

(No Model.)

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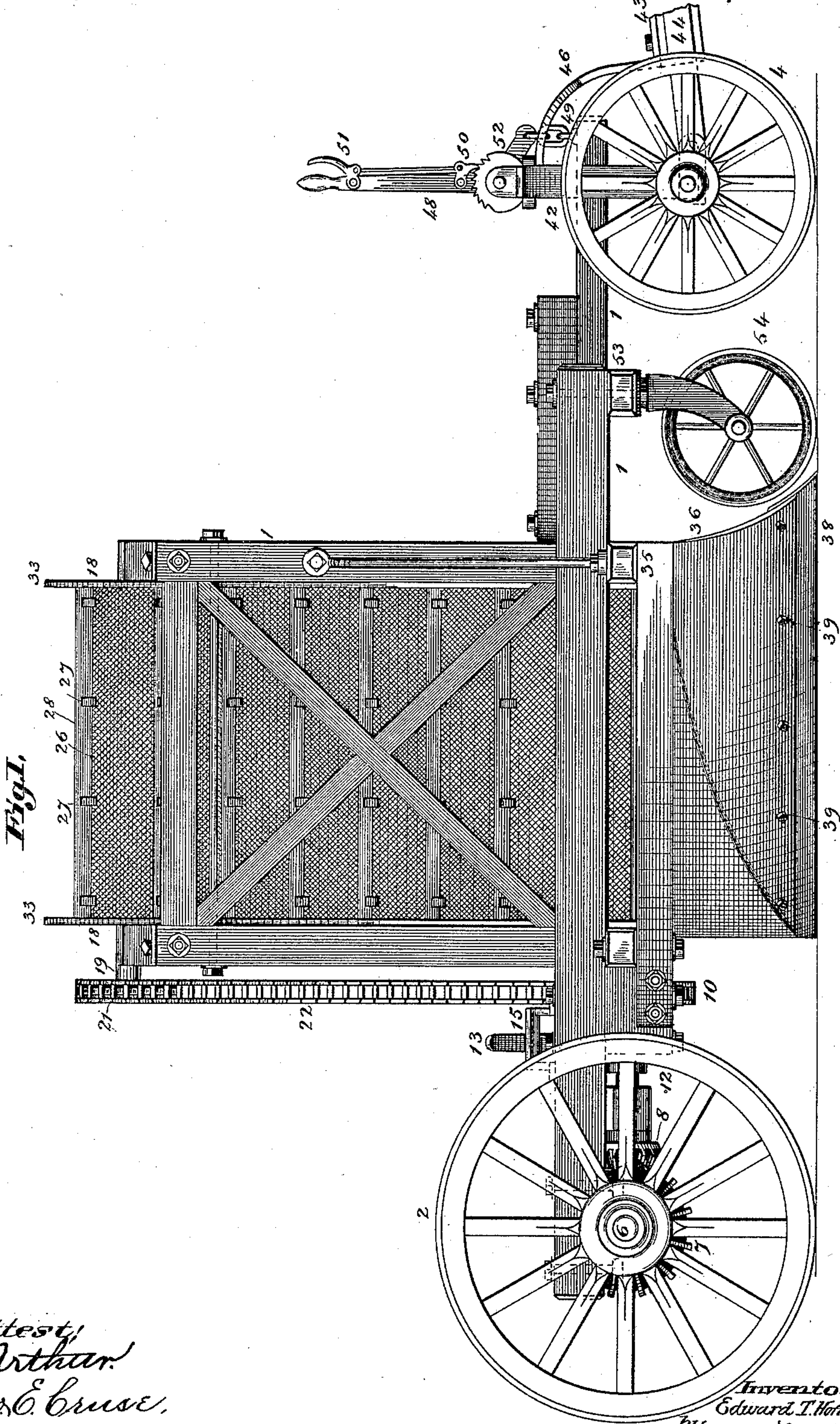
E. T. HOFFMAN, Dec'd.

A. J. BATES, Administrator.

DIRT LOADING MACHINE.

No. 424,300.

Patented Mar. 25, 1890.



Attest,  
E. Arthur  
Geo. C. Bruce.

Inventor,  
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(No Model.)

