

No. 665,757.

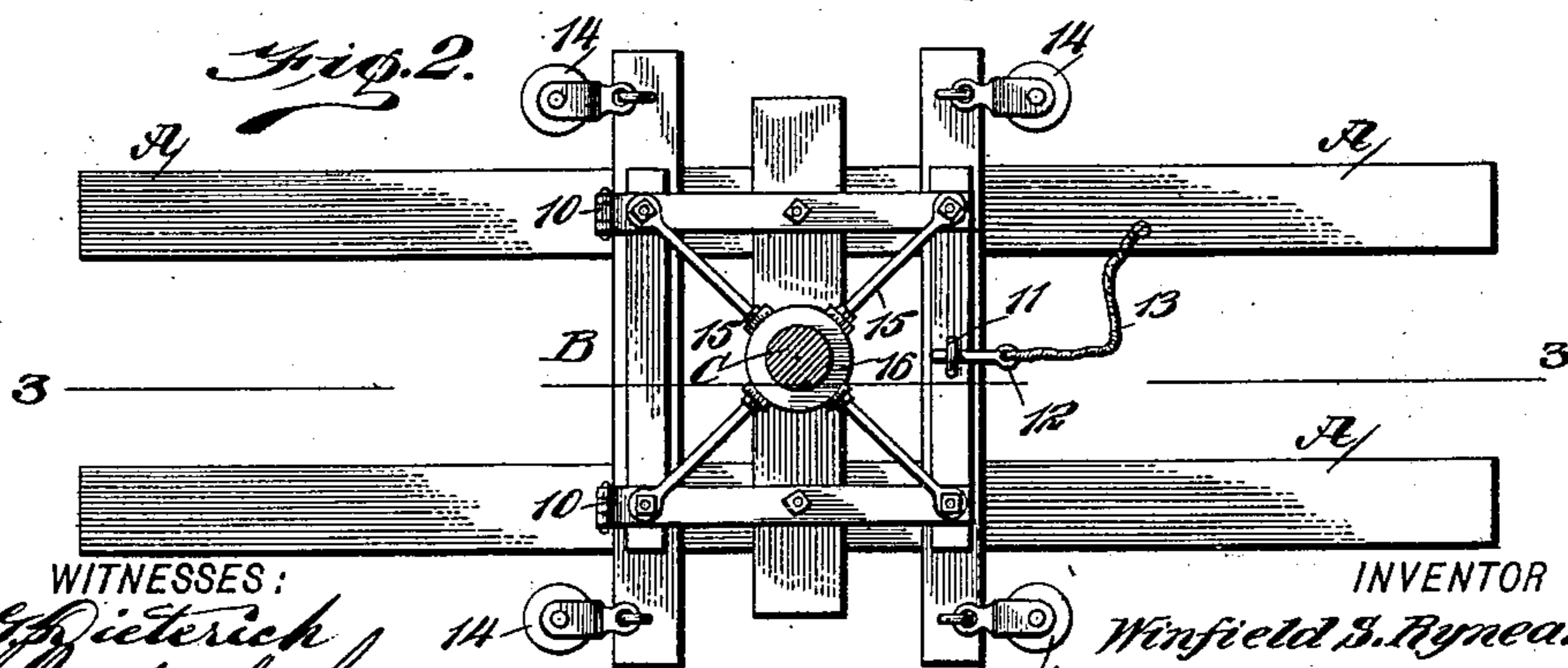
