(No Model.)

C. M. COCHRAN.

DERRICK.

No. 301,679. Patented July 8, 1884.

Fig. 1.

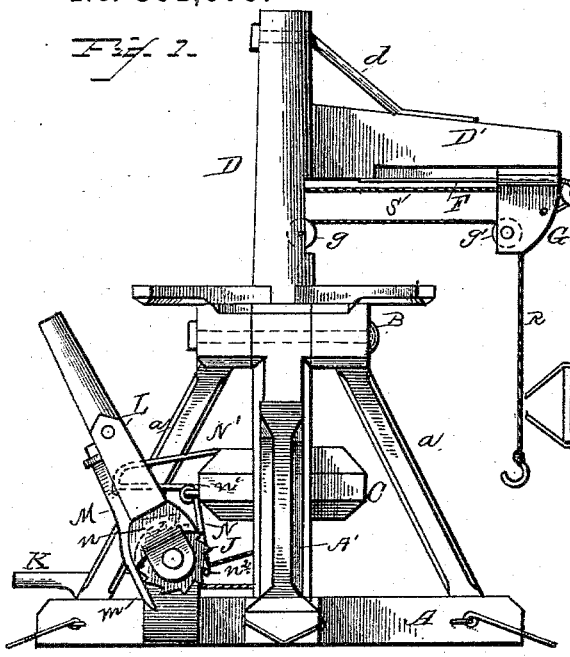


Fig. 2.

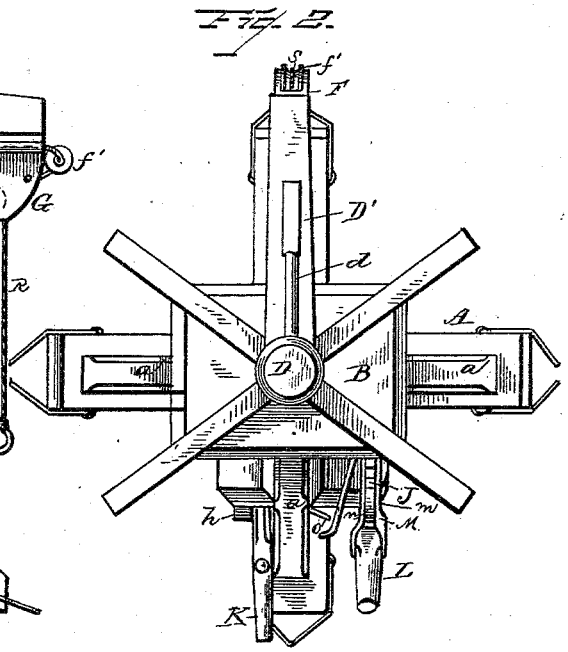


Fig. 3.

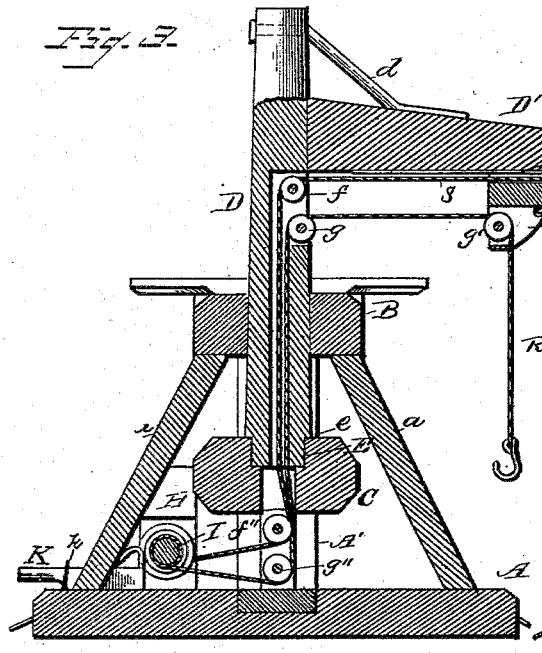
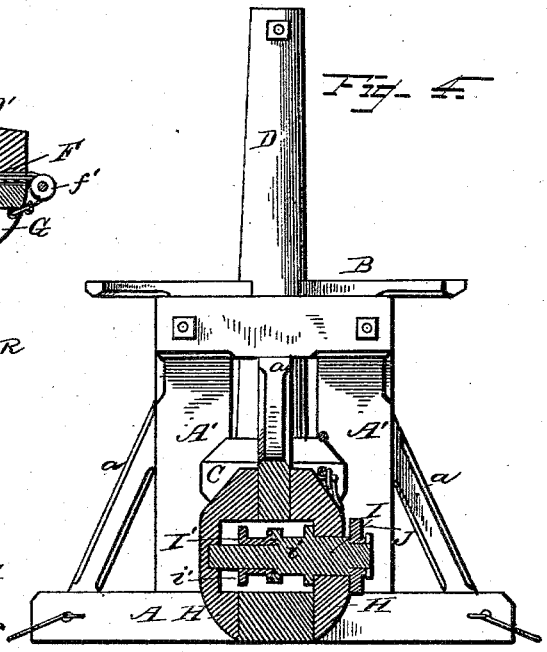


Fig. 4.



WITNESSES
Franck L. Durand
E. M. Johnson

INVENTOR
Carius M. Cochran
Attorney

UNITED STATES PATENT OFFICE.

CASSIUS M. COCHRAN, OF MARION, INDIANA.

DERRICK.

SPECIFICATION forming part of Letters Patent No. 301,679, dated July 8, 1884.

Application filed May 29, 1884. (No model.)

To all whom it may concern:

Be it known that I, CASSIUS M. COCHRAN, a citizen of the United States of America, residing at Marion, in the county of Grant and State of Indiana, have invented certain new and useful Improvements in 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, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to certain new and useful improvements in derricks; and it consists in the construction and combination of the parts, as will be hereinafter set forth, and pointed out in the claims.

