

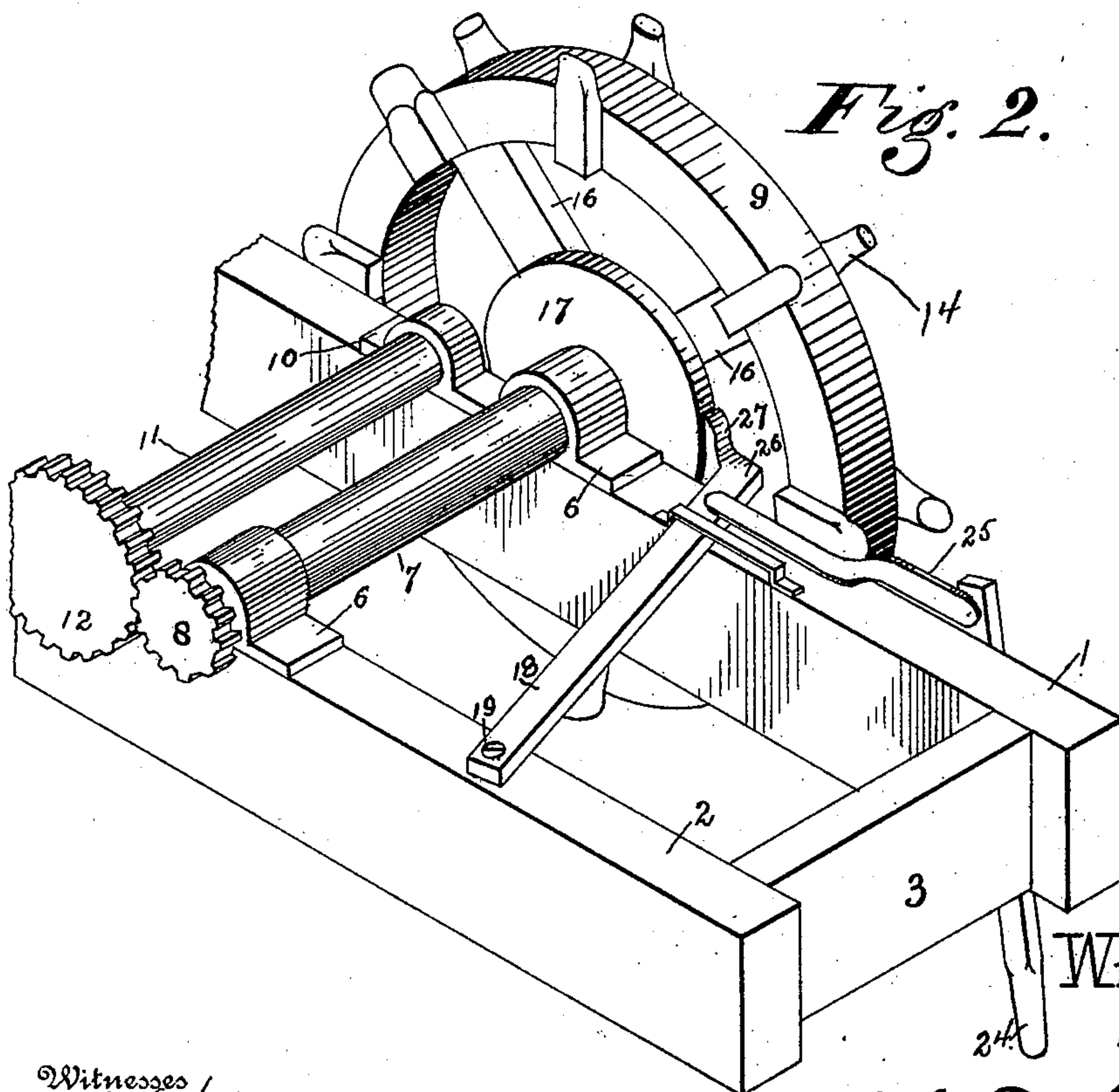
