

No. 799,079.

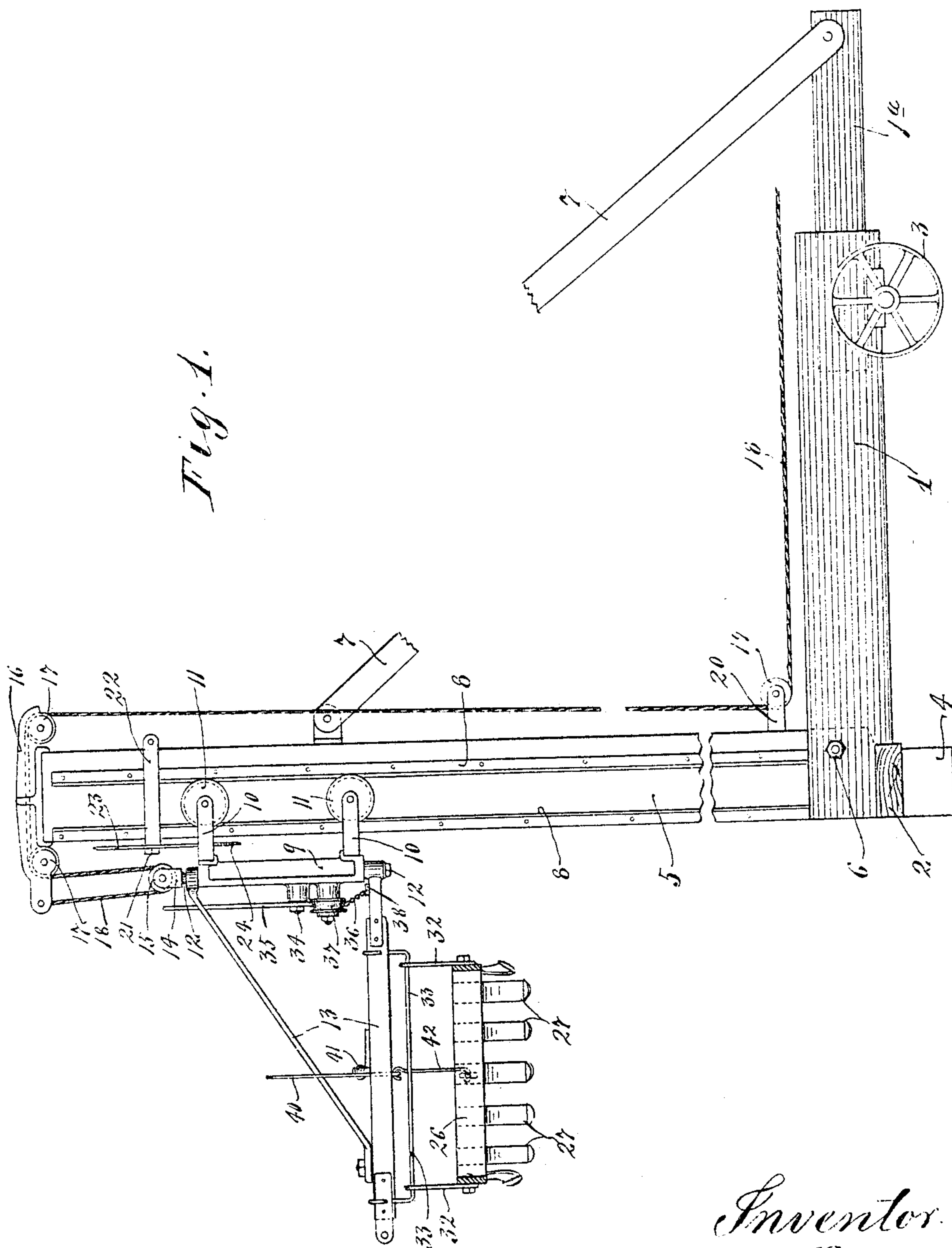
PATENTED SEPT. 12, 1905.

N. H. NELSON.

DEVICE FOR CONVEYING AND HOISTING VARIOUS MATERIALS.

APPLICATION FILED FEB. 24, 1905.

3 SHEETS—SHEET 1.



Witnesses.

