

(No Model.)

2 Sheets—Sheet 2.

G. M. HURD.
PORTABLE DERRICK.

No. 464,876.

Patented Dec. 8, 1891.

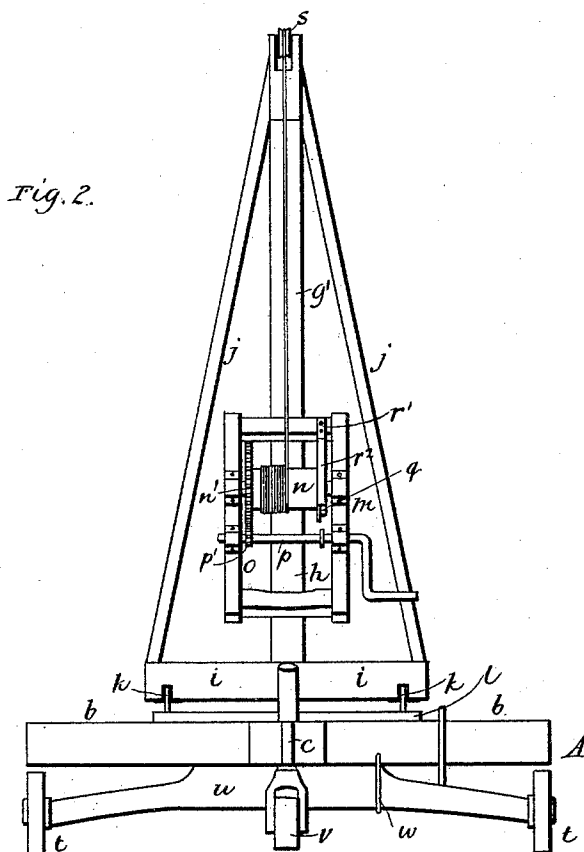
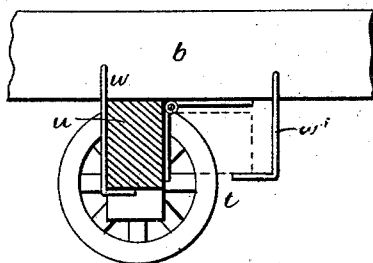


Fig. 4.



Witnesses:

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Wm. Ireland

Inventor

George M. Hurd

By *W. W. Dudley*
his Attorney.

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2 Sheets—Sheet 1.

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Fig. 1.

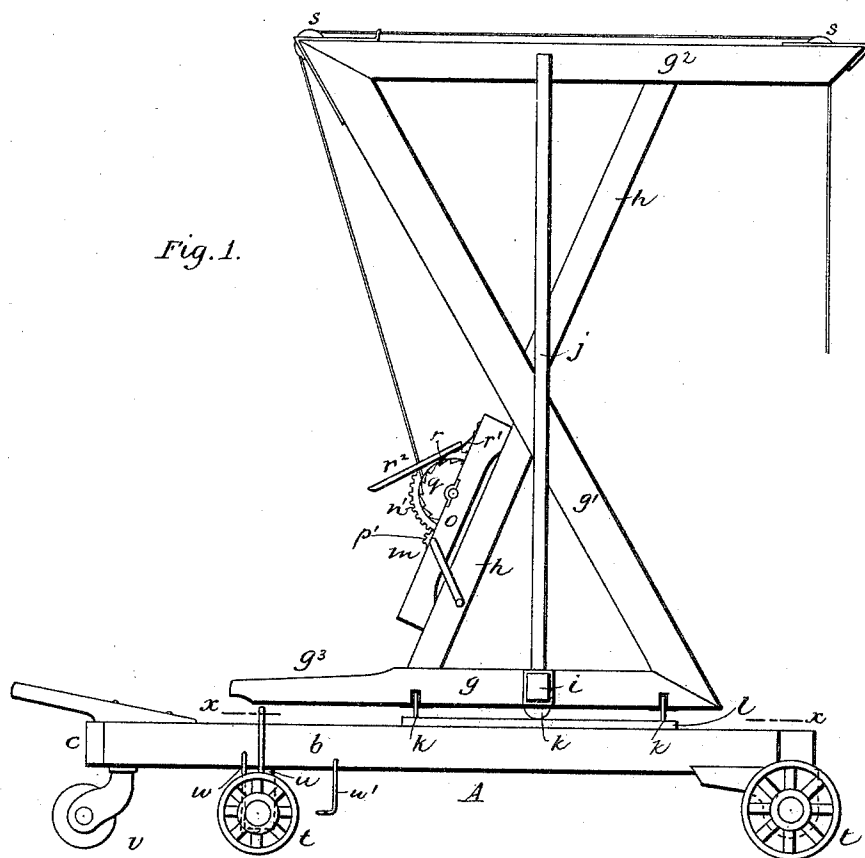
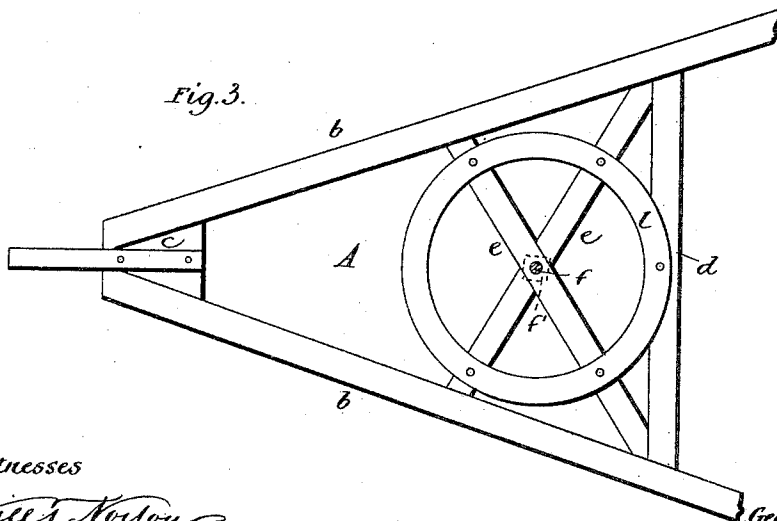