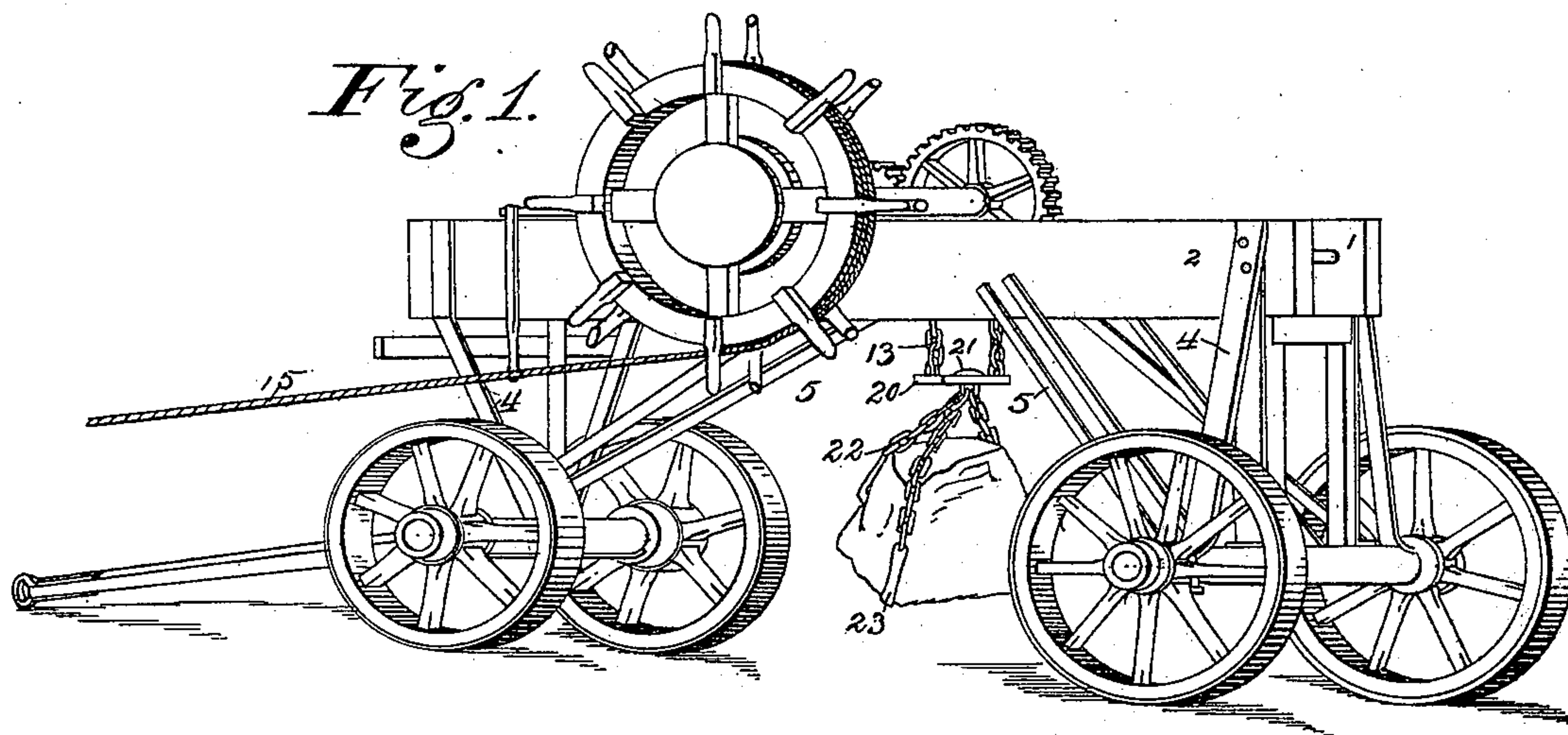
No. 617,380.