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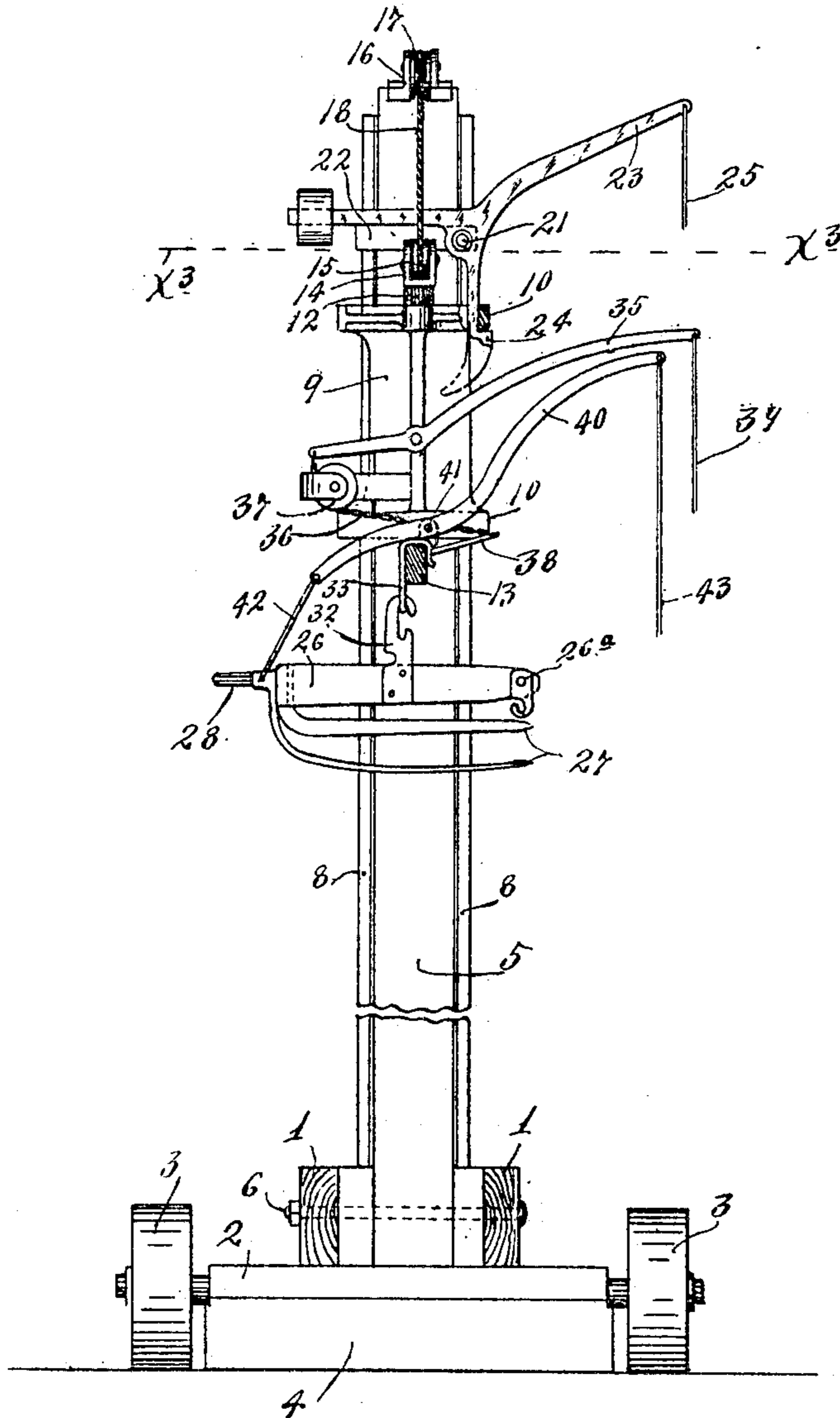
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3 SHEETS—SHEET 2.

Fig. 2.



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3 SHEETS—SHEET 3.

Fig. 3.

