

No. 829,833.

PATENTED AUG. 28, 1906.

W. N. BERGERON.  
HOISTING APPARATUS.  
APPLICATION FILED AUG. 7, 1905.

2 SHEETS—SHEET 1.

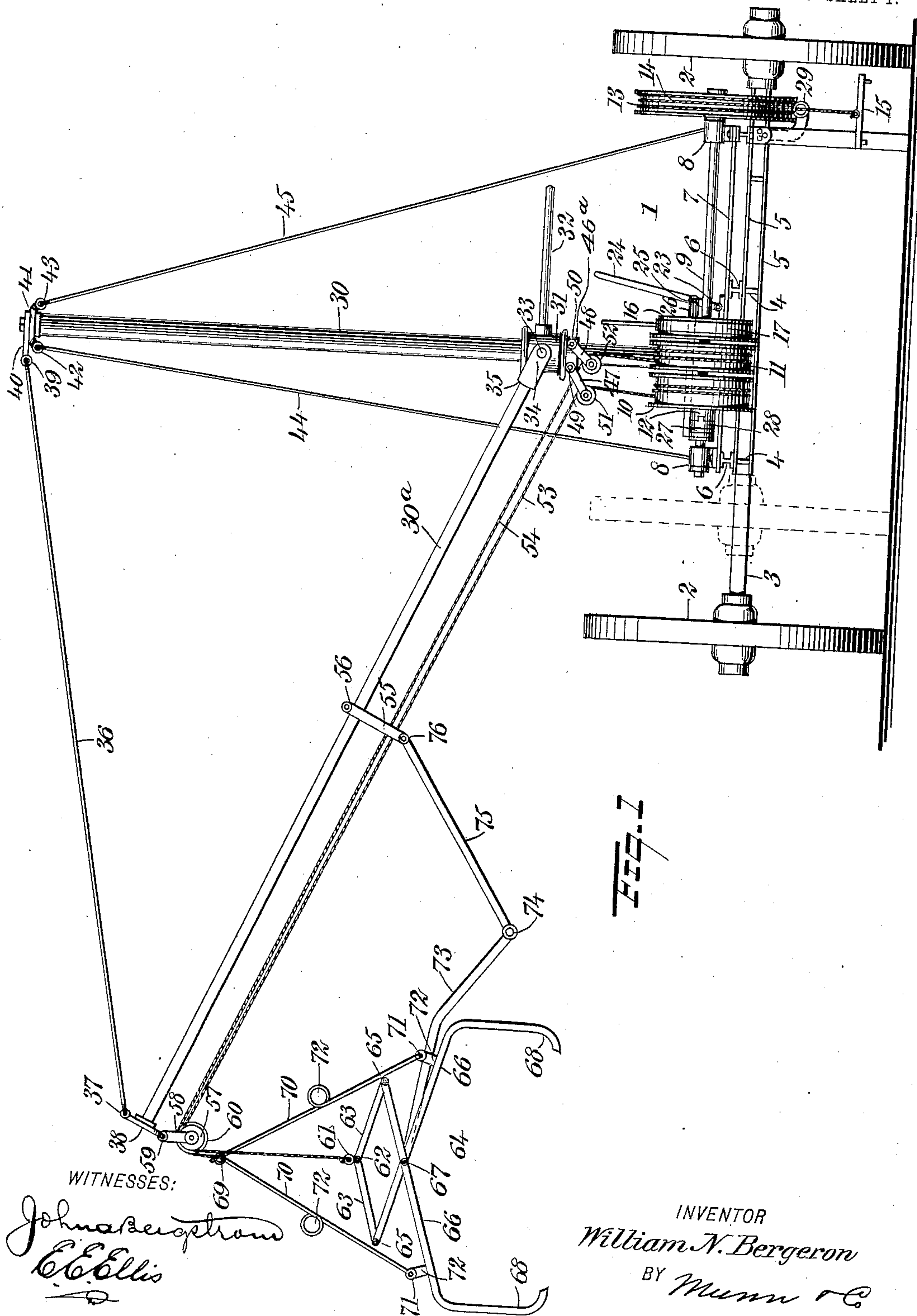


FIG. 1

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*C. C. Ellis*

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*William N. Bergeron*  
