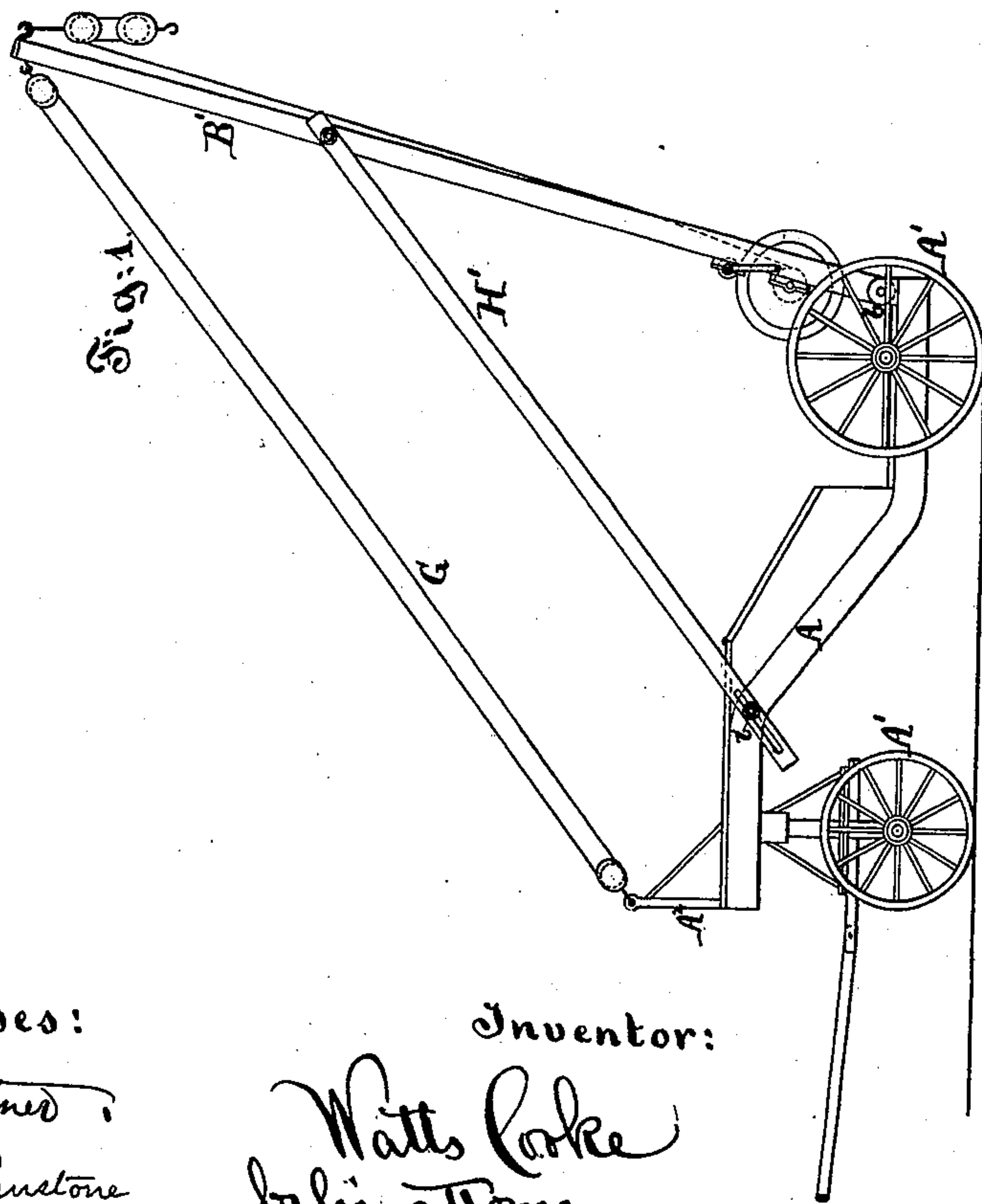
