

No. 629,737.

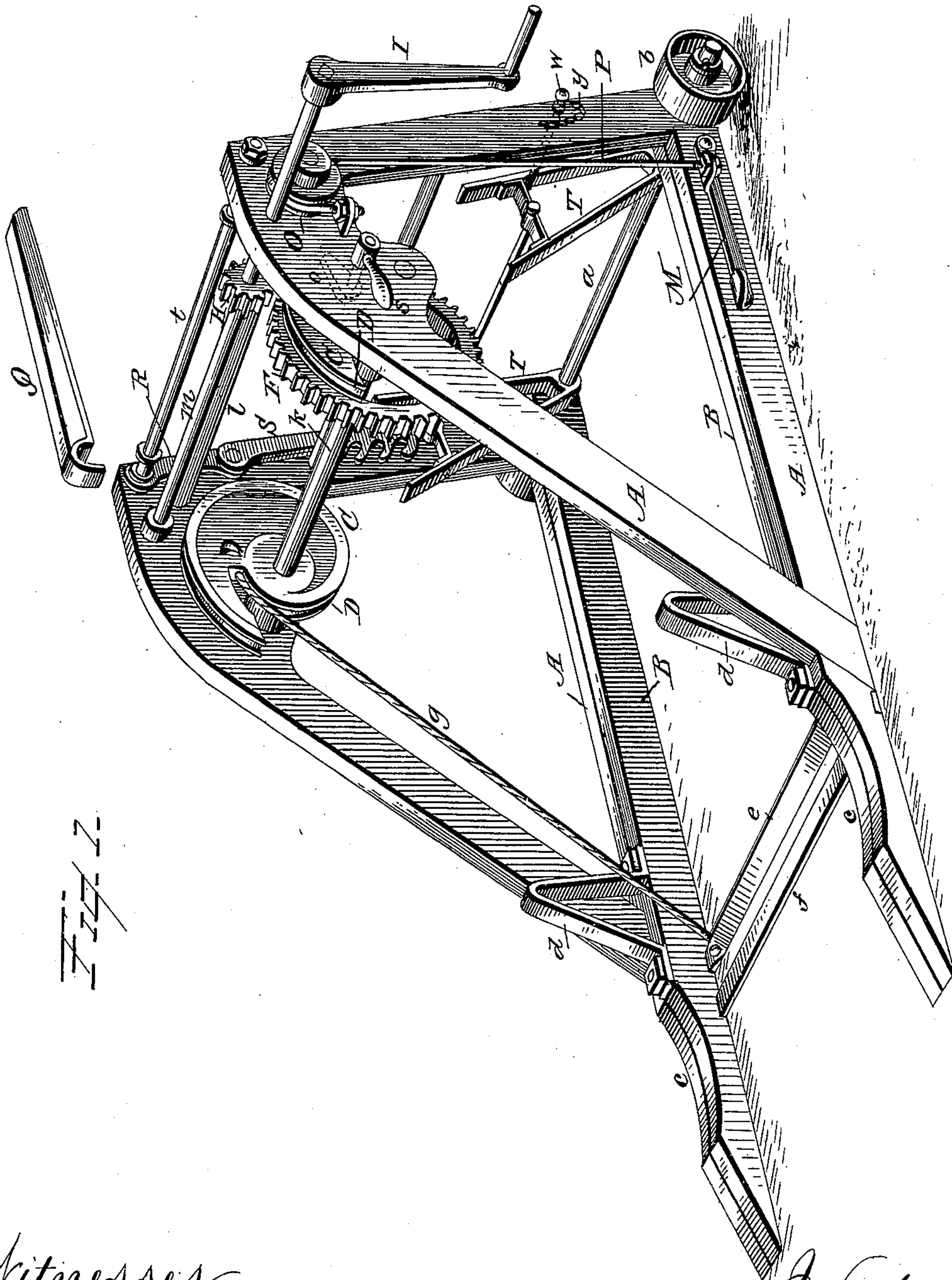
Patented July 25, 1899.

C. A. BASSETT.
PORTABLE HOISTING MACHINE.

(Application filed Dec. 1, 1898.)

(No Model.)