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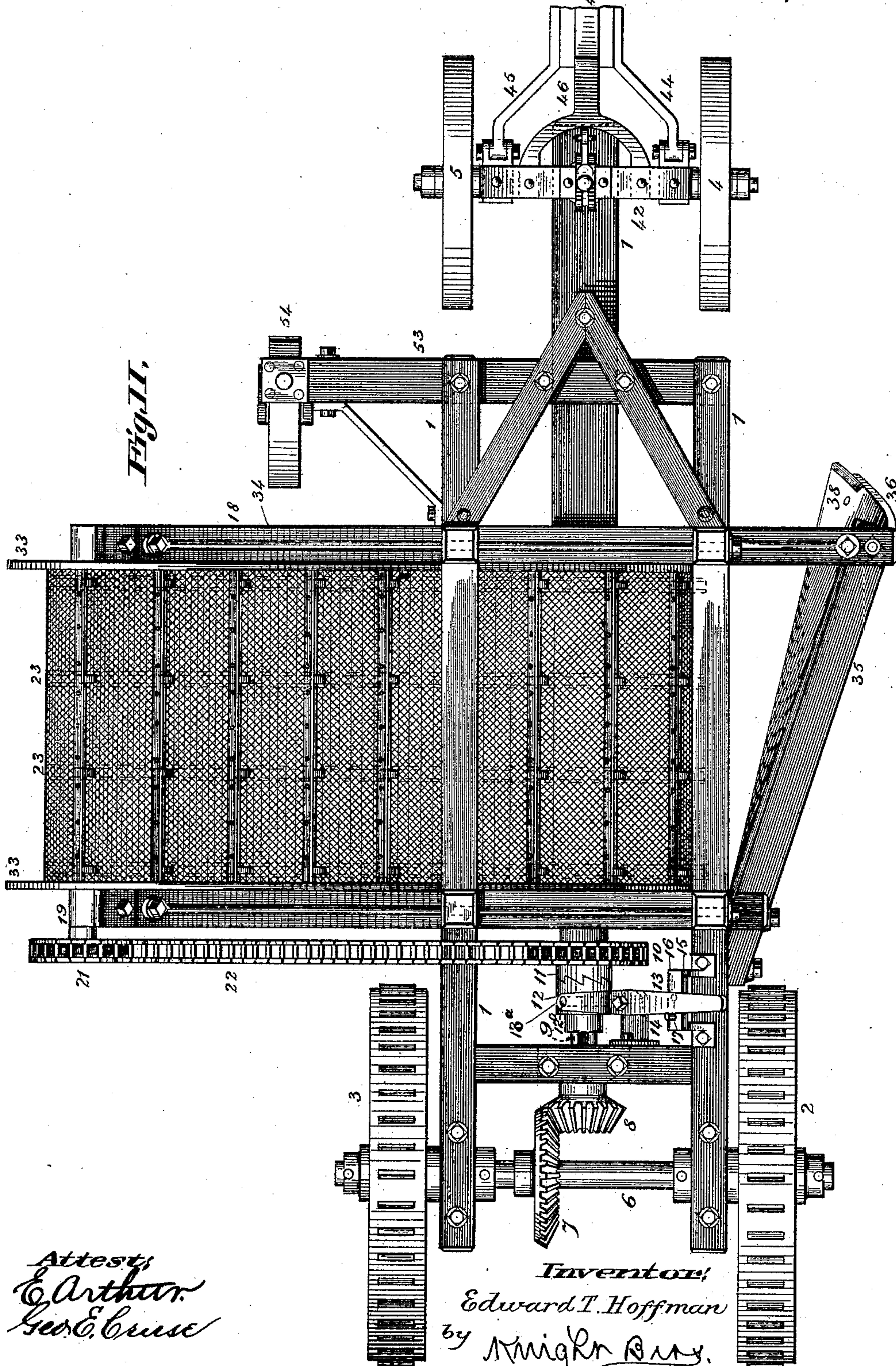
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4 Sheets—Sheet 3.