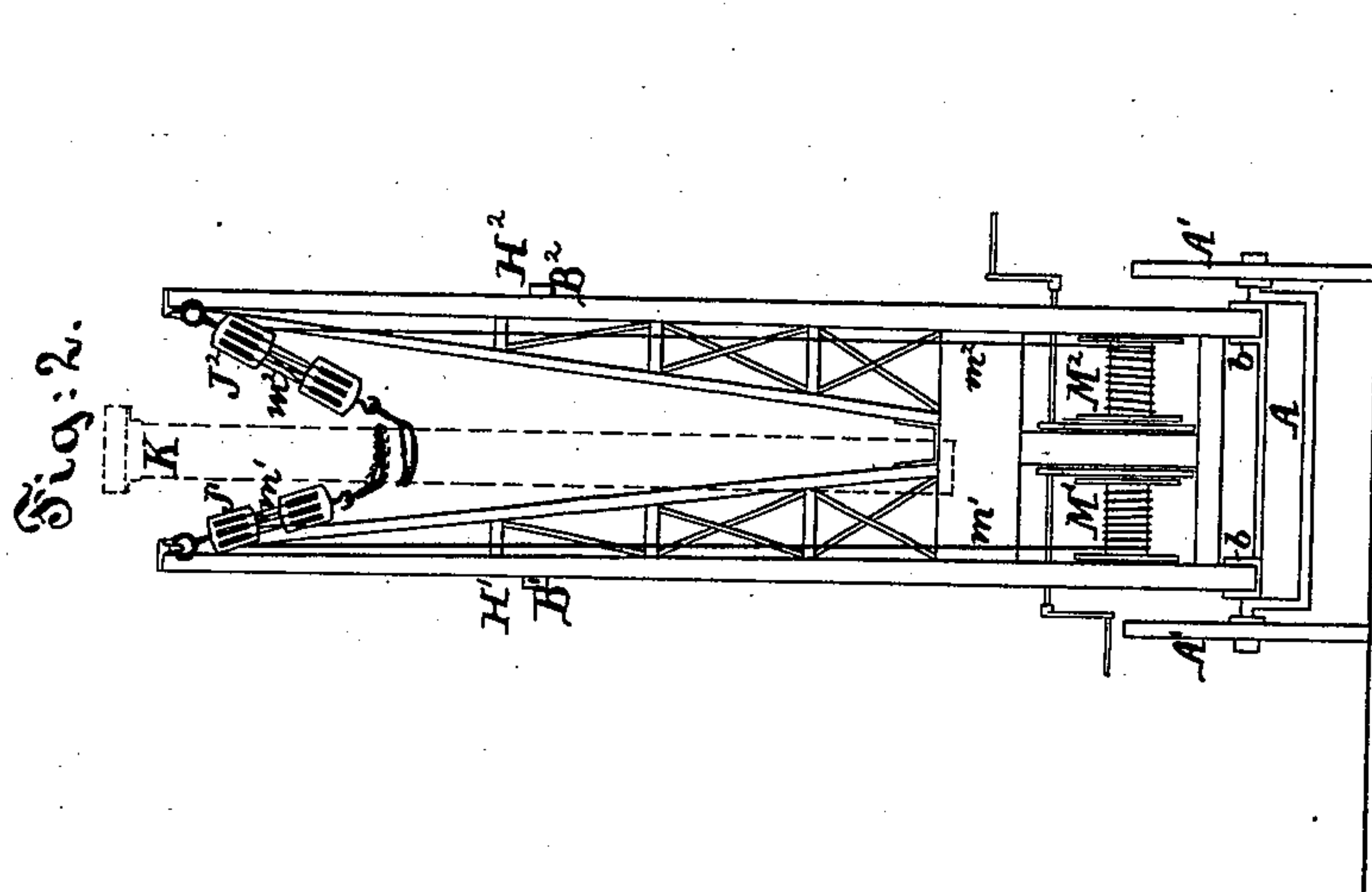