3 Sheets—Sheet 1.



Witnesses
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Inventor
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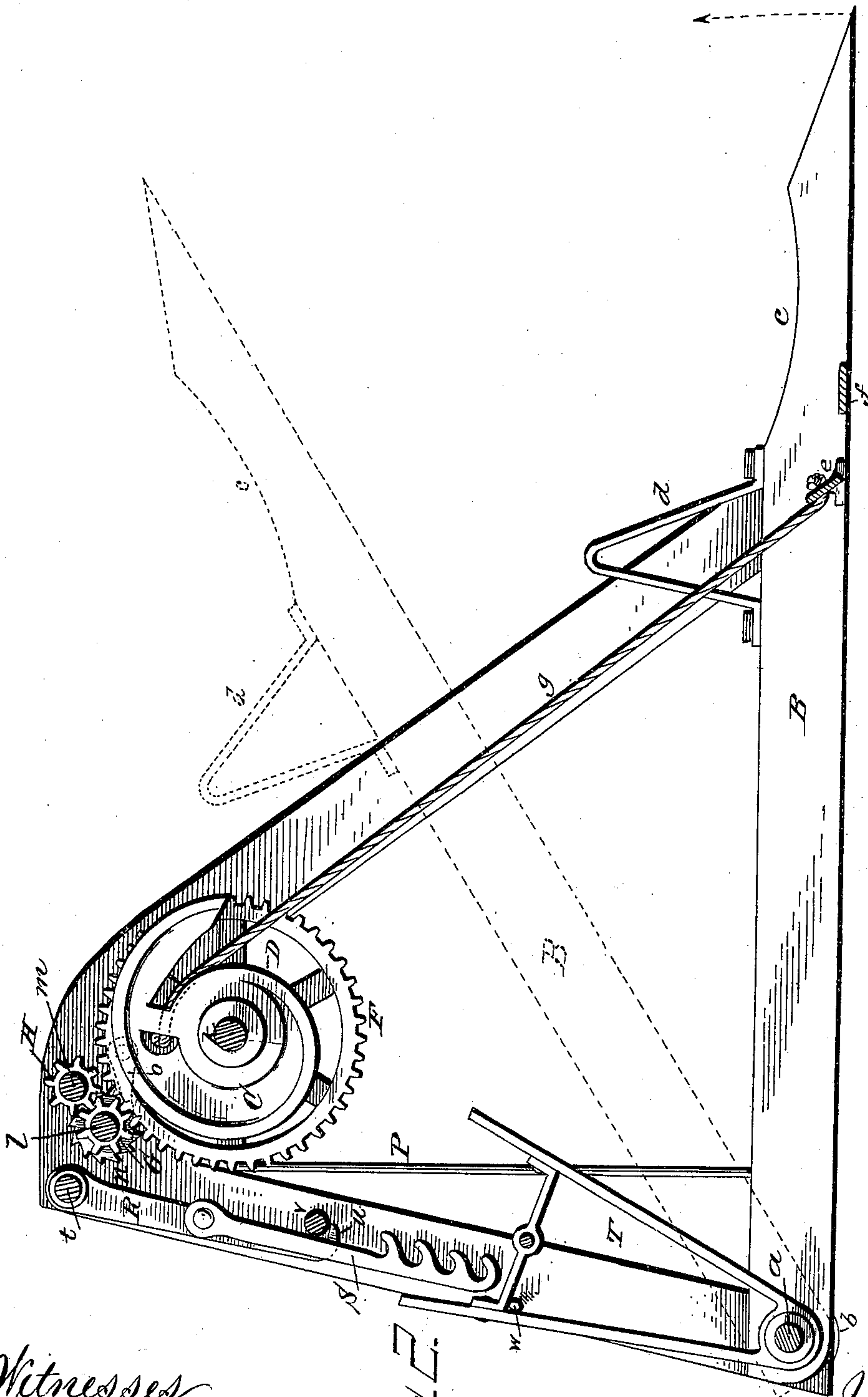
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3 Sheets—Sheet 2.



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FIG. 2.

