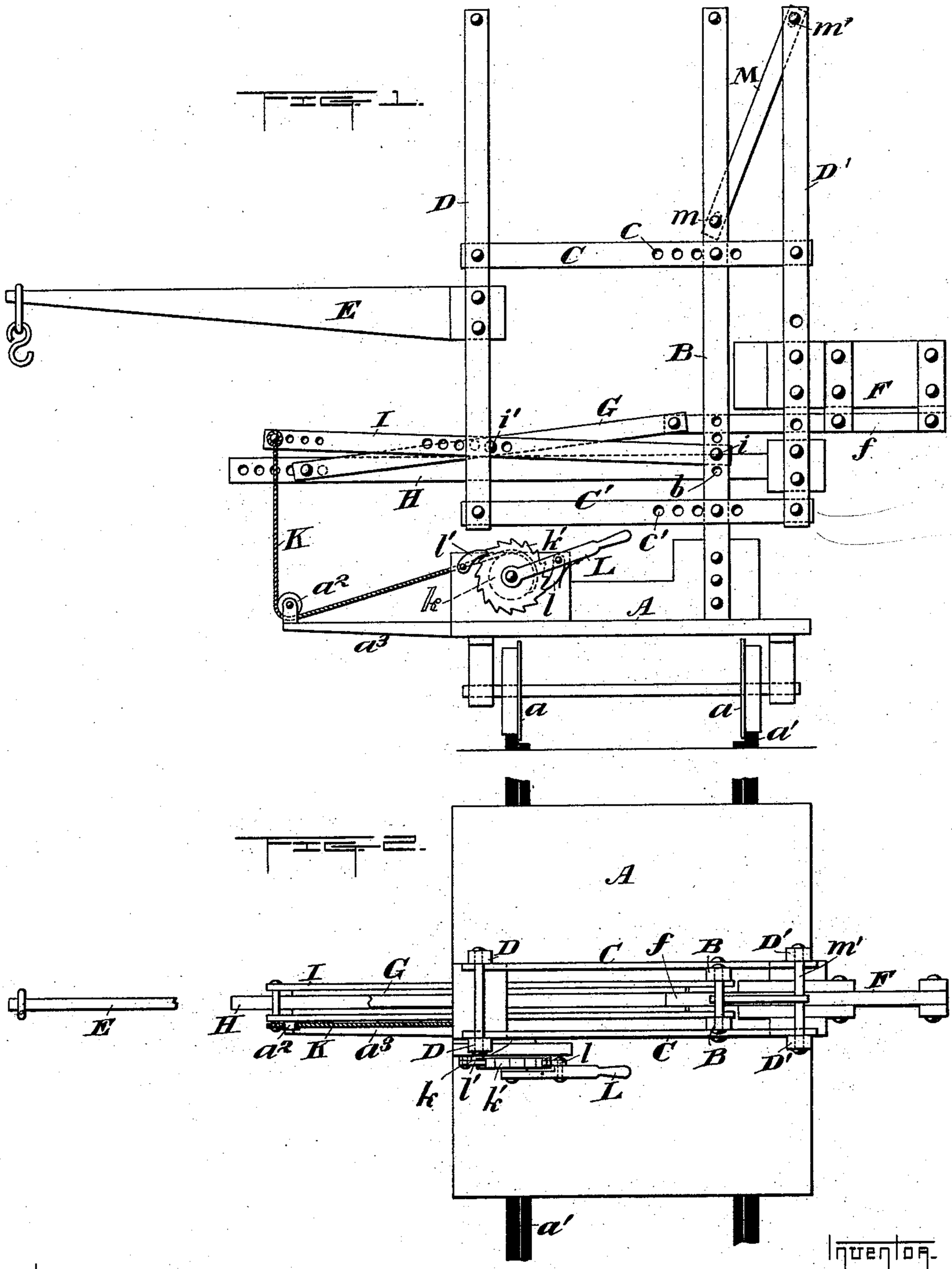
(No Model.)

# W. M. BROOKE.

## TRAVELING CRANE.

No. 528,248. Patented Oct. 30, 1894.

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# UNITED STATES PATENT OFFICE.

WILLIAM M. BROOKE, OF NEW YORK, ASSIGNOR TO LETTY C. BENSON, OF BROOKLYN, NEW YORK.

## TRAVELING CRANE.

SPECIFICATION forming part of Letters Patent No. 528,248, dated October 30, 1894.

Application filed March 31, 1894. Serial No. 505,816. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM M. BROOKE, of New York, in the county and State of New York, have invented a new and useful Improvement in Traveling Cranes, of which the following is a specification.