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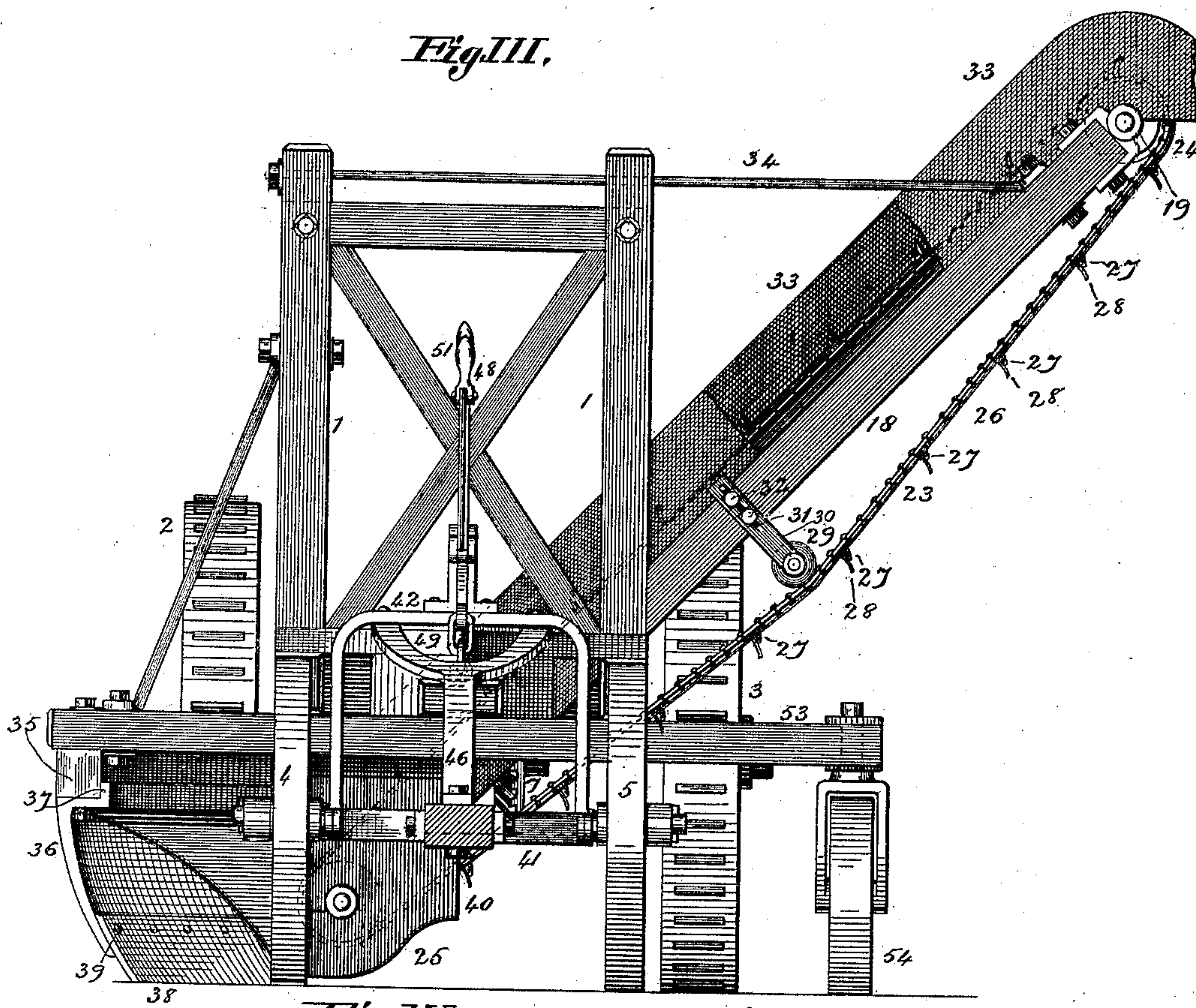
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