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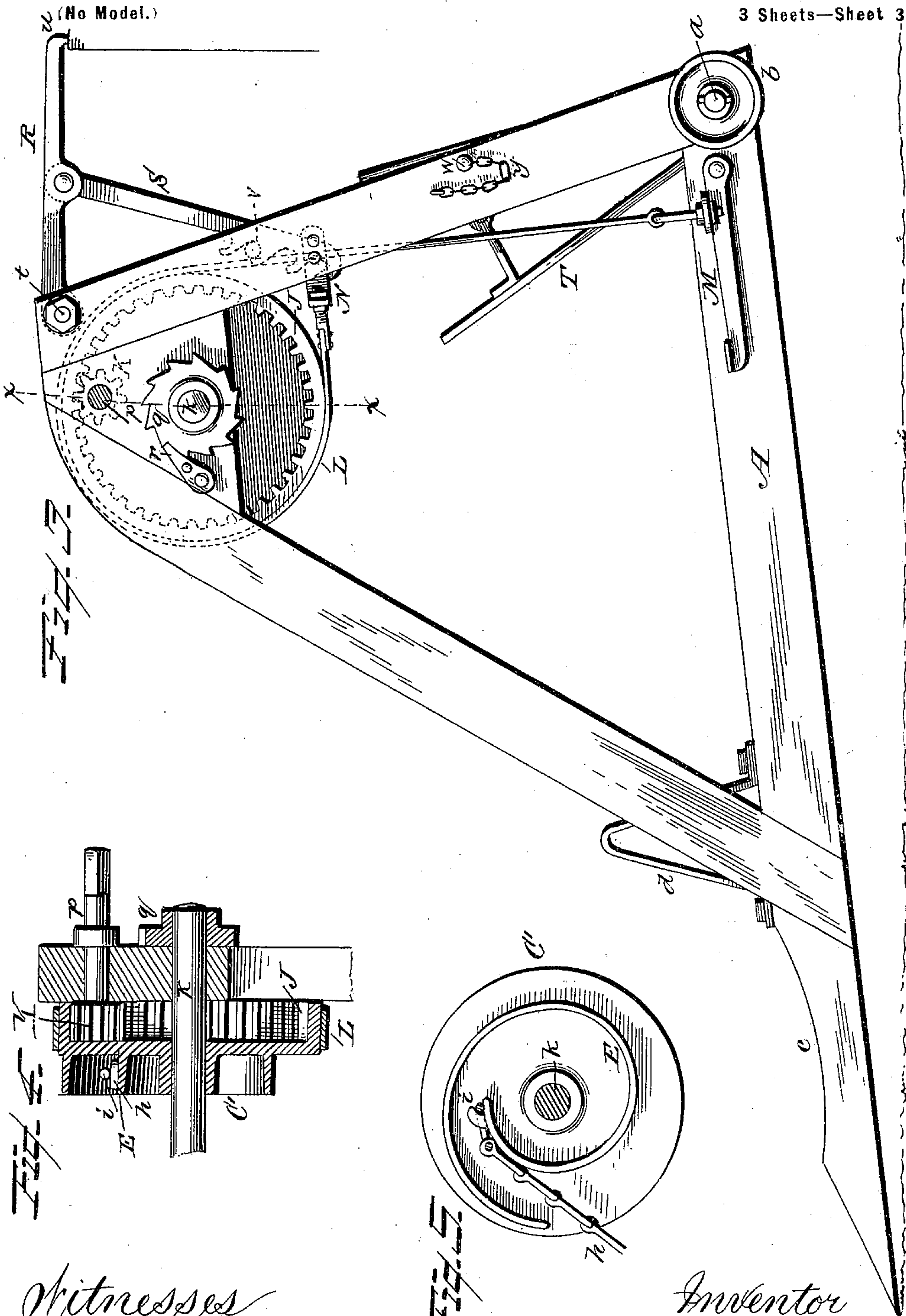
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UNITED STATES PATENT OFFICE.

CHARLES A. BASSETT, OF ELMIRA, NEW YORK, ASSIGNOR OF ONE-HALF TO
JOSIAS H. RICHARDS, OF SAME PLACE.

PORTABLE HOISTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 629,737, dated July 25, 1899.

Application filed December 1, 1898. Serial No. 697,989. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. BASSETT, a citizen of the United States, residing at Elmira, in the county of Chemung and State of New York, have invented certain new and useful Improvements in Portable Hoisting-Machines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters of reference marked thereon.