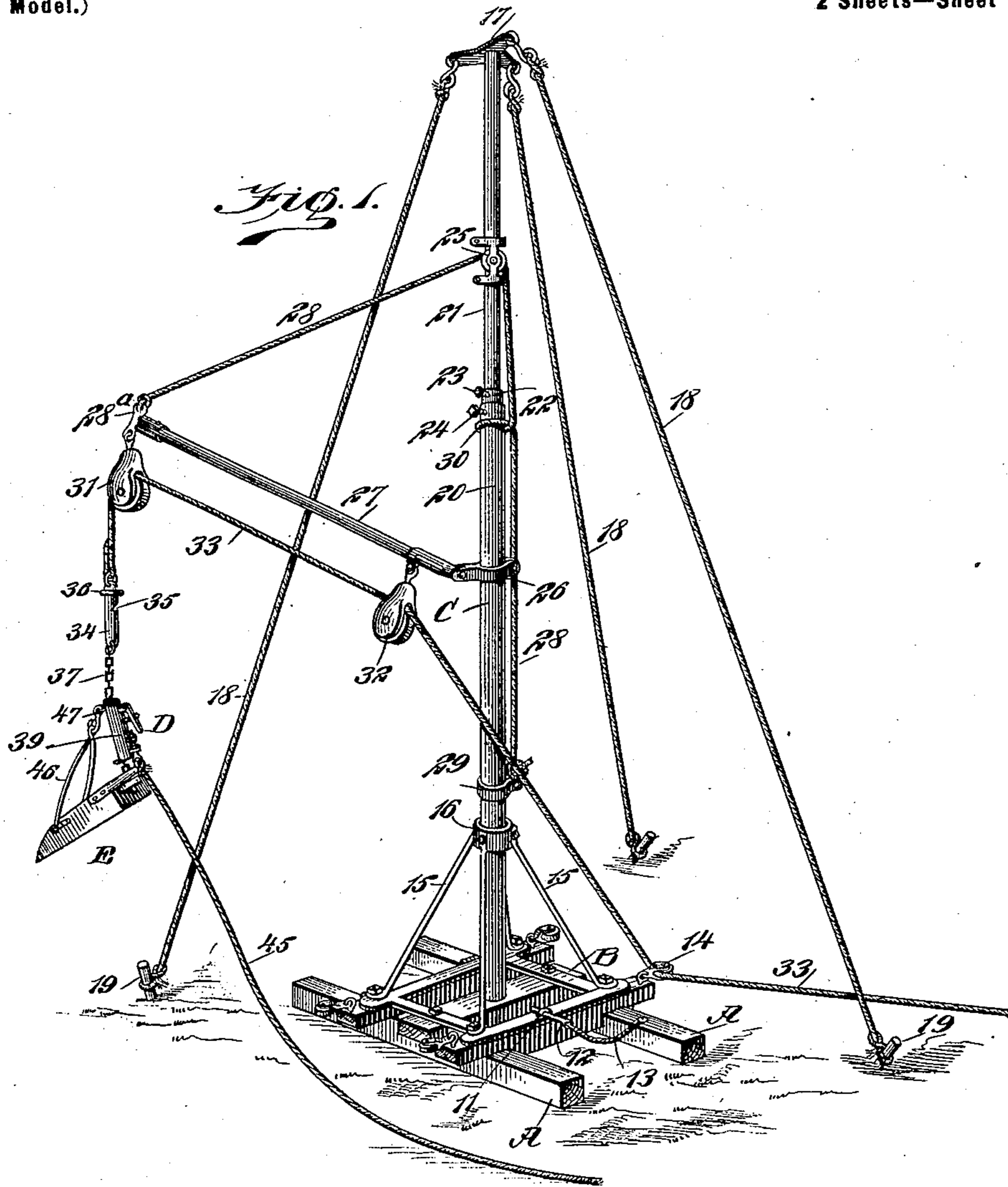
Patented Jan. 8, 1901.