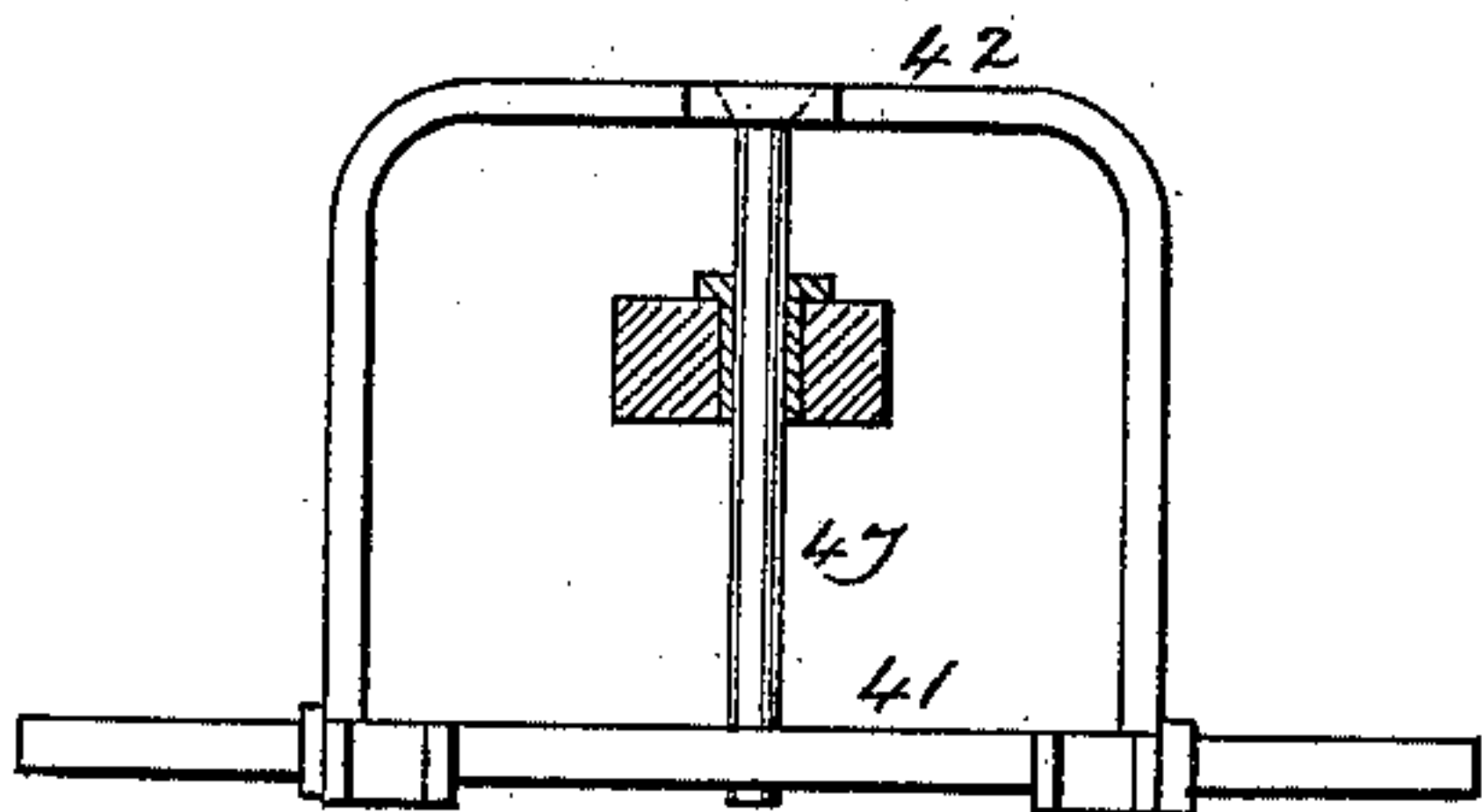
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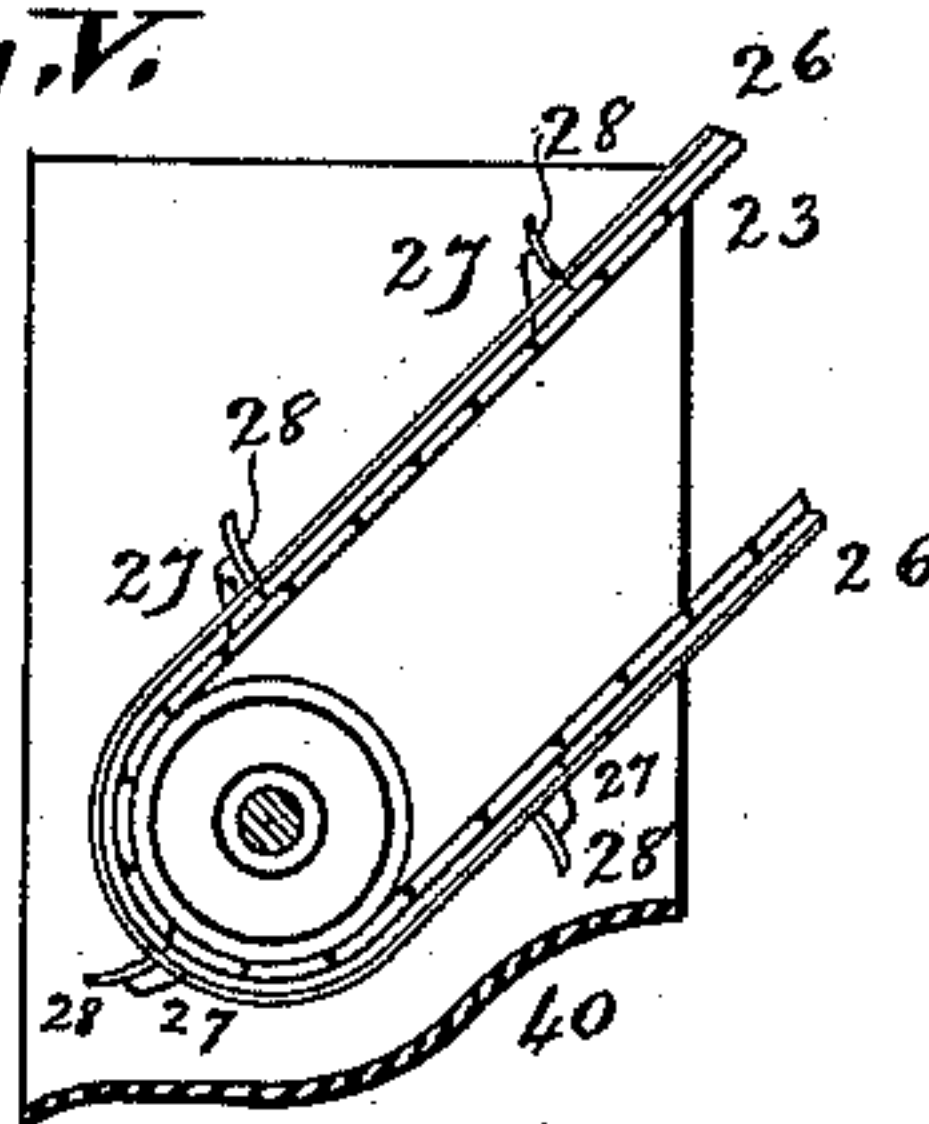
*Fig. III.*