My invention relates to an improvement in traveling cranes, with the object in view of increasing the purchase to such an extent as to be able to raise a very heavy weight with a very slight expenditure of power and at the same time keeping the several parts within practical limits of extension.

A practical embodiment of my invention is represented in the accompanying drawings, in which—

Figure 1 is a view of the crane in side elevation, showing it mounted upon a truck, and Fig. 2 is a top plan view of the same, the supporting arm of the crane being partially broken away to show the operating parts beneath.

The platform of the crane is denoted by A and is here shown as mounted upon a pair of trucks *a*, fitted to run upon rails *a'*. From the platform A there is an upwardly extending fixed standard B to which a pair of tilting levers C, C' are pivotally secured at any desired distance from their centers to impart to the free ends of their longer arms the desired amount of travel to elevate the object to be carried the proper distance above its point of rest. For this purpose the levers C and C' are each provided with a series of perforations *c*, *c'* for receiving the pivotal bolt. The two levers C and C' are connected to the upright B at the same distances from their respective ends. A pair of uprights D, D' are loosely connected with the opposite ends of the levers C, C' forming, together with the levers C, C', a parallelogram of bars jointed at its angles. One of the uprights, D for example, carries a supporting arm E, being firmly fixed to the upright D. The opposite upright D' has fixed thereto a bracket F, to the under side of which is fixed a horizontal bar *f* extending from a point exterior to the parallelogram of bars to a point within the field of the said parallelogram of bars, at which point it is connected by a loose joint with a link G, extending from within the field of the parallelogram of bars to a point exterior to the said parallelogram of bars and from the opposite side thereof from the bracket F and loosely connected at its free end with a horizontal bar H, extending across the field of the parallelogram of bars and fixed firmly to the upright D' at a point below the horizontal arm *f*.

A lever of the second class I, is fulcrumed at *i* in one of the several perforations *b*, through the standard B, and is connected at a point about midway of its ends, as at *i'*, with the link G. The free end of the lever I—for purposes of operating it—is provided with a flexible operating connection K extending from the end of the lever I, down underneath a pulley $a^2$, mounted in a projecting arm $a^3$ of the platform A and thence to a winding drum *k*, mounted in a suitable support upon the platform A, and having fixed to rotate therewith a ratchet toothed wheel *k'*. An operating lever L is loosely pivoted to the shaft of the drum *k* and carries a pawl *l* for engaging the ratchet wheel *k'* to rotate it and hence draw down on the end of the lever I. A retaining pawl *l'* is also provided to hold the winding drum *k* in position to hold the free end of the lever I down.

A stop bar M is pivoted at one end, as at *m* to the standard B and its opposite end is connected through an elongated slot *m'* with the upwardly extended end of the upright D' for the purpose of limiting the movements of the parallelogram of bars.

In operation, the downward pull on the free end of the lever I will depress the link G, which in turn will depress the upright D' and hence elevate the upright D and with it the crane arm E and the weight suspended therefrom.

By means of the several series of perforations, the bars may be placed in different relations, so as to make the supporting arm E rise a greater or less distance, as may be required.

What I claim is—

1. The combination with a crane supporting arm, of a parallelogram of bars to one of which the crane arm is fixed, a standard to which two opposite sides of the parallelogram of bars are pivoted, and a lever pivoted to the standard and connected with one of the par-

allelogram of bars for tilting the parallelogram of bars and hence lifting the weight, substantially as set forth.

2. The combination with a standard and a suitable support for it, of a parallelogram of bars, two opposite sides of said parallelogram of bars being secured to the standard, a weight supporting arm secured to one of the parallelogram of bars, two horizontal arms secured to the opposite bar of the parallelogram of bars, a link connecting said two horizontal arms and a lever pivotally secured to the standard and connected with the link for tilting the parallelogram of bars and hence lifting the weight, substantially as set forth.

3. A standard fixed upon a movable carriage, a parallelogram of bars having two opposite sides pivotally secured to the standard and a weight supporting arm fixed to one of the two opposite sides of the parallelogram of bars, two horizontal bars fixed to the opposite side of the parallelogram of bars, a link connecting said two horizontal bars, a lever pivotally secured to the standard and connected with said link and means for operating said lever to depress the link and thereby tilt the parallelogram of bars to elevate the weight, substantially as set forth.

4. The combination with a suitable standard, a parallelogram of bars having two opposite bars of the parallelogram pivoted to the standard, a weight supporting arm fixed to one side of the parallelogram of bars, an operating lever pivotally secured to the standard and connected through intermediate parts with the opposite side of the parallelogram of bars and a stop bar pivotally secured to the standard and having a loose connection with the parallelogram of bars, substantially as set forth.

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