W. S. RYNEARSON.
DERRICK AND DUMPING DEVICE.

(Application filed June 19, 1900.)

(No Model.)

2 Sheets—Sheet 1.



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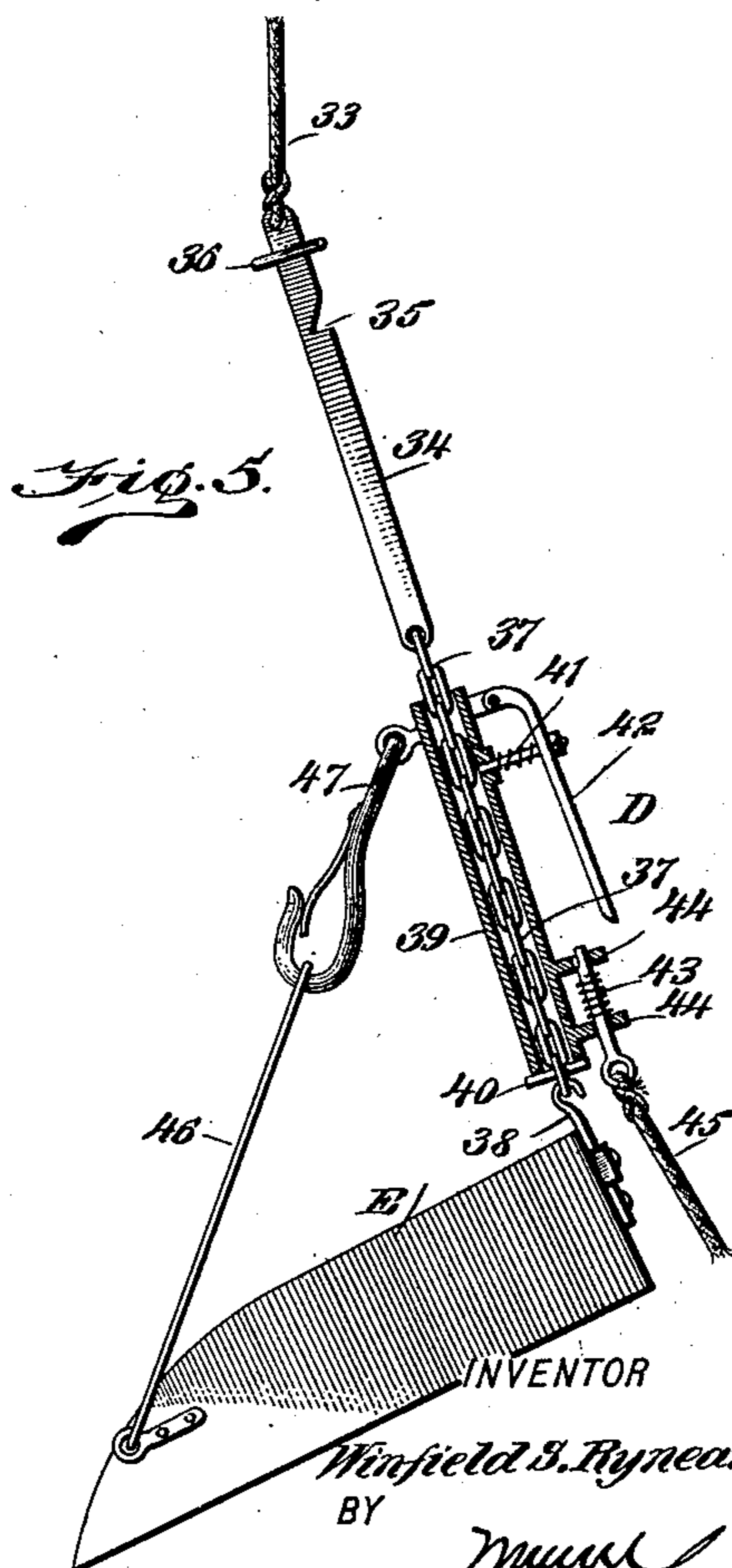
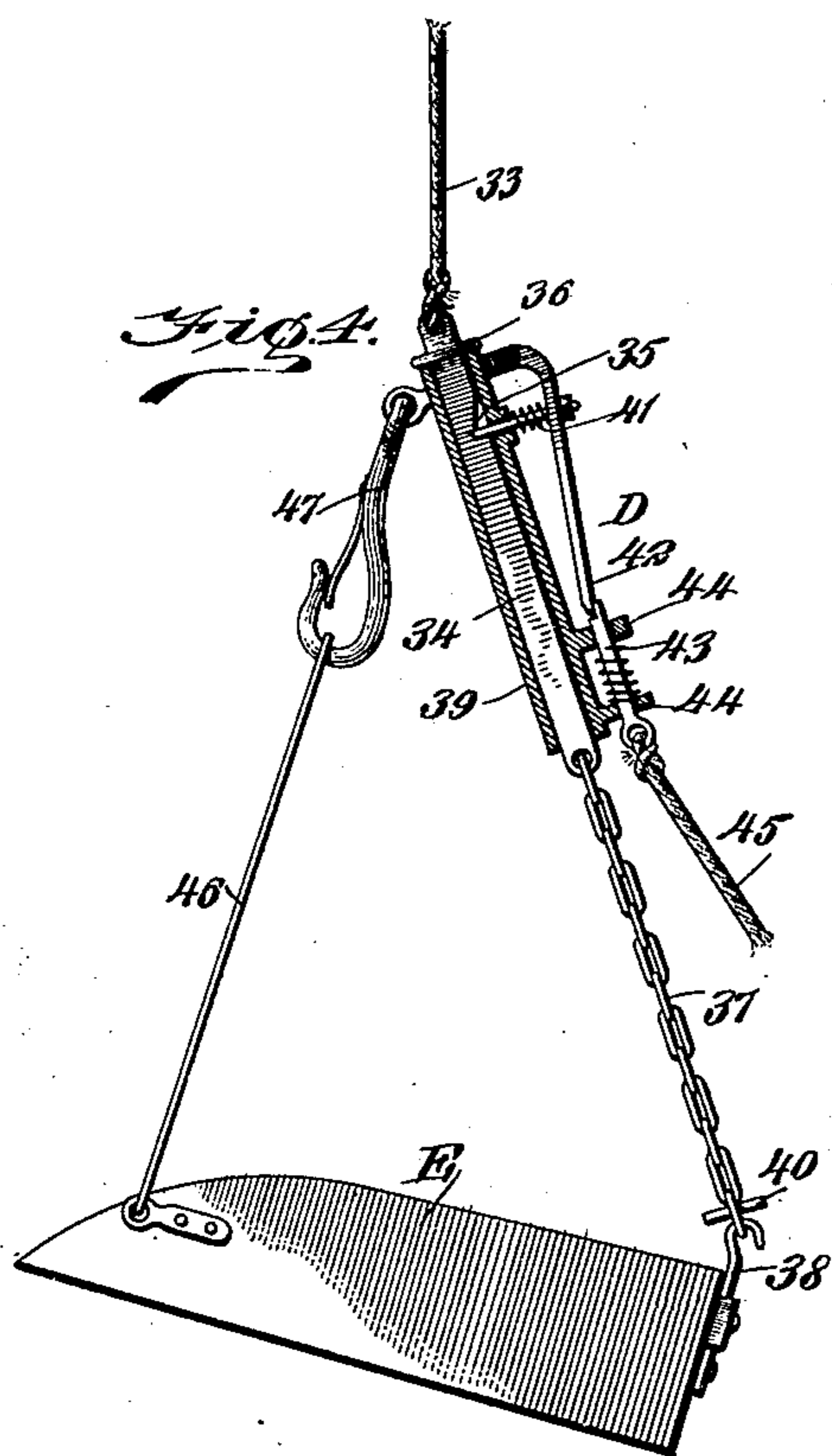