*Fig. IV.*



*Fig. V.*



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(No Model.)

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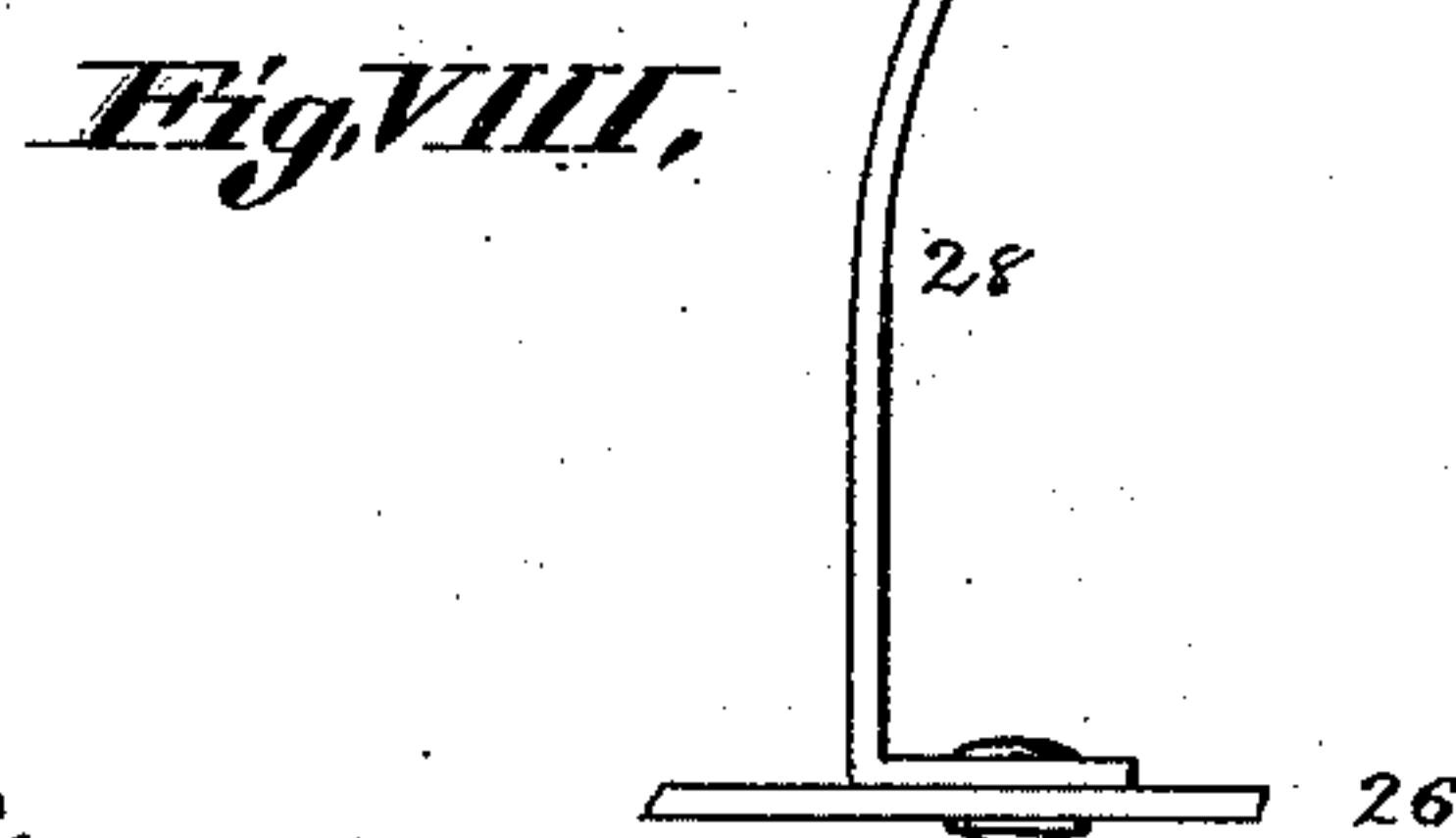
