(No Model.) 2 Sheets—Sheet 1.

W. E. WHITCOMB.

DERRICK.

No. 519,364. Patented May 8, 1894.

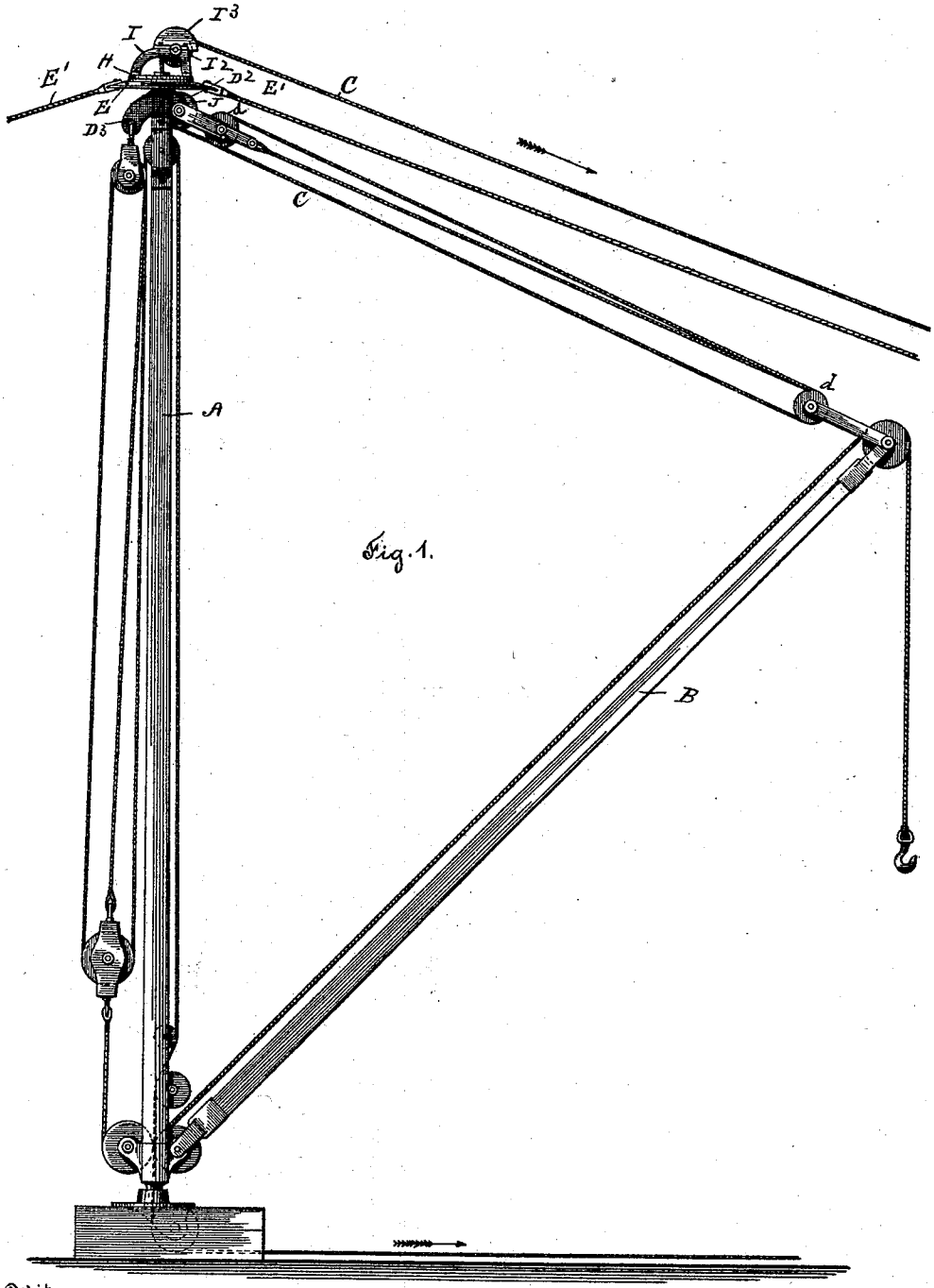


Fig. 1.

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 2.