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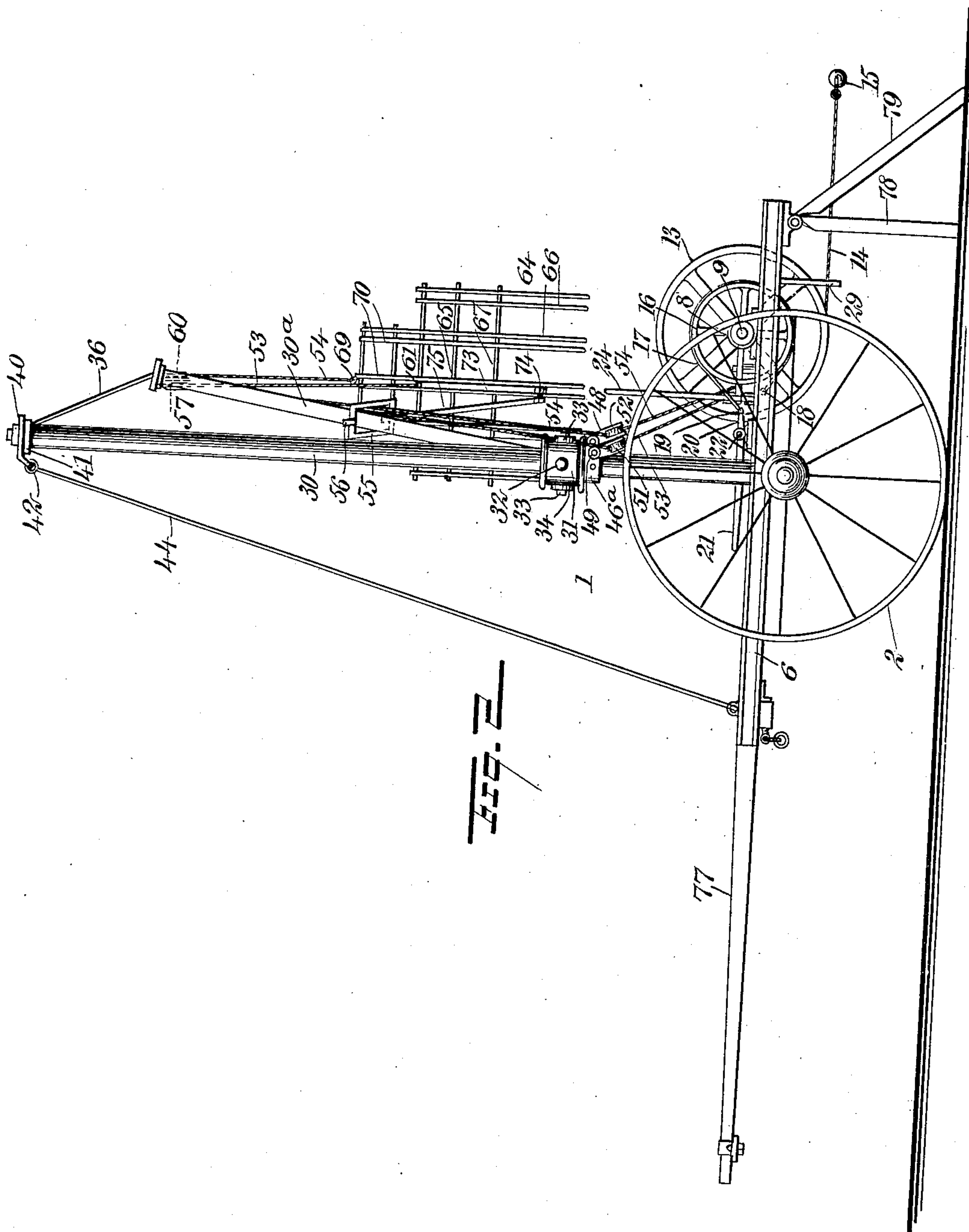
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WITNESSES:

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Johna Bergstrom  
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# UNITED STATES PATENT OFFICE.