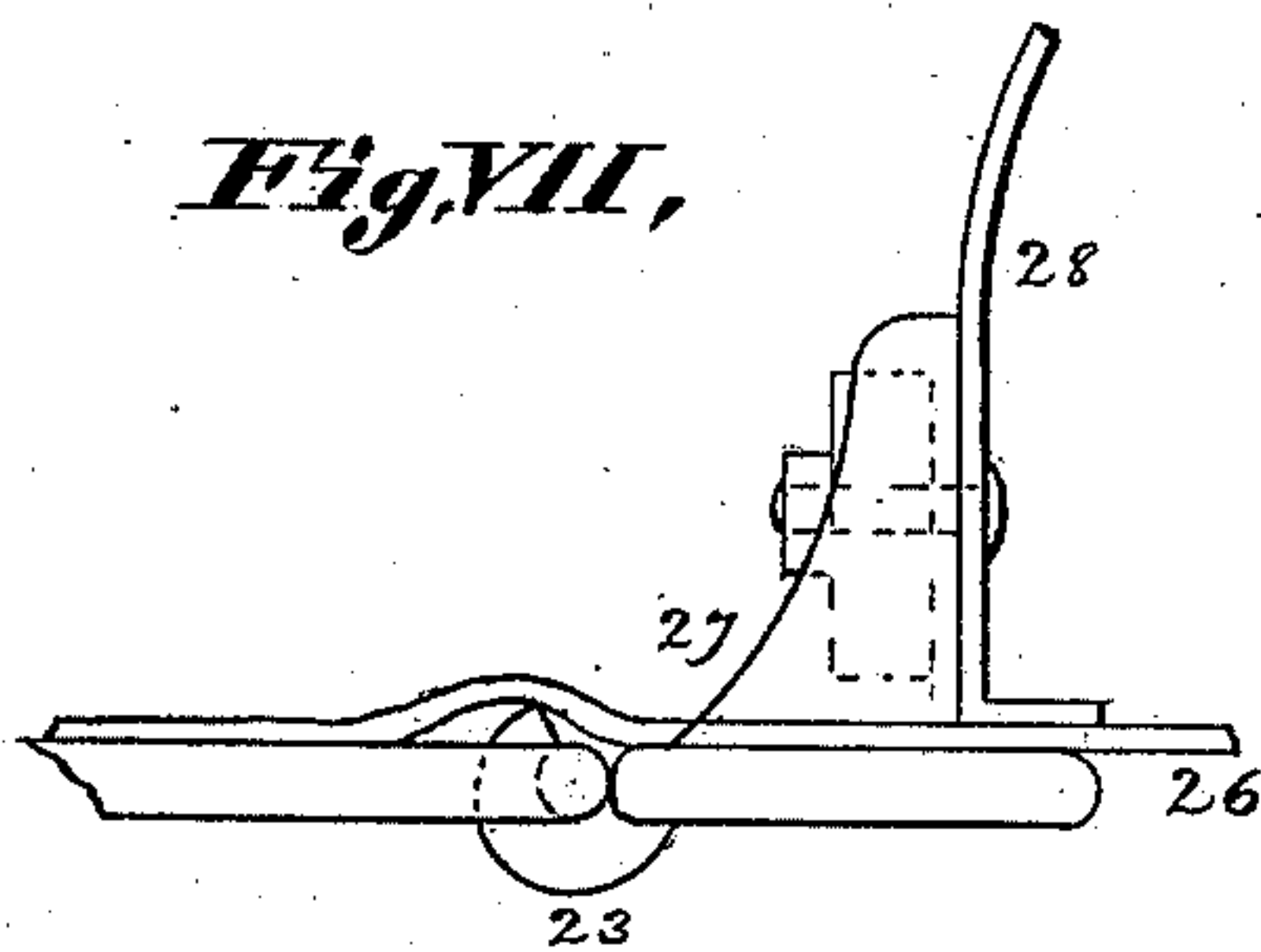
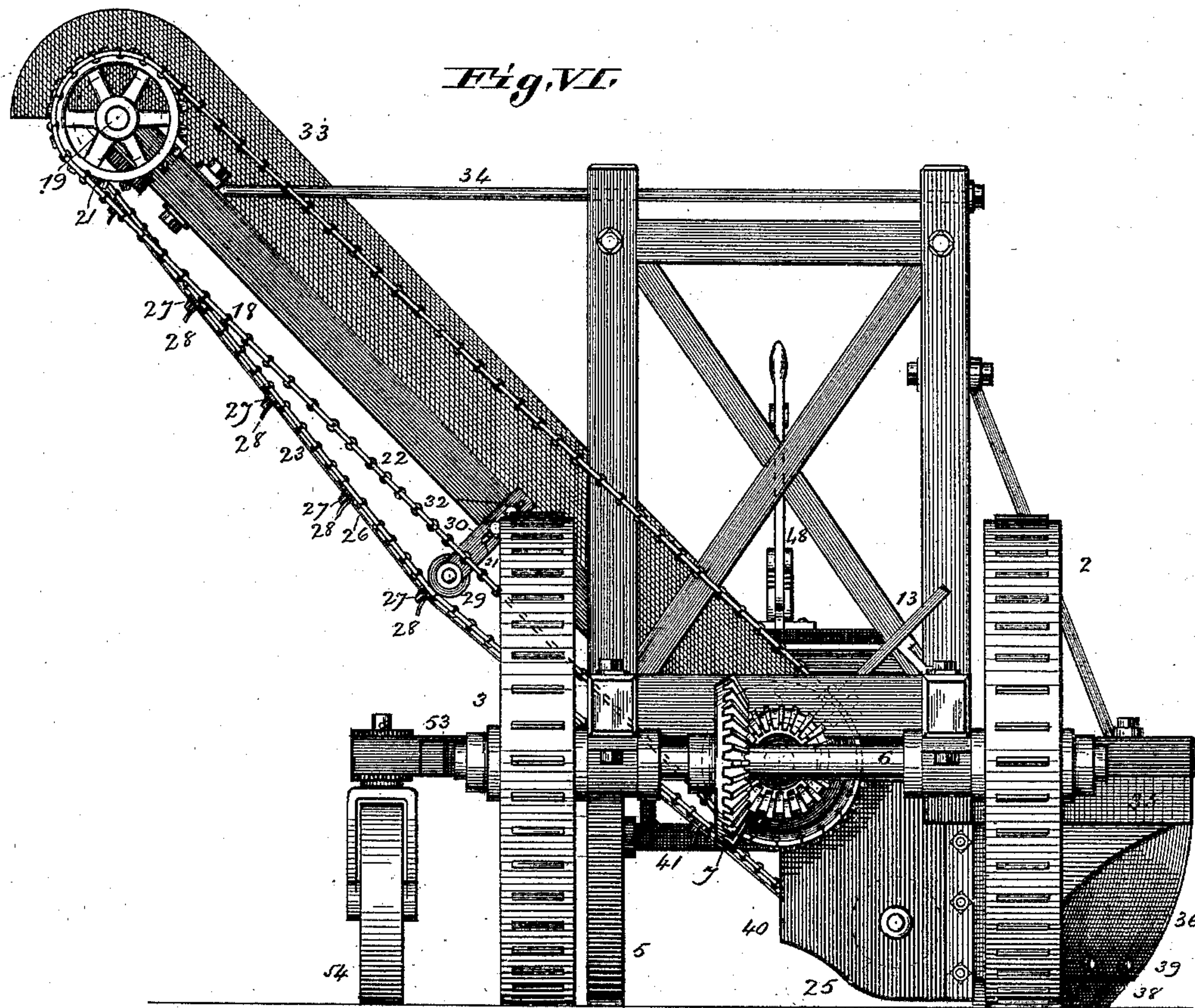
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# UNITED STATES PATENT OFFICE.