In the accompanying drawings, which illustrate my invention, Figure 1 is a side view. Fig. 2 is a plan view. Fig. 3 is a vertical section; and Fig. 4 is a side view, partly in section.

A represents the base of the frame, which is provided with vertical standards A′ and inclined braces *a*. At the top of these standards, and suitably secured thereon, is a platform, B, and intermediately between the base and platform a bearing plate or block, C. The portion of the structure hereinbefore described serves as a support for a movable mast, D, from the upper part of which projects at right angles thereto an arm, D′, which is rigidly attached to the mast, and is braced thereto by the rod *d*. The base of the mast is provided with a shoulder, *e*, and the same rests upon the upper portion of the plate C, which is provided with a vertical opening, E. The upper platform, B, is also provided with a vertical opening through which the mast D passes, and is retained thereby in a vertical position, so as to be capable of a rotary movement. The mast D, from a point immediately under the arm D′, is hollow from said point to the base, and the cut-away portion immediately under the arm is provided with pulleys *f g*. The under portion of the arm D′ is provided with a plate, F, the end of which is bifurcated for the reception of a pulley, *f′*. This plate serves as a support for a sliding bracket, G, the side wings of which are turned over the plate F, and enter recesses formed on opposite sides of the arm D′. The sliding bracket G is provided near its lower portion with a pulley, *g′*. The central portion of the base A, immediately under the mast, is provided with vertical straps, between which are mounted pulleys *f″ g″*, and to one side of the base, attached to one of the inclined braces, and to the base A are secured vertical blocks H, which are attached at their upper portion to the portion of the structure indicated by the letter C. These blocks H H have mounted between the same a drum, I, which is provided on one side with a sliding section, I′. This sliding section has formed on one side projections *i*, which are adapted to engage with one of the faces of the stationary drum I, and its opposite rim, *i′*, is provided with serrations, which engage with a catch, *h*, attached to the stationary portion H of the structure. The drum I′ is thrown in and out of engagement with the catch *h* and drum I by means of a lever, K, the end of which embraces the flange *i′*, formed thereon, so that said flange may turn between the bifurcated end of the lever. This lever K is held in position by means of pins *k*, so as to retain the sliding drum I′ in position either in engagement with the face of the drum I or catch *h*. The drum I is provided at its end with a ratchet-wheel, J, which is embraced by the end of a lever, L, which carries a sliding pawl, M, which is provided with a portion, *m*, which projects beyond the face of the ratchet-wheel, and a portion, *n*, which engages with the ratchets formed on said wheel. By the construction, as shown, of this dog or pawl, the ratchet-wheel may be turned in one direction, and the member *m* will act as a stop to prevent excessive play of the lever, and will, by coming in contact with the end of the retaining-spring N, throw the catch *n* out of engagement with the ratchet. The catch N, which engages with the ratchet-wheel J, consists of a spring-bar, of metal, one end of which is bent at right angles, so as to project across and engage with the ratchet-teeth. The central portion of this bar is bent at right angles, and is provided with an eye, *n′*, through which passes a staple, by means of which it is secured to the mast-support C. Immediately above the bar N, and attached to mast-support C, so as to project horizontally over the same, is a bar,

N′, the end of said bar being bent into a hook, which engages with a horizontal member of the catch-bar N, and retains the same in position against the ratchets of the wheel J. When it is desirable to disengage the arm or bar N from the ratchet-teeth, the same is removed from the hooked portion of the arm N′, and is retained out of engagement by a hook, *o*, which holds the horizontal member of the bar N in a depressed position. When the horizontal portion of the bar N is held in a depressed position, the projecting member *n″* will be held out of engagement with the ratchet-teeth, but may be thrown in engagement therewith by depressing the lever L, so that its member *m* will strike against the same and throw it into engagement with the ratchet-teeth. Cords R and S pass over the pulleys, and are attached to the drums I I′. One of the cords (indicated by the letter S) is attached to the sliding bracket G, and passes over the pulleys *f′ f f″*, and from thence to the drum I′, and the cord indicated by the letter R, which is provided with a hook at its end, passes over the pulleys *g′ g g″*, and from thence to the drum I.

By the construction hereinbefore described I provide a derrick the mast of which can be readily swung, and the arm of which mast being provided with a sliding bracket, the object to be raised can be shifted to and from the base within the scope of said arm, the movement of the bracket and the hoisting being accomplished by the same lever.

I am aware that prior to my invention derricks have been provided with swinging arms which bear and rotate about a stationary mast, the operating-ropes being carried to a winch by means of pulleys located on the exterior of said mast; and I do not claim such as my invention.

It will be readily seen that the ropes, when applied as indicated by my invention, are fully protected from the weather.

I claim—

1. In a derrick, a base for the support of a rotary mast, a stationary arm attached to said mast, a sliding bracket secured to the arm, and operating means, substantially as shown, and for the purpose set forth.

2. In a derrick, a base provided with a mast-support, a mast having a stationary arm carrying a sliding bracket, and operating-cords passing over said bracket and through the mast to drums attached to the base, said drums being provided with an operating-lever, substantially as shown, and for the purpose set forth.

3. The combination, in a derrick, with the base A, platform B, and step C, with braces and supports, as set forth, of a hollow mast having a projecting arm rigidly attached thereto, and a sliding bracket attached to said arm, the cords passing over pulleys located within said bracket, mast, and base to drums secured to the base of the structure, said drums being provided with means for rotating the same and throwing one of the drums in and out of gear, substantially as described.

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

CASSIUS M. COCHRAN.

Witnesses:

TURNER OVERMAN,

WILLIAM LEAPLEY.