WILLIAM NOAH BERGERON, OF AVOCA, LOUISIANA.

## HOISTING APPARATUS.

No. 829,833.

Specification of Letters Patent.

Patented Aug. 28, 1906.

Application filed August 7, 1905. Serial No. 273,034.

*To all whom it may concern:*

Be it known that I, WILLIAM NOAH BERGERON, a citizen of the United States, and a resident of Avoca, in the parish of Assumption and State of Louisiana, have invented a new and Improved Hoisting Apparatus, of which the following is a full, clear, and exact description.

This invention relates to hoisting apparatus; and it consists, substantially, in the details of construction and combination of parts hereinafter more particularly described, and pointed out in the claims.

The invention has reference more especially to apparatus for hoisting sugar-cane and the like in the field for loading purposes; and one of the principal objects thereof is to provide an apparatus of this kind which is comparatively simple in its embodiment and inexpensive to manufacture, besides being easily controlled and regulated, thoroughly effective and reliable for its purposes, and possessing the capacity for long and repeated service.

The above and additional objects are attained by means substantially such as are illustrated in the accompanying drawings, in which—

Figure 1 is a rear end view of a hoisting apparatus embodying my improvements, and Fig. 2 is a side view thereof.

Before proceeding with a more detailed description it may be stated that in the form of my improvements herein shown I employ a suitable vehicle, which may be propelled in any desired way, as by one or more horses or other animals hitched thereto, special means being mounted on the vehicle for raising and lowering a specially-constructed grappling device for the cane or other material to be hoisted, said means being provided with special operating devices for moving or carrying the grappling device to different positions by which the same may be operated to take up loads or bundles of the cane at different places of the field within a limited radius.

Special means are employed by which the raising and lowering of the grappling device may be controlled to a nicety, other special means being also employed for enabling the hoisting devices proper of the apparatus to be thrown into or out of operation at will, accordingly as may be desired in practice.

Reference being had to the drawings by the designating characters marked thereon, 1 represents my improved hoisting apparatus

in entirety, the same comprising a vehicle preferably provided with two supporting-wheels 2, mounted on a suitable axle 3, and constructed with a framework made up of longitudinal strips 4 and transverse connecting-strips 5, the latter having thereon beams 6, supporting a small platform 7, this construction, however, as will readily be understood, being capable of variation to suit particular requirements.

Located in suitable bearings 8 therefor is a shaft 9, on which is loosely mounted two rigidly-connected drums 10 and 11, the former having its hub extended to form a clutch member 12 and said shaft 9 having rigid with the outer end thereof a grooved drum 13, around which is wound a draft cable or rope 14, having at the free end thereof any suitable draft appliance 15 for the hitching thereof to of a horse or other animal for drawing upon the said draft cable or rope 14 to impart rotary motion to said shaft 9, as and for the purpose presently explained.

Rigid with the shaft 9 and preferably located alongside the drum 11 is still another drum 16, coöperating with which is a flexible friction device or strap 17, extending about the face of said drum 16, one end of said friction device or strap being secured at 18, Fig. 2, to a suitable part of the vehicle and the other end thereof being in movable connection at 19 with the shorter arm 20 of a hand-lever 21, movably mounted at 22 in a suitable bearing therefor.

Pivoted at 23, Fig. 1, is the lower end of another hand-lever 24, to which is movably connected at 25 one end a transverse bar or plate 26, the other end of which is in engagement at 27 with another but slidable clutch member 28 on the shaft 9, adapted for engagement with the hereinbefore-mentioned clutch member 12, formed by the aforesaid extension of the hub of said drum 10. It is apparent that when the two clutch members are interlocked with each other the two drums 10 and 11 will be caused to rotate with the shaft 9 as the latter is actuated from the drum 13; but on properly moving the hand-lever 24 the transverse bar or plate will be shifted, thus to disengage the clutch member 28 from the clutch member 12, the said drums 10 and 11 then becoming idle upon said shaft 9, as will be apparent. When the drums are so engaged with the shaft 9 as to rotate therewith, the same may be controlled by properly operating the hand-lever 21 to tighten the flexible



friction device or strap 17 more or less upon the surface of said drum 16, as will also be apparent.