EDWARD T. HOFFMAN, OF SUMMUNDUWOT, KANSAS; ANDREW J. BATES  
ADMINISTRATOR OF SAID EDWARD T. HOFFMAN, DECEASED.

## DIRT-LOADING MACHINE.

SPECIFICATION forming part of Letters Patent No. 424,300, dated March 25, 1890.

Application filed August 24, 1889. Serial No. 321,866. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD T. HOFFMAN, of Summunduwot, in the county of Wyandotte and State of Kansas, have invented certain new and useful Improvements in Dirt-Loading Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to a device by which dirt can be readily taken up from the ground and deposited into a wagon or other vehicle; and my invention consists in features of novelty hereinafter described, and pointed out in the claims.

Figure I is a side elevation of my improved device. Fig. II is a top or plan view of the device. Fig. III is a front elevation showing a portion of the elevator-frame broken away in order to show the conveyer. Fig. IV is a front view of the forward axle. Fig. V is a detail view of the lower end of the conveyer and its surrounding shield. Fig. VI is a rear view. Fig. VII is an enlarged detail side view of the conveyer. Fig. VIII is a detail view showing manner of attaching the belt to the conveyer.

Referring to the drawings, 1 represents the main or supporting frame of the machine, which is mounted on wheels 2, 3, 4, and 5. The rear wheels 2 3 serve as drive-wheels, by which the conveyer is operated to raise the dirt from the ground and deposit it in an accompanying vehicle.

6 represents the rear axle, to which the drive-wheels 2 3 are rigidly secured.

7 represents a bevel gear-wheel, which is secured to the rear axle 6. This wheel meshes into a spur-wheel 8, located on one end of a shaft 9, said shaft having suitable journal-bearings in the frame.

10 represents a sprocket-wheel, the hub of which is formed into one section of a clutch, as shown at 11.

12 represents the other section of the clutch, which is adjustably secured to the inner end of the shaft 9.

13 represents a lever pivoted to a bracket 14. The inner end of the lever 13 is forked, and it is yoked to the adjustable section 12

of the clutch by means of such fork and pins 12<sup>a</sup>, engaging in a circumferential groove 13<sup>a</sup> in the section 12, said section being actuated by said lever to throw it in or out of connection with the section 11, so that the shaft 9 will transmit motion to the sprocket-wheel 10, or allow the same to remain idle, as may be desired.

15 represents a bracket provided with holes 16.

17 represents a pin, which may be placed in the holes 16, in order to hold the lever in the position desired when the section 12 of the clutch is thrown in or out of gear with the section 11.

18 represents a side frame attached to the frame 1, and is set at an angle thereto.