The present invention has for its object to provide a portable hoisting-machine or apparatus that will be simple in construction and effective in operation in loading barrels and other objects onto wagon and other platforms, also in transferring them from high elevations to the machine and transferring them from one place to another, as circumstances may require.

The invention consists in a machine or apparatus constructed substantially as shown in the drawings and hereinafter described and claimed.

Figure 1 of the drawings is a perspective view of the machine or apparatus constructed in accordance with my invention; Fig. 2, a side elevation showing the pivoted or hinged carrying-frame in an elevated position in dotted lines; Fig. 3, a side elevation of the machine or apparatus, showing it raised and in position to take the load on or transfer it to the platform of a wagon or other high elevation, also showing a modification of the hoisting-gearing; Fig. 4, a sectional elevation taken on line *xx* of Fig. 3; Fig. 5, an inner side view of the hoisting-wheel.

In the accompanying drawings, A represents the stationary frame, of any suitable construction, to the inner side of which is located the carrying-frame B, which may also be of any desirable construction. This carrying-frame is suitably pivoted to the frame A at one end by means of the shaft *a*, the projecting ends of said shaft having truck-rollers *b*, whereby said machine or apparatus may be conveniently moved when desired. The free ends of the frames A B have concaved depressions *c* to form rests for the barrel or other like object to be hoisted and transferred to the

wagon-platform or other high elevation. The carrying-frame B has suitable supports *d*, against which rests the barrel or other like object when being elevated, and the two arms which constitute said frame have connected to them a transverse brace *e*. The stationary frame A is also provided with a transverse brace *f*, which connects the sides of the frame, these braces in both the frames strengthening them at their free ends.

The form of hoisting-pulleys C shown in Figs. 1 and 2 of the drawings are provided with ropes *g*, which have their respective ends connected to said pulleys and to the transverse brace *e*. In Figs. 4 and 5 is shown a modification of the hoisting-pulleys, as indicated at C', in which case it is preferred to use sprocket-chains *h*, connected to a projection *i* and to the transverse brace *e*. In either case a flexible connection is provided between the hoisting-pulleys and the carrying-frame. The hoisting-pulley C has a spiral grooved guide D upon its outer edge to receive the rope *g* when winding same thereon. This pulley C is unlike the pulleys, fusees, and other like hoisting devices employed for elevating the movable carrier in that it is in the form of an involute cam, whereby its effectiveness and simplicity are materially enhanced, as it perfectly equalizes the pull on the crank-handle, it moving faster as the load is raised and is brought over the fulcrum, thereby giving an equalization of power and rendering the elevation of the load much easier.

In Figs. 1 and 2 of the drawings I have shown a simple gear-wheel F upon the same shaft *k* that carries the two involute cam-pulleys C. A pinion G upon the transverse shaft *l* engages the gear-wheel F, and a driving-pinion H upon the transverse shaft *m* meshes with the teeth of the pinion G, the shaft *l* having a suitable ratchet *n*, with which engages a pivoted pawl *o*, as shown in dotted lines of Fig. 2 of the drawings. A suitable crank-handle I connects with the projecting end of the shaft *m*, by which said shaft is turned. Turning the shaft *m* will impart motion to the involute cam-pulleys C through the medium of the pinions G H, and by means of the wire-rope connections with the carry-

ing-frame the same will be elevated with its load.

In place of the involute cam-pulley C, I have shown in Figs. 3, 4, and 5 of the drawings a modification thereof, as indicated at C', the pulley in the present instance having an internally-toothed gear J, with which the pinion K engages, and upon the face of the pulley is a spiral guide E, upon which the sprocket-chain *h* is wound. These pinions K are mounted upon short shafts *p*, to which a crank-handle may be attached. The shaft *k* in the present instance is provided with the ratchet *q*, with which engages the pawl *r*, and a brake-band L extends around the outer periphery of the internally-toothed gear J. One end of this brake-band is attached in any suitable manner to a bracket N and its opposite end connected to a treadle M, whereby the motion of the carrying-pulley C' may be controlled. As above described, this brake-band is applied to the driving-gear when the internally-toothed gear is used, and when the gear-wheel F and its pinions are employed, as shown in Fig. 1 of the drawings, the brake-band extends over a grooved head O and is in the form of a rod P, said rod being suitably attached to a bracket and the treadle at its opposite ends.