Whenever the apparatus is to be drawn over bridges or narrow roads, one of the supporting-wheels 2 thereof may be adjusted inwardly on axle 3 in conformity thereto, and it may be here mentioned that a guide 29 for draft cable or cord 14 is preferably disposed rearwardly of drum 13, the same being either in the form of a ring, as shown in Fig. 1, or in the form of a strip, as shown in Fig. 2, and is for the purpose of preventing any portion of said draft cable or cord 14 from becoming engaged or entangled with any part of the adjacent supporting-wheel 2 of the apparatus.

Mounted substantially centrally of the apparatus is an upright support 30 for a swinging crane 30<sup>a</sup>, fitted to rotate around which support is a band or collar 31, having an operating hand-lever 32 and provided at each of two opposite sides thereof with a pivot 33, on which is movably supported a jaw 34 of a yoke 35 at the inner end of said crane 30<sup>a</sup>, the latter being held outwardly from the upright support 30 in an upwardly-inclined position by means of a strong wire or cable 36, fastened at one end to a ring 37 of a head 38 at the outer end of the crane and at the other end to a similar ring 39 of a head 40 at the upper end of said upright support 30, it being noted that the latter is also provided at the upper end thereof with a ring 41, having eyes 42 and 43, in which are secured the upper ends of braces 44 and 45, respectively, for the upright support, the lower end of each of said braces being secured to some part of the apparatus in any suitable way.

Carried by a collar 46<sup>a</sup> beneath the lower end of said rotatable band or collar 31 are two blocks 47 and 48, pivoted at 49 and 50, respectively, the one carrying a guide-pulley 51 and the other a similar pulley 52.

Winding upon the drum 10 is a rope or cable 53, which passes over the guide-pulley 51, and winding upon the drum 11 is another rope or cable 54, which passes over the guide-pulley 52, the two said ropes or cables extending parallel with the crane 30<sup>a</sup> and through a guide 55, secured upon the crane at 56, the one (rope or cable 53) also extending over a pulley 57, mounted in a block 58 therefor, suspended at 59 from the head 38 at the outer end of the crane and the other (rope or cable 54) also extending over a larger pulley 60, rigid with said pulley 57. (See Fig. 1.) The outer portion of the said rope or cable 53 is somewhat longer than the corresponding portion of the rope or cable 54, and the end thereof is secured to a pivot-rod 61 for the jointed ends 62 of a plurality of members 63 of a grappling device for the bundles or loads of cane or the like (not shown) to be hoisted—say from the ground, for instance—said grappling device being in-

dicated in entirety at 64 and said members 63 thereof being jointed on a rod 65 (as in the manner of lazy-tongs) with other members 66, crossing each other and pivotally associated on a rod 67 and terminating with hooks 68, reversely disposed toward each other, as shown in Fig. 1. The end of the outer portion of rope or cable 54 is connected at 69 to a plurality of downwardly-diverging spring members 70, having the extremities thereof secured in eyes 71, in lugs 72 on the said members 66 of said grappling device 64, said spring members having coils 72 formed therein. (See Fig. 1.) This grappling device has also connected thereto at 67 the outer end of a curved arm 73, movably joined at 74 to a stay member 75, secured at 76 to the hereinbefore-mentioned guide 55, so as to prevent lateral swinging of the grappling device with reference to the crane 30<sup>a</sup>. It will thus be seen that when the grappling device is caused to be lowered so as to bring the same over the bundle or load of cane to be hoisted the said members 66 thereof will be caused to spread outwardly as the extremities thereof come into contact with the ground or else they may be spread apart by hand, so as to properly embrace and take hold of the load or bundle, it being apparent that at the same time the jointed members 63 will be collapsed toward said members 66, while the spring members 70 will also be spread and placed under tension. Now as the shaft 9 may be caused to rotate in the proper direction the drums 10 and 11 will rotate therewith, (it being assumed that the clutch members 12 and 28 are in engagement with each other and that a bundle or load of cane or the like has been taken up by the grappling device,) and consequently the ropes or cables 53 and 54 will be wound upon said drums and the grappling device, together with its bundle or load, thereby hoisted or lifted. The weight of the bundle or load will tend to straighten out the members 63 and 66 of the grappling device as well as to draw the diverging spring members 70 toward each other, thereby causing the hooked extremities of the members 66 to take an increasing hold on the bundle or load, which latter may be hoisted to any desired height and swung around with the crane 30<sup>a</sup> by operating the band or collar 31 through the medium of the hand-lever 32 to be deposited in a wagon, car, or other vehicle (not shown) to receive it.