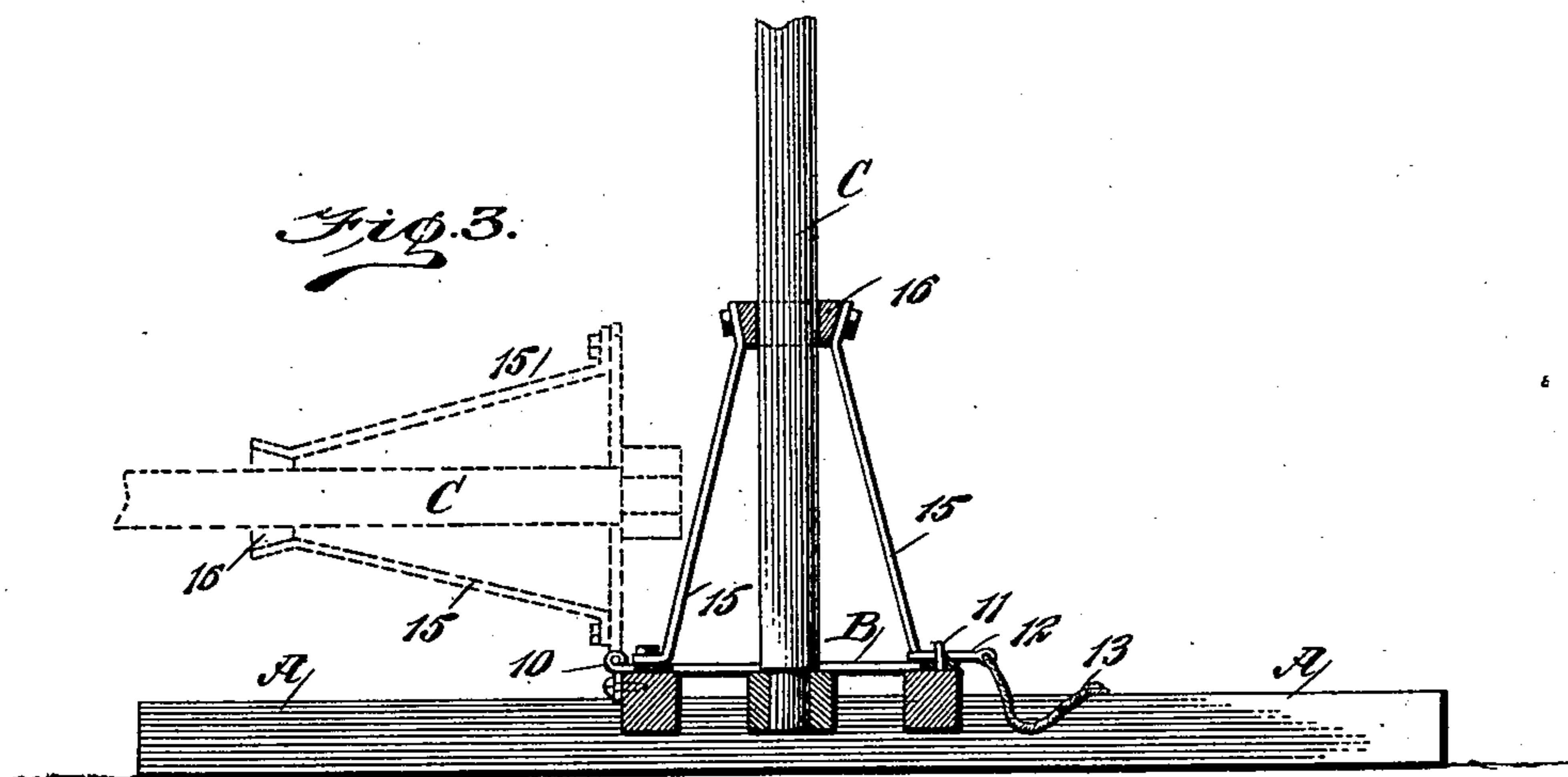
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(No Model.)