Patented Jan. 10, 1899.

W. WILLIAMSON.  
HOISTING APPARATUS.

(Application filed June 24, 1898.)

(No Model.)



Witnesses  
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# UNITED STATES PATENT OFFICE.

WILLIAM WILLIAMSON, OF HAWKEYE, IOWA.

## HOISTING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 617,380, dated January 10, 1899.

Application filed June 24, 1898. Serial No. 684,341. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM WILLIAMSON, a citizen of the United States, residing at Hawkeye, in the county of Fayette and State of Iowa, have invented certain new and useful Improvements in Hoisting Apparatus; 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 invention relates to hoisting apparatus, and more particularly to that variety thereof employed in hoisting heavy objects, as stones, stumps, or the like, and removing them from the field or other place where they form an obstruction.

The object of my invention is to provide a readily-portable engine of the character specified which will reliably perform its office and which may be manually operated by hand or by the application of horse-power thereto, as will be hereinafter fully set forth.

In the accompanying drawings, forming a part of this application, Figure 1 is a perspective view of my invention complete and in its operative position. Fig. 2 is a perspective detail of the hoisting apparatus proper, showing the preferred clutch or brake mechanism.

Referring in detail to the several parts of my invention, 1 and 2 represent the side sections of the frame suitably connected together at either end and reinforced in the middle portion thereof, if desired, as by the transversely-disposed sections 3, the frame thus constructed being supported upon standards 4 and braces 5, all of said parts being carried by a suitable form of truck or carrying-wheels, as shown. Preferably upon the middle portion of the frames thus provided I mount in suitable bearings 6 the controlling-shaft 7, provided upon one end with the transmitting-gear 8 and upon the opposite end with the driving-wheel 9, as clearly shown in Fig. 2. Disposed in suitable bearings 10 and arranged parallel with the shaft 7 is the winding-shaft 11, having upon its outer end the gear 12, designed to mesh with the transmitting-gear 8, while attached to the shaft 11 in any preferred way are winding-chains 13, by means of which the load is elevated when said chain

is wound around the shaft 11, as will be hereinafter more particularly pointed out.

It will be observed that the driving-wheel 9 is provided with a series of hand-levers 14, which serve the double purpose of acting as guides for the rope 15 and as means to provide for the manual control of the wheel 9, said wheel being provided with suitable spokes, as 16, or otherwise formed. Upon the inner face or inner end of the hub of the wheel I locate the friction wheel or disk 17, the object of which is to enable the rotation of the driving-wheel to be checked against too rapid a movement during the process of lowering the weight.

In order that the wheel 9 may be locked in any desired position, I provide the brake-lever 18, pivoted upon that side of the frame opposite the driving-wheel, as by the bolt or pin 19, the free end of said lever extending across to the opposite side of the frame and sufficiently beyond the same to permit the end thereof to loosely contact the inner face of the wheel 9, thereby coming in contact when in a proper position with one of the hand-levers or guides 14, it being understood that said levers are preferably secured directly to the outer face of said wheel, thereby extending sufficiently beyond said face to provide an offset or stop, which when in contact with the end of the lever 18 will reliably hold the wheel in a fixed position, thereby enabling the load to be transported to the place where it is to be deposited. I prefer to attach to the lower ends of the chains 13 in any suitable way the bracket or block 20, in the central portion of which is swiveled the eyebolt or rotatable head 21, to the lower end of which I attach a series of chains 22, provided upon their lower ends with suitable grappling-hooks 23, by means of which the object to be lifted may be readily engaged.

By the construction I have described it will be seen that I have provided a very powerful engine by means of which a heavy load may be lifted or a stump extracted from the earth, as an immense lifting power may be brought to bear upon the object to be raised, since horse-power may be applied to the rope 15, it being understood that when a load of less



weight or resistance is to be raised hand-power alone will be found sufficient when applied to the levers 14. After the load has been raised, as shown in Fig. 1, and it is desired to lower the same in position the lever 24, which is connected to the lever 18 by the link 25, is moved until the extreme end 26 of the lever 18 is forced inward out of engagement with one of the stops formed by the lever 14, thus bringing the shoe 27, which is attached to the lever 18, into firm engagement with the periphery of the disk 17, thereby releasing the wheel 9 and permitting its slow or rapid rotation in accordance with the rounded pressure brought to bear upon the disk 17 through said shoe.

The operation of my hoisting-engine may be stated to be as follows: The machine is brought in the desired position over the object to be raised, when the hooks 23 are properly engaged with said object, and the horses attached to the rope 15, which will cause the unwinding of said rope upon the wheel 9 and between the levers 14, thus inducing the rotation of the shaft 11 through the mediation of the gears 8 and 12, and thereby winding the chains 13 around said shaft and incidentally raising the load. When the load has been raised sufficiently to clear the surface of the ground, and thus be in a position to be freely carried to the desired place, the lower end of the lever 24 is forced inward, thereby causing the free end of the lever 18 to engage one of the stops or levers 14, and thus prevent further rotation of the wheel until the free end of the lever 18 is forced inward out of engagement with said stop.

From the foregoing description, considered in connection with the accompanying draw-

ings, it is thought that the construction and operation of my hoisting apparatus will be made fully apparent.

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

1. In a checking or braking appliance for hoisting-engines, a series of stops formed upon the driving-wheel, a pivoted lever mounted on the carrying-frame and designed to engage said stops; a brake-shoe carried by the end of said lever a disk or friction-face carried by said wheel and designed to cooperate with said shoe, and suitable means to operate the lever whereby it will engage with one of said stops or said disk, substantially as and for the purpose set forth.

2. In a hoisting apparatus the combination with a suitable carrying-frame and truck therefor, of winding-shafts mounted thereon; meshing gear connecting said shafts and a driving-wheel therefor; a series of levers or guides secured to said driving-wheel whereby the same may be manually controlled; a pivoted horizontally-disposed lever having a brake-shoe upon its free end; a disk carried by said driving-wheel designed to cooperate with said brake-shoe and suitable means to force the free end of said lever and the shoe carried thereon into or out of engagement with said disk, substantially as specified and for the purpose set forth.

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

WILLIAM WILLIAMSON.

Witnesses:

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