The apparatus is provided forwardly thereof with a tongue 77 for the hitching of draft-animals thereto, and the body of the apparatus is provided at the rear end of one or both sides thereof with a prop 78 and a downwardly and rearwardly extending brace 79 for assisting to sustain the strain imposed upon the apparatus by the weight of the hoisting devices proper thereof.

Having thus described my invention, I



claim as new and desire to secure by Letters Patent—

1. A hoisting apparatus, comprising a wheeled vehicle, a swinging crane provided with grappling devices mounted thereon, a shaft on the vehicle, hoisting-drums on the shaft and connected with the grappling devices, another drum on the shaft having a draft-cable connected therewith and leading rearwardly from the vehicle, the rear part of the vehicle adjacent to the draft-cable having connected thereto and depending therefrom a prop and an inclined brace and adapted to engage the surface upon which the vehicle rests.

2. A hoisting apparatus, comprising a wheeled vehicle, a horizontally - swinging crane mounted thereon, a rotatable shaft also mounted thereon, drums adapted to rotate with the shaft, said crane carrying pulleys at its outer end, cables winding upon the drum and extending over said pulleys, and a grappling device suspended from the ends of the cables, said shaft having at one end thereof another drum having a draft-cable winding thereon, and a suitable part of the apparatus being provided with a guide for said draft-cable.

3. A hoisting apparatus, comprising a wheeled vehicle, a horizontally - swinging crane mounted thereon and carrying pulleys at its outer end, a rotatable shaft also mounted thereon, rigidly-united drums mounted idly on the shaft, the hub of one of which is extended and constitutes a clutch member, another clutch member slidable on the shaft, an operating-lever therefor, cables winding upon the drums and extending over said pulleys, and a grappling device suspended from the ends of the cables.

4. A hoisting apparatus, comprising a wheeled vehicle, a horizontally - swinging crane mounted thereon and carrying pulleys at its outer end, a rotatable shaft also mounted thereon, rigidly-united drums mounted

idly on the shaft, the hub of one of which is extended and constitutes a clutch member, another clutch member slidable on the shaft, an operating-lever therefor, cables winding upon the drums and extending over said pulleys, and a grappling device suspended from the ends of the cables, the rear part of said vehicle being provided with a prop and an inclined brace.

5. A hoisting apparatus, comprising a wheeled vehicle, a horizontally - swinging crane mounted thereon, a rotatable shaft also mounted thereon, drums adapted to rotate with the shaft, said crane carrying pulleys on its upper end, cables winding upon the drum and extending over said pulleys, and a grappling device suspended from the ends of the cables, said shaft having at one end thereof, another drum having a draft-cable winding thereon, and a suitable part of the apparatus being provided with a guide for said draft-cable, and the rear of the vehicle being provided with a prop and an inclined brace.

6. A hoisting apparatus, comprising a wheeled vehicle, a horizontally - swinging crane mounted thereon and carrying pulleys at its upper end, a rotatable shaft also mounted thereon, rigidly-united drums mounted idly on the shaft, the hub of one of which is extended and constitutes a clutch member, another clutch member slidable on the shaft, an operating-lever therefor, cables winding upon the drums and extending over said pulleys, and a grappling device extended from the ends of the cables, the rear part of the vehicle being provided with a prop and an inclined brace.

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

WILLIAM NOAH BERGERON.

Witnesses:

PHILIP H. GILBERT,  
C. DUGOS.