Any suitable form of brake device may be substituted for that shown, and the pawl *o* (shown in dotted lines of Fig. 1) may have a suitable handle or other means, as shown at *s*, for conveniently lifting the pawl out of engagement with the ratchet when desired. A brace-rod *t* connects the sides of the frame A at its upper end, and, if desired, suitable skids Q may be employed to hook over the brace-rod and adapted to be removed therefrom when not required for use, one of said skids being shown in Fig. 1 of the drawings. Suitable hanger-arms R, which are loosely or pivotally connected to the brace-rod *t* at or near its ends, serve also as skids, but are especially designed to support the frame of the machine or apparatus at the necessary elevation in loading or unloading, thereby adapting the machine or apparatus to platforms of unusually high elevations. The hanger-arms R have suitable spurs or hooks *u* at their ends to engage the platform, as shown in Fig. 3 of the drawings, and are provided with notched supporting-arms S. These supporting-arms are pivotally connected to the hanger-arms and are adjustable in that they are capable of engaging any one of the series of notches with the transverse rod *v*, thereby supporting the hanger-arms at any desired angle found necessary.

The machine or apparatus is provided with suitable legs T for the purpose of supporting the frame of the machine or apparatus at an angle when the hanger-arms are not brought into use. These legs are loosely or pivotally connected to the transverse shaft *a*, so that they may be held up out of the way when not required for use. To hold the legs up when

not in use, there are provided pins *w*, which extend through a hole in the frame and are attached to the frame A by suitable cords or chains *y*. When it is desired to use the legs in supporting the machine or apparatus at an angle, the pins are withdrawn and the legs will drop down into position.

The stationary frame and the pivoted or carrying frame and the various connections of the machine or apparatus may be constructed of any suitable material, any suitable driving-gear for operating the hoisting-wheels may be employed, and any desirable form of brake may be substituted for that shown, these several features of the invention being subject to change or modification without departing from the principle of my invention.

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

1. In a hoisting machine or apparatus, the combination of a stationary frame, a carrying-frame pivoted thereto, hoisting-pulleys in the form of involute cams and each having a spirally-grooved guide upon its outer edge, flexible connections between the pulleys and the carrying-frame, and suitable mechanism for operating the pulleys, substantially as and for the purpose set forth.

2. In a hoisting machine or apparatus, the combination of a stationary frame, a pivoted carrying-frame, a horizontal rotatable shaft and suitable gearing for driving the same, hoisting-pulleys in the form of involute cams having grooved guides upon their outer edges, said pulleys being rigidly connected to the shaft, flexible connections between the pulleys and carrying-frame, and a brake device for controlling the speed of the shaft and hoisting-pulleys, substantially as and for the purpose specified.

3. A hoisting machine or apparatus, comprising a stationary frame, swinging or pivoted legs to support the frame at an angle, means for holding the legs up out of the way when not in use, a carrying-frame pivoted to the stationary frame, hoisting-pulleys provided with spiral guides, flexible connections between the pulleys and the carrying-frame, and means for operating the pulleys, substantially as and for the purpose described.

4. A hoisting machine or apparatus, comprising a stationary frame, a carrying-frame pivoted thereto, suitable means for elevating the carrying-frame, pivoted hangers having hooks or spurs at their ends, and supporting-arms pivotally connected to the hanger-arms and having a series of notches to engage with the transverse rod of the stationary frame to hold it in an elevated position, substantially as and for the purpose set forth.

5. A hoisting machine or apparatus, comprising a stationary frame provided with swinging legs, a carrying-frame pivoted to the stationary frame, hoisting-pulleys having spiral guides, flexible connections between

the pulleys and carrying-frame, means for operating the hoisting-pulleys, a suitable brake device for controlling the speed of the hoisting-pulleys, and pivoted hanger-arms and
5 notched supporting-arms pivoted thereto, substantially as and for the purpose specified.

In testimony that I claim the above I have

hereunto subscribed my name in the presence of two witnesses.

CHAS. A. BASSETT.

Witnesses:

R. H. WALKER,
J. H. CONSIDINE.