rear end thereof may be depressed and the forward end raised, and in the normal position thereof the forward end of said tray or receptacle abuts against the rear ends of the bars 32, and the bottom plate 35, between the bars 32, comes even with the top of said tray or receptacle.

The free ends of the pivoted arms 29, which support the forward ends of the bars 32, are adapted to rest upon the ground, and the said forward ends of the bars 32 are free to rise and fall by means of their connection with said arms 29, and in the operation of the device the shafts 12 and 16, the sprocket-wheels 17 and 18 mounted thereon, respectively, the drive-chain 19, with the cross bars or links 27, the hooks or teeth 28, and the bars 32, which are connected with the plate 35, constitute an elevator by means of which the stones are picked up and carried backwardly and deposited in the tray or receptacle 38, and the side bars 32 and the bottom plate 35, by which they are connected, constitute the track or way of the elevator, and this apparatus is operated by means of the drive-chain 14 and the sprocket-wheel 10 on the rear axle 6.

I also provide means for throwing the apparatus out of gear and for stopping the operative parts thereof or the elevator without stopping the truck or vehicle, and this apparatus is of the following construction, which is best shown in Figs. 3 and 4:

The shaft 12 is provided, adjacent to one end thereof, with a suitable clutch-head 46, and one of the sprocket-wheels 18 is provided with a corresponding clutch-head 47, and mounted on the end of the shaft 12 is a spiral spring 48, which is adapted to force the sprocket-wheel 18 in the direction of said clutch-head 46 and to hold the same in such manner that the clutch-head of the sprocket-wheel will engage with that formed on or secured to the shaft, and mounted in a suitable keeper 49, secured to one of the standards 11, is the shaft 50 of a vertically-movable yoke 51, the sides of which are wedge-shaped in form, and the lower end of the shaft 50 of the yoke 51 is connected with one arm of a crank-lever 52 by means of a pin 53, which passes through a slot 54 formed therein, and the other arm of said crank-lever is provided with a similar slot 55, through which passes a pin 56, formed on or connected with a rod

57, which extends forwardly along the main frame and is pivotally connected with a lever 58, and the yoke 51 may be forced upwardly, so as to separate the clutch-head on the sprocket-wheel from that on the shaft, and when the parts are in this position the sprocket-wheel 18 will revolve without operating the elevator.

The operation of this apparatus will be readily understood from the foregoing description when taken in connection with the accompanying drawings and the following statement thereof:

The vehicle or truck is adapted to be moved by horses or in any desired manner, and as the same progresses or moves over the ground the power-shaft 12 of the elevator is revolved, and this revolves the drive-chains 19 and the sprocket-wheels on the shaft 16, and in this operation of the drive-chains 19 the cross bars or links 27 are carried around over the sprocket-wheels 17 and 18, and when passing over the track or way composed of the side bars 32 and the bottom plate 25, by which they are connected, they carry the stones which are picked up by the shaft 36 backwardly and upwardly over said track or way and drop them into the tray or receptacle 38. The tray or receptacle 38 may be dumped whenever desired by means of the lever 45, and it will also be understood that the forward end of the elevator and of the track or way may also be raised whenever desired by the lever 25, and whenever desirable the elevator apparatus may be thrown out of gear by operating the lever 45.

My invention is not limited to the exact form, construction, combination, and arrangement of parts as herein described, as it is evident that changes therein and modifications thereof may be made without departing from the spirit of my invention or sacrificing its advantages, and it will also be apparent that a suitable brake apparatus may be applied to the main frame or truck, and that said main frame or truck may also be provided with a suitable seat or seats, these parts being of any desired construction and are not shown.

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

The herein-described machine for picking up stones, comprising the combination with a truck and frame of a sprocket-wheel 10, vertical standards 11, shaft 12, sprocket-wheel 13, drive-chain 14, longitudinal bars 15, shaft 16, sprocket-wheels 17 and 18, drive-chains 19, arms 22, crank 23, shaft 24, lever 25, a rod 26, elevator cross-bars 27, having teeth 28, arms 29, having slots 30, shaft 31, pivotally-connected bars 32, a rod 34 bottom plate 35, having slots 36 and teeth 36^a, a pivoted tray or receptacle 38, rod 41, double crank 42 a pivotally-connected rod 44, a lever 45, clutch-heads 46 and 47, spiral spring 48, shaft 50 ver-

5 tically-movable yoke 51, crank-lever 52, adapted to engage said shaft 50 a rod 58 pivotally and slidably connected with said crank-lever, lever 58, all combined substantially as shown and described and for the purpose set forth.

In testimony that I claim the foregoing as

my invention I have signed my name, in presence of the subscribing witnesses, this 11th day of December, 1896.

ALPHA JOHN DE WITT.

Witnesses:

ERNEST O. FISHER,

GEORGE M. LAUBSHIN.