W. COOKE.
Portable Derrick.

No. 201,998.

Patented April 2, 1878.



Witnesses:

A. H. Gentry
H. A. Johnstone

Inventor:

Watts Cooke
by his attorney
T. A. Sutton

UNITED STATES PATENT OFFICE.

WATTS COOKE, OF PATERSON, NEW JERSEY.

IMPROVEMENT IN PORTABLE DERRICKS.

Specification forming part of Letters Patent No. **201,998**, dated April 2, 1878; application filed March 11, 1878.

To all whom it may concern:

Be it known that I, WATTS COOKE, of Paterson, Passaic county, in the State of New Jersey, have invented certain new and useful Improvements relating to Portable Derricks, of which the following is a specification:

My improved derrick is adapted for moving the load laterally within certain limits without swinging or moving any of the rigid parts. There are two separate jibs or rigid arms extending near each other, and preferably wider at the base, so as to be, in fact, a forked jib, with hoisting-tackle connected to each of the arms, so that by varying the action on the two hoisting-ropes the mass lifted may be suspended either midway between or partly or entirely over toward either of the jibs.

The device is especially useful in hoisting tall objects, as telegraph-poles, or the uprights of trestle-work, bridges, or elevated railroads.

The accompanying drawings form a part of this specification, and represent what I consider the best means of carrying out the invention.

Figure 1 is a side elevation, and Fig. 2 is a front elevation.

Similar letters of reference indicate like parts in both the figures.

A is a stout frame-work, supported by wheels A^1 , one pair of which is capable of swiveling, for convenience of manipulation, and may be equipped with the ordinary tongue and whiffletrees, for convenient movement by horses.

B^1 and B^2 are the two jibs, connected rigidly together near the base, but held a considerable distance apart at the top. Each is of triangular form, so that the two jibs constitute a forked piece turning on stout eyes or hinges b , supported on the framing A. The compound jib $B^1 B^2$ also carries two windlasses, $M^1 M^2$, with suitable gearing for driving them, which operate two ropes, $m^1 m^2$, which run respectively over supporting-sheaves in the tops of their corresponding arms or jibs $B^1 B^2$.

There may be a double or triple block suspended to the top of each jib, with a corresponding block below, to give a strong purchase for lifting. I have so represented it, the compound tackle being represented by $J^1 J^2$.

In the use of my derrick both the tackles J^1 and J^2 are engaged with the object to be raised,

and both the windlasses $M^1 M^2$ being operated at an equal rate, the weight, marked K, is lifted in the central line between $B^1 B^2$, but both windlasses being operated independently. If one is worked ahead of the other, so as to shorten its tackle, the mass or weight is moved nearer to that arm or jib. I have represented it as having the tackle J^2 shortened the most.

Each jib is formed of two principal parts, extending up and down, and of a series of diagonal or other suitable light braces connecting them laterally.

It is obvious that when the weight is first started to be lifted from a point at the level of the wheels A^1 , or lower, the strain will be mainly on the outer and more perfectly upright parts; but there are conditions under which the strain tending to draw the upper ends of the jibs toward each other is very considerable. This especially obtains when a heavy mass has been raised nearly to the top of the jibs, and is supported midway between them.

It is obviously important, in order to raise telegraph-poles and the like, that there shall be no direct brace across between the jibs.

It will be understood that the framing A may be loaded with any required weight at or near the end opposite the jibs $B^1 B^2$, to enable the framing to resist the tilting strain induced by the overhanging jibs when lifting a heavy load.

In case the windlasses are operated by steam, the boiler may be placed on or near the other end of the framing.

Whether or not the framing is heavily loaded, I construct triangular fixed frames or uprights A^2 at the end of the framing A, opposite to the compound jib, and connect them by guys G G to the upper ends of the respective jibs $B^1 B^2$. Operating these guys by hand or by the windlasses, the inclination of the jibs $B^1 B^2$ may be changed within wide limits.

$H^1 H^2$ are rigid braces pivoted to the sides of the jibs, as shown, and adapted to be secured to the sides of the framing A in various positions by nuts i , fitting on stationary bolts set in the framing. There may be a series of holes adapted to receive the bolt in different holes as the inclination of the compound jib is changed; but the slots represented give the

important advantage that on simply slackening the nuts *i* and relaxing or tightening the guys G G the connection of the braces H¹ H² will adjust themselves without requiring any attention. After the jibs have been adjusted to the proper inclination the nuts *i* are tightened, and, the guys G G being preferably set taut, the derrick is ready to be operated.

Modifications may be made. I can adapt the wheels A¹ to run on a railroad-track. The framing A may be of wood, and flat instead of raised at the end opposite the sheaves; but I have represented what I esteem the preferable construction of all the parts.

I esteem it important that my compound jibs shall offer no obstructions between the two forks to prevent the swinging of any load, pole, or other object of any form. The two parts may be mounted independently on the fram-

ing A, so that one may be set at a different angle from the other; but the increased strength due to my constructing them in one at and near the base more than compensates for any advantages due to such capacity.

I claim as my invention—

The portable derrick described, having, in combination with the frame or carriage A and wheels A¹, the forked or compound jibs B¹ B², with independent windlasses M¹ M² and connecting-tackle J¹ J², adapted to serve as and for the purposes herein specified.

In testimony whereof I have hereunto set my name in presence of two subscribing witnesses.

WATTS COOKE.

Witnesses:

A. H. GENTNER,
W. L. BENNEM.