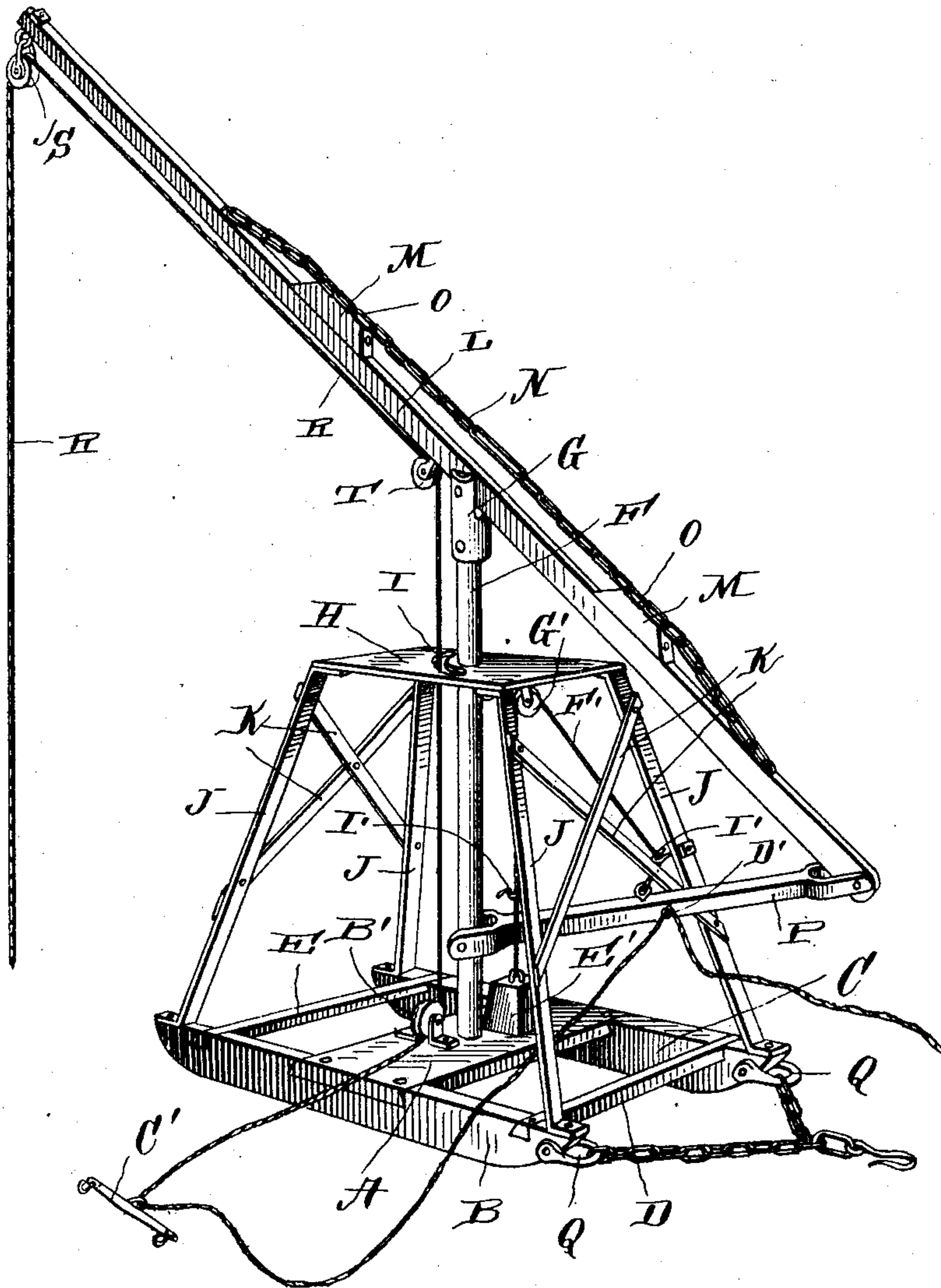


No. 785,875.

PATENTED MAR. 28, 1905.

E. GRAHAM.  
PORTABLE DERRICK.  
APPLICATION FILED OCT. 5, 1904.



Witnesses

*W. A. Boswell.*  
*A. L. Hough.*

Inventor

*Elias Graham,*  
*Franklin H. Hough*

Attorney



# UNITED STATES PATENT OFFICE.

ELIAS GRAHAM, OF CASEY, ILLINOIS, ASSIGNOR OF TWO-THIRDS TO  
RALPH E. GRAHAM AND FRANK SCHMOYER, OF CASEY, ILLINOIS.

## PORTABLE DERRICK.

SPECIFICATION forming part of Letters Patent No. 785,875, dated March 28, 1905.

Application filed October 5, 1904. Serial No. 227,255.