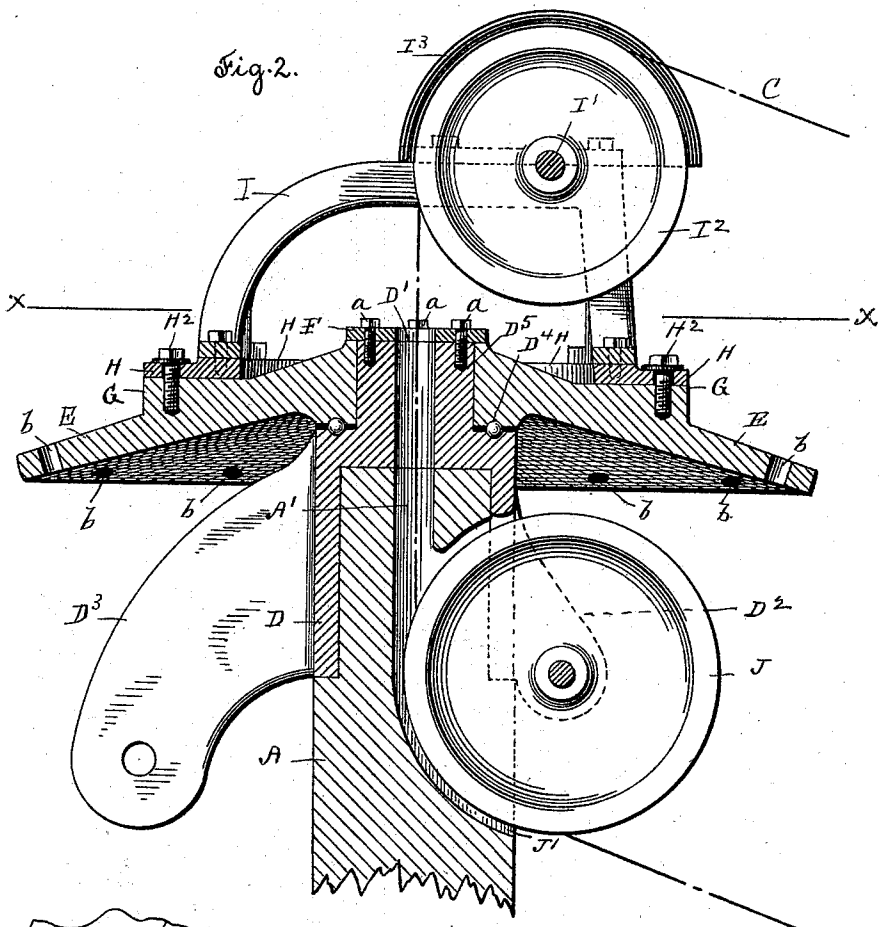
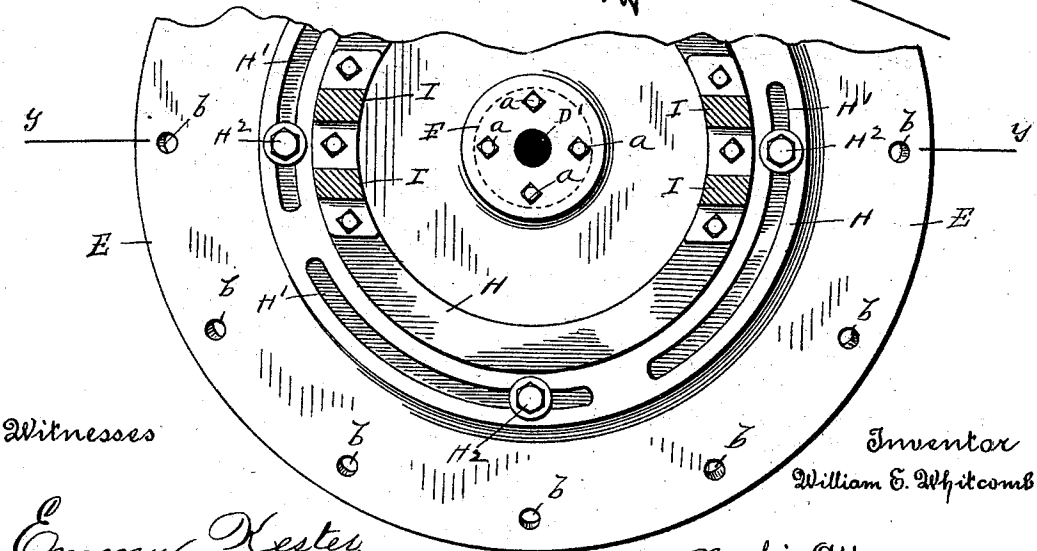


Fig. 3.



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SPECIFICATION forming part of Letters Patent No. 519,364, dated May 8, 1894.

Application filed October 2, 1891. Serial No. 407,579. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. WHITCOMB, a citizen of the United States, residing at Barre, in the county of Washington and State of Vermont, have invented certain new and useful Improvements in Derricks, of which the following is a specification, reference being had to the accompanying drawings, forming a part of the same, and in which—

Figure 1, represents a derrick embodying my invention. Fig. 2, represents the upper end of the mast and guy-plate shown in sectional view on the line Y, Y, Fig. 3, and Fig. 3, represents a top view of a portion of the guy-plate, the frame-work by which the boom-rope sheave is supported having been removed, on line X, X, Fig. 2.

Similar letters refer to similar parts in the different figures.