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UNITED STATES PATENT OFFICE.

WINFIELD SCOTT RYNEARSON, OF BOISE, IDAHO.

DERRICK AND DUMPING DEVICE.

SPECIFICATION forming part of Letters Patent No. 665,757, dated January 8, 1901.

Application filed June 19, 1900. Serial No. 20,852. (No model.)

To all whom it may concern:

Be it known that I, WINFIELD SCOTT RYNEARSON, a citizen of the United States, and a resident of Boise city, in the county of Ada and State of Idaho, have invented a new and Improved Derrick and Dumping Device, of which the following is a full, clear, and exact description.

The invention relates to that class of machines which are provided with a mast mounted to turn in a suitable base and a boom carried by the mast, together with a scoop which is supported from the boom and is arranged for dumping or for carrying a load.

The purpose of this invention is to simplify the construction of machines of this character and enable them to be readily placed in position wherever desired; and a further and main purpose of the invention is to provide a locking device capable of holding the scoop in position to carry a load and enable the scoop to be manipulated to receive a load and also to provide means for so operating the fastening device that the scoop may be quickly brought to a dumping or discharging position.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of the improved device. Fig. 2 is a horizontal section through the lower portion of the mast, showing the base structure in plan view. Fig. 3 is a vertical section on the line 3 3 in Fig. 2 through the base structure of the device, illustrating the mast in dotted lines as carried to a horizontal position. Fig. 4 is a side elevation of the scoop and a section through the locking device for said scoop, showing the scoop in position to carry a load; and Fig. 5 is a view similar to Fig. 4, illustrating the scoop in its dumping or discharging position.

The base B of the device is usually attached to beams A, adapted to rest upon the ground or upon the bed of a wagon, and the base B, which is in the nature of a frame, is connected

with the beams A through the medium of hinges 10, so that the base and parts carried thereby may be carried in direction of the ground for rigging purposes or for repairs or for other purposes. The base B may be held in its horizontal position on the beams A by any suitable means. For example, a hasp 11 may extend from the superstructure—namely, the beams A, connected by suitable cross-bars—through a member of the base B, and a pin 12 is then passed through the staple, to which pin a rope, cord, or chain 13 is attached.

A pulley 14 is located at each corner of the lower structure upon which the base B is mounted, as shown in Fig. 2, and a hoist-rope, to be hereinafter referred to, is passed over any one of the pulleys 14, as occasion or convenience may demand. Braces 15 extend upward from the base B and are connected at their upper ends to a ring or collar 16. A mast C is passed loosely through this ring or collar 16, and the lower end of the mast is mounted to turn in the bottom structure formed by the cross-bars and beams A, while the upper end of the mast is mounted to turn in a cap 17, to which cap guy-ropes 18 are secured, and these ropes are led to the ground when the mast C is in an upright position and are secured by pins 19 or equivalent devices.

The mast is preferably tubular and is made in two or more telescopic sections 20 and 21, the upper section being adjustably held in connection with the lower section by a collar 22 and a set-screw 23, while a second set-screw 24, located in the lower section 20, is also utilized to engage with the upper section, thus preventing undue strain being brought to bear upon the upper set-screw 23. A pulley 25 is held by a clip or suitable means to the upper section 21 of the mast at a point between its ends, as shown in Fig. 1, and at a point between the ends of the lower section 20 of the mast a second clip 26 is secured in any suitable or approved manner. One end of a boom 27 is hinged to the clip 26, the outer end of which boom 27 is usually provided with a head-plate 28^a, extending above and below the boom. An adjusting-rope 28 is attached to the upper end of the head-plate 28^a, and the adjusting-rope is passed over the pulley 25 and down to the

lower portion of the mast, where it is attached to a cleat 29 of any description. This adjusting-rope 28 is adapted to regulate the inclination of the boom 27, and preferably a sliding noose 30 is provided in this adjusting-rope 28, through which noose the mast C is passed, so that there will be no undue strain on the cleat 29.

A block 31 is attached to the lower end of the head-plate 28^a, secured to the outer end of the boom 27, and near the inner end of the said boom 27 a second block 32 is placed. A hoist-rope 33 is passed over the pulleys in the blocks 31 and 32 and is carried downward over one of the base-pulleys 14 and from thence to any source of power. The hoist-rope 33 is attached to a locking device D for a scoop E, this locking device and scoop being best shown in Figs. 4 and 5. The hoist-rope 33 is attached to the upper end of a bar 34, which constitutes one member of the locking device D. This bar is provided with a notch 35 in one of its longitudinal edges and is provided near its upper end with a flange 36, while one end of a chain 37 is attached to the lower end of the bar 34 and to a hook 38 or the equivalent thereof, centrally located at the back or closed end of the scoop E. A casing 39 is provided for the bar 34 of the locking device, and this bar slides in said casing and is adapted to entirely leave it when the scoop is to be brought to the dumping position. (Shown in Fig. 5.) The upper flange 36 on the bar 34 limits the upward movement of the casing 39, and a plate 40, carried by the chain 37 and located adjacent to the hook on the scoop E, limits the upward movement of the rear end of the scoop, as shown in Fig. 5. A spring-controlled latch 41 has play in the casing 39, and when the bar 34 is in the casing 39 the latch enters the notch 35 in the bar 34, as shown in Fig. 4, and the latch 41 is held in this locking position through the medium of a lever 42, to which it is attached, the lever being pivoted to the casing, which lever 42 extends downward to an engagement with the upper end of a spring-controlled keeper-bar 43, mounted to slide vertically or parallel with the casing 39 in lugs 44, which are at one side of the casing. The keeper-bar 43 is released from engagement with the latch 42 by drawing upon a rope or cord 45, attached to said keeper-bar, at which time the spring of the latch 41 will force the lever 42 outward and will carry the latch from engagement with the notch 35 in the bar 34, and the casing 39 of the locking device will be free to drop downward.