*To all whom it may concern:*

Be it known that I, ELIAS GRAHAM, a citizen of the United States, residing at Casey, in the county of Clark and State of Illinois, have invented certain new and useful Improvements in Portable Derricks; and I do 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, reference being had to the accompanying drawing, and to the letters of reference marked thereon, which forms a part of this specification.

This invention relates to certain new and useful improvements in portable derricks adapted for lifting hay, corn-fodder, boxes, and wagon-bodies, or any other compact weight, and in these cases most any grappling device may be used. If so desired, a scoop may be used for removing the dirt from well-holes or from embankments to wagons which are employed to haul the dirt away.

More especially, the invention provides means whereby the object is lifted and swung to any position to the right or to the left of the pivotal center of the swinging beam, and is, furthermore, to provide a swinging beam so connected to the rotatable shaft that it shall have a horizontal swing; and, moreover, to construct the framework in such wise as to support said swinging beam in a secure manner.

To these ends and to such others as the invention may pertain the same consists in the peculiar construction and in the novel combination, arrangement, and adaptation of parts, as will be hereinafter more fully described, shown in the accompanying drawing, and then specifically defined in the appended claims.

The invention is clearly illustrated in the accompanying drawing, in which I have shown a perspective view of my invention, the same being shown as complete and in condition for use.

Reference now being had to the details of the drawing by letter, A designates the base of the machine, which has connected thereto the side runners B and C.

D and E designate bracing-strips, which are adapted to brace the side runners.

Rising from the base A is a rotatable shaft

F, said shaft being journaled in a socket in the base. Located a little below the bifurcated end G of said shaft is a plate H, having a curved slot I therein, and connected to the corners of said plate are the braces J J, which are connected at their lower ends to the side runners B and C. The braces J J are braced by the cross-bars K K, and the plate H is designed to be made smaller in width and length than the base of the frame, so that the braces J J will slant therefrom in such a manner as to form a conical-shaped framework.

L designates a swinging beam, which is pivoted to the bifurcated end G of the rotatable shaft, and said beam carries two blocks M M. A link chain N is connected to the outer ends of the beam and the body portion O of said chain is secured to the blocks M. This chain has a tendency to strengthen the beam L. Connected to one end of said beam is a boom P, said boom being secured to the rotatable shaft F. This construction is for the purpose of keeping the beam from a vertical play.

Attached to the side runners, as at Q, are the ordinary connections, which are secured to the swingletree for the purpose of allowing the machine to be drawn from place to place by a team of horses.

A hoisting-rope R is adapted to pass over a pulley S, located at the outer end of the beam L, and then over another pulley, T, after which it is passed through a slot I in the plate H and thence under the pulley B'. After the rope R has been passed under the pulley B' it is then passed through an eye upon a swingle-tree C' and then through another eye, P', upon the boom P. Secured to a weight E' is a rope F', which is passed over a pulley G' and then connected to the boom P. Said rope F' is adapted for the purpose of being hooked over either one of the hooks I' upon the braces J to hold the swinging beam in any desired position, as illustrated in the drawing.

From the foregoing description the operation of the invention will be readily understood, and is as follows: After the object to be lifted is attached to the rope R a horse is secured to the swingletree C' and the object is



lifted into mid-air, after which the swinging beam may be shifted to any position to the right or left of the rotatable shaft.

Of course it is understood that various  
5 changes may be made in the detailed construction and combination of parts other than that illustrated in the accompanying drawing without in any way departing from the spirit and scope of the invention.

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

1. A portable derrick comprising a sled, supports rising therefrom, a table at the upper  
15 end of said supports, a shaft mounted upon a cross-piece of the sled and having a bearing in said table, the upper end of said shaft being bifurcated, a beam pivotally mounted in the bifurcated end of said shaft, an arm having  
20 bifurcated ends, one of which is connected to said shaft and its other end pivotally connected to said beam, pulleys one secured to one of said supports and the other to said table, a rope secured to said bifurcated arm and passing  
25 ing over said pulleys, and a weight secured

to the ends of said rope, and a hoisting-cable passing about suitable pulleys upon said beam, as set forth.

2. A portable derrick comprising a sled, supports secured thereto, a table fastened to  
30 the upper ends of said supports, a shaft resting upon a cross-piece of said sled and passing through an aperture in said table, the upper end of said shaft being bifurcated, a beam pivotally mounted in the bifurcated end of said  
35 shaft, a truss secured to said beam and passing over its pivotal center, an arm having bifurcated ends, one of which is pivotally connected to said shaft and its other end to said beam, pulleys one secured to one of said sup-  
40 ports and the other to said table, a cable secured at one end of said arm and passing about said pulleys, and a weight secured to the cable, as set forth.

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

ELIAS GRAHAM.

Witnesses:

S. E. TIPPY,

D. R. ROSEBROUGH.