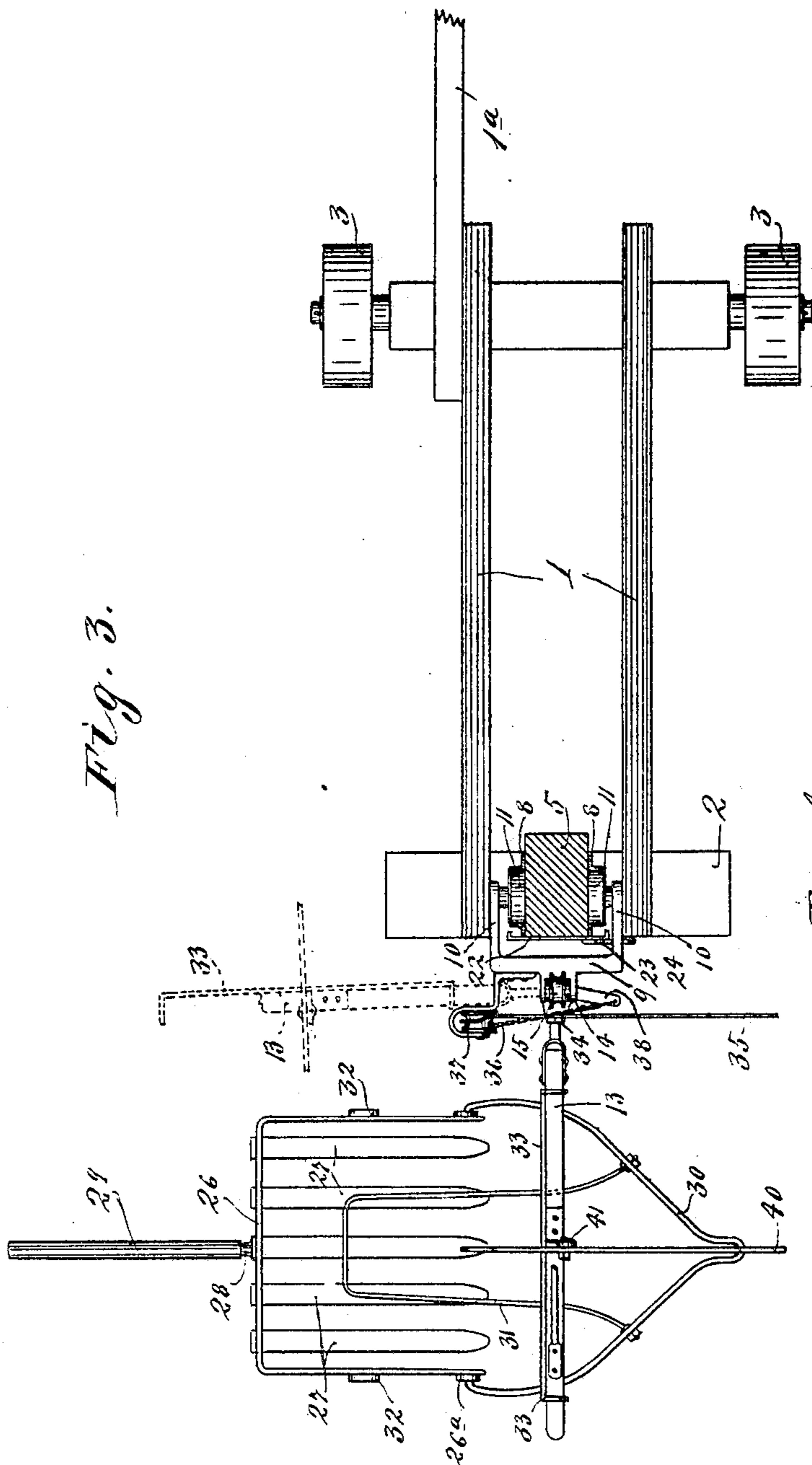
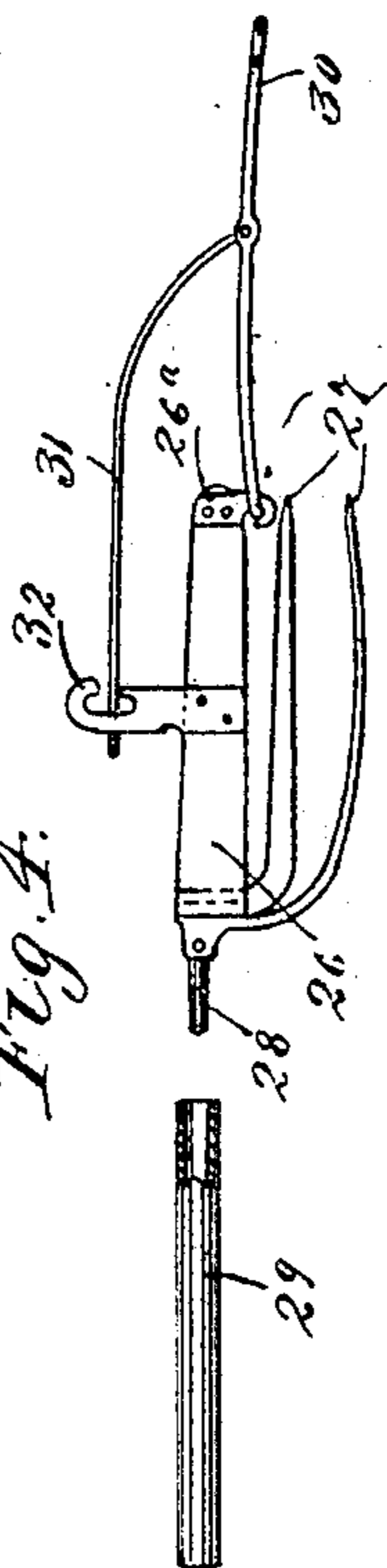


Fig. 4.