Fig. 3.



Witnesses

Wm. S. Kirtland
J. M. Ireland

Inventor

George M. Hurd

By W. M. Hurd
his Attorney.

UNITED STATES PATENT OFFICE.

GEORGE MURRAY HURD, OF OMAHA, TEXAS.

PORTABLE DERRICK.

SPECIFICATION forming part of Letters Patent No. 464,876, dated December 8, 1891.

Application filed July 15, 1891. Serial No. 399,580. (No model.)

To all whom it may concern:

Be it known that I, GEORGE MURRAY HURD, a citizen of the United States, residing at Omaha, in the county of Morris and State of Texas, have invented certain new and useful Improvements in Portable Derricks; 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 portable derricks; and it consists in the construction and arrangement of the several details, all of which will be presently fully explained.

Upon reference to the accompanying drawings, which form a part of this specification, Figure 1 represents in side elevation my improved derrick; Fig. 2, a front elevation; Fig. 3, a sectional view taken in the line *xx*, Fig. 1; and Fig. 4 is a detail of the front portion of the body.

Like letters of reference denote like parts in all the figures of the drawings.

A denotes the base, which is preferably triangular in shape, and which is formed of two strips *b b*, secured at their forward ends to a nose-piece *c* and at a point near their rear ends to a cross-piece *d*. Cross-braces *e e* are also secured to the strips and form at their intersection a bearing for the king-bolt *f*, upon which the derrick is rotated. The derrick is formed of the pieces *g g' g''*, arranged in the form of a **Z** and having the braces *h*, feet *i i*, and brace-rods *j j*. In the piece *g* and feet *i* are journaled friction wheels or rollers *k*, which bear on the upper surface of the fifth-wheel *l*, secured to the body, as shown. The king-bolt passes through the piece *g* and is secured in place by a nut *f'*. The derrick is adapted to be rotated by means of the handle *g''* on the piece *g*.

m is the windlass, which consists of a drum *n*, journaled in the frame *o*, secured to one of the braces *h*. This drum has a gear *n'*, which engages a pinion *p'* on the crank-rod *p*, and a ratchet-wheel *q*, which engages with a pawl *r*, held in contact therewith by the action of a spring *r'*. A handle *r''* allows of the raising of this pawl to permit the unwinding

of the drum. The rope passes from the drum around sheaves *s s*, which are journaled in the top piece *g''* at each side of the center. It will be seen by the use of my **Z**-frame that the pull on the rope at the forward end is equalized by the weight of the article in hoist, and hence there is no necessity for weighting any portion of the body of the derrick.

The body is mounted on wheels *t* to render the same portable, and I have provided means for swinging the forward end as follows: The forward wheels are secured to an axle *u*, which is hinged to the under side of the body, as shown, and is adapted to be turned inward, as shown in dotted lines, Fig. 4, to permit of the forward end being sustained by the caster *v*, which allows this end to be swung in either direction. Two hooks *w w'* secure the axle *u* in its different positions.

It will be evident that by my construction I am enabled to manufacture inexpensively a derrick which is rendered very portable and which is easily manipulated.

I claim—

1. In a derrick, and in combination with a suitable body, a **Z**-frame pivoted thereto and having sheaves at the top thereof disposed at each side of the center, and over which the draft-rope passes, whereby the weight of the article in hoist is equalized.

2. In a portable derrick, the combination, with a body mounted upon wheels and having a fifth-wheel thereon, of a **Z**-frame pivoted to such body and having friction-rollers on the under side thereof, a windlass, a draft-rope, a caster on the forward part of the body, and means for bringing the caster into action, for the purposes set forth.

3. In a portable derrick, the combination, with a body having a caster thereon, of wheels mounted on a hinged axle and operating substantially as hereinbefore set forth.

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

GEORGE MURRAY HURD.

Witnesses:

R. G. HURD,
B. T. CAMERON.