19 represents a shaft journaled to the upper end of the frame 18. On one end of the shaft 19 is a sprocket-wheel 21.

22 represents a drive-chain, which connects the sprocket-wheel 21 with the sprocket-wheel 10, by which means the conveyer or elevator is operated. The conveyer is formed of a series of conveyer-chains 23, which travel over a drum 24, located on the shaft 19, and a drum 25, journaled at the bottom of the frame 18.

26 represents a broad belt extending lengthwise of the frame 18, said belt being suitably secured to the conveyer-chains 23.

Interposed at suitable distances in the conveyer-chains 23 are bracket-links 27. To these bracket-links are secured blades 28, which extend in a transverse direction across the frame 18. These blades pass up on the upper side of the frame, carrying the dirt to the top of the frame, where it is discharged.

I do not confine myself to smooth drums, as shown, nor do I confine myself to a belt, as shown, as the belt may be dispensed with, and the blades 28, which travel on the floor of the frame 18, will serve to carry up the dirt without the use of a belt. In such a case, instead of having drums at the top and bottom of the frame 18 for the conveyer to travel on, I would provide sprocket-wheels which would engage with the conveyer-chains, and thus operate the conveyer.

29 represents a friction-roller for the purpose of taking up any slack in the conveyer,



said roller being journaled to bars 30, said bars being secured adjustably to the frame 18 by means of slots 31 and set-screws 32.

33 represents extensions on the frame 18, which prevent the dirt from falling off on either side.

34 represents rods by which the frame 18 is braced with the main frame 1.

35 represents a beam secured to the frame 1 and extending out at an angle with the body of the frame. To the beam 35, I secure a curved casting 36, having a shoulder 37, (see Fig. III,) which, with the aid of bolts, forms a solid connection between the casting and the beam.

38 represents a scraper-blade, secured to the lower end of the casting 36 by means of bolts 39.

It will be noticed that, owing to the shape and arrangement of the casting 36 and scraper 38, as the machine is traveling forward the dirt will be gathered in from a considerable distance and forced in toward the bottom of the conveyer, the blades of which gather it up and convey it to the top of the frame 18 and dump it into an accompanying vehicle.

40 represents a hood or shield, which prevents the dirt from falling under the lower end of the conveyer as it is thrown up by the scraper. The front axle 41 has an arched portion 42. The tongue 43 is attached to the axle by means of side bars 44 45 and a top bar 46.

47 represents the king-bolt, which extends from the portion 42 of the axle to the main portion. The king-bolt passes through the forward end of the frame.

48 represents a lever pivoted to the front axle, said lever being connected to the forward end of the frame 1 by means of a chain 49.

50 represents a pawl on the lever, said pawl being operated by the usual trigger 51.

52 represents a rack in which the pawl works. The object of the lever 48 is to raise or lower the front end of the frame 1, and thus raise or depress the scraper-blade, according to the condition of the ground, &c.

I secure to the bar 53 a caster-wheel 54, which serves as an additional support and avoids all danger of the machine tipping over or becoming strained by the weight of the frame 18.

I claim as my invention—

1. In a dirt-loading machine, the combination, with a suitable supporting-frame and wheels on which it is mounted, of an endless conveyer, means for operating said conveyer, and a scraper secured to the frame and adapted to throw the dirt onto the conveyer, said scraper being set at an angle and extending beyond the outer line of the drive-wheels, substantially as described, and for the purposes set forth.

2. In a dirt-loading machine, the combination of a suitable frame mounted on wheels, of an endless conveyer carrying blades adapted to enter the dirt, suitable driving mechanism connecting the conveyer with said wheels, and a scraper adapted to enter the earth and throw the dirt onto the conveyer, said scraper being situated to one side of the machine, set at an angle thereto and extending beyond the outer line of the drive-wheels, substantially as described, and for the purpose set forth.

3. The combination, in a dirt-loading machine, of an endless conveyer with blades adapted to enter the earth, and a device for throwing the dirt against the blades, said device consisting of the beam 35, curved casting 36, having a shoulder 37, and a blade 38, secured to the casting, substantially as described, and for the purpose set forth.

4. The combination, in a dirt-loading machine, of a suitable frame mounted on wheels, a scraper attached to the frame, said scraper extending at an angle beyond the outer line of the drive-wheels, and an endless conveyer consisting of a series of conveyer-chains, bracket-links in the chains, and blades secured to the bracket-links, substantially as described, and for the purpose set forth.

5. In a dirt-loading machine, the combination of a scraper secured to a suitable frame, the drive-wheels, said scraper extending at an angle beyond the outer line of the drive-wheels, an endless conveyer, and a hood located at the lower end of the conveyer, said hood serving to confine the dirt thrown up by the scraper, substantially as described, and for the purpose set forth.

EDWARD T. HOFFMAN.

In presence of—

JAS. E. KNIGHT,  
W. E. McMANUS.