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UNITED STATES PATENT OFFICE.

NELS H. NELSON, OF PENNOCK, MINNESOTA.

DEVICE FOR CONVEYING AND HOISTING VARIOUS MATERIALS.

No. 799,079.

Specification of Letters Patent.

Patented Sept. 12, 1905.

Application filed February 24, 1905. Serial No. 247,086.

To all whom it may concern:

Be it known that I, NELS H. NELSON, a citizen of the United States, residing at Pennock, in the county of Kandiyohi and State of Minnesota, have invented certain new and useful Improvements in Devices for Conveying and Hoisting Various Materials; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My present invention has for its especial object to provide an improved apparatus adapted for use in gathering, conveying, and hoisting onto a stack manure, but adapted also for other purposes; and to this end it consists of the novel devices and combinations of devices hereinafter described, and defined in the claims.

Some of the features herein disclosed are disclosed and claimed in my two pending applications, Serial Nos. 238,454 and 238,455, filed of date December 27, 1904, the former being entitled "Hay-elevator" and the latter being entitled "Grain-elevating device."

In the accompanying drawings, which illustrate my invention, like characters indicate like parts throughout the several views.

Figure 1 is a view in side elevation with some parts broken away, illustrating my improved apparatus. Fig. 2 is a front elevation of the apparatus, some parts being sectioned. Fig. 3 is a horizontal section taken approximately on the line $x^3 x^3$ of Fig. 2, and Fig. 4 is a side view of the fork or scoop.

The numeral 1 indicates a base-frame which, as shown, is provided with a rear-end extension 1^a, with a transverse front-end steadying-beam 2, and with truck-wheels 3.

The numeral 4 indicates a block temporarily placed under the beam 2.

The numeral 5 indicates a heavy upright which is pivotally connected to the base-frame 1 at 6.

The numeral 7 indicates a brace-bar which normally connects the upright 5 to the frame extension 1^a and holds the former in an upright position.

Rigidly secured to the upright 5 and extending longitudinally thereof are guide-rails 8 arranged in pairs.

A truck is mounted to move vertically on the upright 5. This truck, as shown, is made up of a body 9, a pair of yokes 10, and truck-wheels 11. The yokes 10 embrace the sides

of the upright, and the truck-wheels 11 are journaled to the prongs of said yokes and work in the channels formed between the co-operating guide-rails 8. At its upper and lower ends the truck-body 9 is provided with trunnions 12, upon which is pivotally mounted for horizontal swinging movements an approximately V-shaped supporting-bracket 13. The upper trunnion 12 is rigidly secured to ears 14, to which is journaled a sheave 15.

Rigidly secured on the upper end of the upright 5 is a bearing-bracket 16, to which is journaled a pair of guide-sheaves 17, located one in front and the other at the rear of the upright. A hoisting-cable 18 is attached at one end to the forwardly-projecting end of the bracket 16, is passed under the guide-sheave 15, over the two guide-sheaves 17, thence downward to the lower portion of the upright, and thence under a guide-sheave 19, mounted in a bearing 20 on said upright. As is evident, by drawing on the lower end of the cable 18 the truck and parts carried thereby may be raised and lowered on the upright. Power for drawing the cable 18 may be supplied by hand, by an engine-driven drum, or by one or more horses hitched to the lower end thereof.

Pivoted at 21 to a bracket 22, that is rigidly but adjustably secured on the upper portion of the upright, is a weighted latch-lever 23, provided with a cam-shaped or beveled lock-nose 24, affording a lock-hook. This lock-hook 24 stands in such position that when the truck is moved upward to an extreme position it will automatically engage with one prong of the upper truck-yoke 10 and lock said truck in a raised position. The latch-lever is adapted to be released from said yoke to release said truck by drawing on a trip-rope 25, that is extended to the ground or to the lower portion of the upright.

The numeral 26 indicates the horizontally-disposed U-shaped frame, and the numeral 27 the tines of a fork or scoop, the said frame having at its rear central portion a projecting stud 28, to which a detachable handle 29 is adapted to be applied when the scoop is run over the ground, the said handle being shown as in position in Fig. 3 and as detached in Fig. 4.