The scoop E is provided at its receiving end with a suitable bail 46, which is placed in connection with a snap 47 or like device attached to the upper portion of the forward surface of the casing 39 of the locking device.

In operation when the bar 34 is locked in the casing 39, as shown in Fig. 4, the scoop E will normally so hang that its rear or closed

end will be lower than its forward or receiving end, and the rear end of the scoop may be manually raised or lowered, so as to gather up material, and handles are usually attached to the sides of the scoop to facilitate the gathering operation thereof. When the scoop has received its load, it is permitted to return to the position shown in Fig. 4, and by pulling upon the hoist-rope 33 the boom is turned around the mast to any desired point, and said scoop is elevated at the same time. When the scoop reaches the point where the load is to be dumped, it is simply necessary to pull upon the cord or rope 45, connected with the keeper-bar 43, and by thus releasing the casing 39 of the locking device from the bar 34 the casing will drop downward along the chain 37 until it strikes the plate 40, as shown in Fig. 5, thus imparting to the scoop E the forward and downward position shown in Fig. 5, which will compel the contents of the scoop to slide therefrom.

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

1. In a derrick and dumping device, a hoist-rope, a scoop, a locking device connected with the hoist-rope and with the scoop, which locking device consists of a bar attached to the hoist-rope and having a flexible connection with the rear portion of the scoop, a casing in which the bar has sliding movement, a latch carried by the casing and arranged for engagement with a keeper in the bar, and means, substantially as described, for holding the latch in locking position and for releasing said latch, as described.

2. In a derrick and dumping device, a scoop, a hoist-rope and a locking device, the locking device having connection with the rear and forward ends of the scoop, the said locking device comprising two members, one mounted to slide upon the other, a latch for the said members, and a release for the said latch, as described.

3. In a derrick and dumping device, a hoist-rope, a scoop and a locking device, a bail connecting the receiving end of the scoop with a casing forming a portion of the locking device, a bar held to slide in the said casing, having a flexible connection with the rear of the scoop and an attachment to the hoist-rope, a spring-controlled and lever-operated latch carried by the casing and adapted for engagement with a keeper in the bar, a spring-controlled keeper-bar carried by the casing and adapted for engagement with the controlling-lever of the latch, and means for disengaging the keeper-bar from the said lever, for the purpose set forth.

4. In a derrick and dumping device, the combination, with a scoop, a hoist-rope, a casing, and a bail connected with the forward portion of the scoop and with the upper portion of the casing, of a bar held to slide in the casing, which bar at its upper end is connected with the hoist-rope, the bar having a keeper

5 formed therein, a spring-controlled latch carried by the casing and adapted to enter the keeper in the bar, a lever connected with the said latch, a spring-controlled keeper-bar having sliding movement in the casing and arranged for locking engagement with said lever, a flexible connection between the lower end of the keeper-bar and the rear end of the scoop, and means, substantially as described,

for limiting the upward and downward movement of said casing, as described.

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

WINFIELD SCOTT RYNEARSON,

Witnesses:

C. F. HARMON,

C. R. WHITE.