Pivotally connected to hook-like brackets 26^a, secured to the forwardly-projecting prongs of the frame 26, is a drag-bail 30, to which by means of a whiffletree or other

usual devices a horse may be attached to drag the fork over the ground as a scoop to pick up the manure or other material. To the sides of the bail 30 is secured the forwardly-projecting ends of a bail-like handle 31. Also secured to the sides of the frame 26 are vertically-projecting hook-like brackets 32, so positioned that the heaviest part of the fork will be to the rear of said bracket.

Rigidly secured on the lower horizontally-extended arm of the oscillating bracket 13 and extending horizontally below the same is a suspending rod or bar 33, to which when the truck is lowered the hooks 32 of the fork-frame 26 are adapted to be applied, as shown in the drawings, and it will be here noted that when the said hooks are thus applied the drag-bail 30, to which the horse is attached, is removed from the hook-like brackets 26^a by the operator by means of the handle 31.

Pivoted at 34 to the truck-body 9 is a lever 35, to the short end of which is attached a chain or similar connection 36, that runs over a guide-sheave 37 on said truck-body and is attached to an arm 38 on the lower arm or beam of the oscillating bracket 13. To the long arm of the lever 35 is attached a rope 39, that should be extended to the ground or to the lower portion of the upright. By drawing on the rope 39 the oscillating bracket 13 and the loaded fork suspended therefrom, while the truck is elevated, may be swung from the position indicated by full lines in Fig. 3 into the position indicated in part by dotted lines in the same view, and thus the loaded fork may be carried over the stack in a position to be dumped.

Pivoted at 41 to the supporting-bracket 13 is a lever 40, one end of which is secured to the U-shaped frame 26 of the fork or scoop by means of a link 42. A rope 43, which may be held in the hand of the operator, is attached at its upper end to the free end of the lever 40, and, as is evident, by rocking the rear portion of the fork upward on the suspending-rod 33 as a pivot by means of the lever 40 and the rope 43 the load may be easily dumped. After the load is dumped the fork will by its own weight return to normal position. The bracket 13 and empty fork may now be swung back into position, (indicated in Fig. 3,) so that the fork may be lowered clear of the stack. The manner in which the truck and the empty fork may be released and lowered has already been clearly set forth.

The device described is capable of general use for conveying and hoisting material. If used to convey and hoist sand, gravel, or dirt, a scoop or bowl, such as ordinarily used for excavating, should be employed instead of said fork or open scoop.

From what has been said it will be understood that the device described is capable of

modification within the scope of my invention as herein set forth and claimed.

What I claim, and desire to secure by Letters Patent of the United States, is as follows:

1. The combination with an upright and a carrier movable vertically thereon, of a scoop having means for detachably connecting the same to said carrier and for drawing the same over the ground when detached, substantially as described.

2. The combination with an upright, a carrier movable thereon, and a laterally-movable bracket pivoted to said carrier, and a scoop having means for drawing it over the ground, and provided with means for detachably securing it to said carrier, for pivotal dumping movements, substantially as described.

3. The combination with an upright, a truck movable vertically thereon, and a bracket pivoted to said truck for lateral swinging movements, of a lever pivoted to said truck and having connections for swinging said bracket and for operating it when the truck is elevated, and a scoop having means for drawing it over the ground when detached, and provided with means for detachably connecting it to said swinging bracket with freedom for pivotal dumping movements, substantially as described.

4. The combination with an upright, a truck movable thereon, and a supporting-bracket pivoted to said truck for lateral swinging movements, of means for swinging said bracket when said truck is raised, and a scoop detachably connected to said bracket, with freedom for pivotal dumping movements, substantially as described.

5. The combination with an upright and a truck movable vertically thereon, of a supporting-bracket pivoted to said truck for lateral swinging movements, a latch for securing the said truck in an elevated position, having means for releasing it from the ground, connections to said bracket for swinging it when raised, and a scoop detachably suspended from said bracket, with freedom for pivotal dumping movements, said scoop having a connection extending to the ground for controlling its dumping movements, substantially as described.

6. The combination with an upright and a carrier movable vertically thereon and provided with a supporting-bracket having a suspending rod or bar, of a scoop having hooks detachably engageable with said suspending rod or bar, and a lever having an operating connection extending to the ground, and having a link connecting it to said scoop, for dumping it, substantially as described.

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

NELS H. NELSON.

Witnesses:

E. L. THORPE,

G. I. HANG.