My present invention relates to certain changes in the construction at the upper end of the mast, which permits the boom-rope to be carried directly to the winding drum from the top of the mast, and in providing means by which the requisite adjustment of the boom-rope can be secured to bring it in alignment with the winding drum.

Referring to the accompanying drawings, A represents the mast and B the boom of the derrick. The upper end of the mast A, is provided with a concentric passage A′, to receive the boom-rope C, represented in Fig. 2 by a broken line. Mounted upon the upper end of the mast is a metal cap D, having a concentric passage D′ and provided with ears D^2 and D^3. The cap D supports the guy-plate E concentrically thereto, by means of the annular shoulder D^4 and central hub D^5, a cap-plate F attached by bolts *a*, to the hub D^5 over-laps the edge of the guy-plate E and prevents it from being lifted off the hub D^5. A series of holes *b*, receive the guy-ropes E′ by which the mast is supported in the usual manner in a vertical position and permitted to rotate freely within the guy-plate.

Upon a horizontal bed G, formed upon the upper surface of the guy-plate E, I place an annular plate H provided with concentric slots H′ to receive the bolts H^2, which are screwed into the bed G and hold the annular plate H firmly in position, the slots H′ allowing the plate H to be adjusted upon the guy-plate E. Attached to the annular plate H is the frame I, supporting the shaft I′ upon which the sheave I^2 turns. Upon the frame I, and at each side of the sheave I^2, are placed guard-plates I^3 extending a short distance above the upper edge of the sheave I^2 to prevent the displacement of the rope carried upon the sheave I^2. In the ears D^2, one, of which is shown by broken lines in Fig. 2, is mounted the sheave J, placed in the suitable position to guide the boom-rope C into the central passage A′. The boom-rope, or rope by which the boom B is raised, is carried from the pulley-blocks *d*, *d*, beneath the sheave J and through the concentric passage A′ and D′, over the sheave I^2 to the winding drum; the section of the rope lying between and tangential to the sheaves I^2 and J is coincident with the axis of the mast, allowing the mast to be rotated and the boom to be brought over the load to be lifted.

Although the guy-plate E and that portion of the mechanism supported thereon remain stationary during the rotation of the mast, it is important that the boom-rope C should be delivered from the sheave I^2 in the proper direction with reference to the winding drum to cause it to be wound smoothly and regularly traversed across the surface of the winding drum. The proper alignment of the boom-rope C as it is delivered from the sheave I^2 is secured by the adjustment of the annular plate H upon the bed G when the derrick is set up; the bolts H^2, being then tightened, the sheave is held in its desired position with relation to the winding drum.

I deem the arrangement of the annular slotted plate H and sheave supporting frame mounted thereon a convenient and simple method, by which the suitable adjustment of the sheave I^2 is secured, but I do not confine myself to the specific construction herein described and shown in the accompanying drawings, as it is obvious that the construction shown can be modified in various ways and still embody the essential feature of my invention, viz, the employment of a sheave, as I^2, by which the direction of the boom-rope is

changed, said sheave being adjustably mounted to enable the requisite alignment of the boom-rope to be secured.

It has been customary heretofore, so far as I am aware, to carry the boom-rope over a sheave supported at the top of the mast, down the side of the mast and over a sheave at the bottom of the mast to the winding drum; but by carrying the boom-rope through the central passage in the top of the mast and over a sheave adjustably mounted upon the guy-plate, any desired change in the direction of the boom-rope can be secured.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of a mast capable of rotation and provided with a central passage at its upper end, a boom carried by said mast as it rotates, a guide pulley carried by said mast, by which the boom rope is conducted to the central passage in said mast, a stationary guy plate in which the upper end of said mast is journaled and provided with a central passage in alignment with the central passage in said mast, a plate adjustably attached to the top of said guy plate, and a guide pulley supported on said adjustable plate, whereby said guide pulley can be adjusted relatively to said guy plate and the boom rope conducted toward a fixed winding drum, substantially as described.

2. The combination with the rotating mast of a derrick provided with a central passage at its upper end, of a stationary guy plate in which the upper end of said mast is journaled, a boom hinged to and carried by said mast as it is rotated, a guide pulley carried by said mast, by which the boom rope is conducted to the central passage in said mast, a stationary guy plate in which the upper end of said mast is journaled, an annular plate provided with concentric slots, attached bolts passing through said slots into said guy plate, by which said annular plate is adjustably attached to said guy plate and guide pulley mounted upon said annular plate, by which the boom rope is conducted to a winding drum, substantially as described.

3. The combination with the mast of a derrick, of the cap D provided with ears D^2, rotating sheave J, guy-plate E, rotating sheave I^2 adjustably mounted upon said guy-plate, said sheaves J and I^2 being placed tangential to the axis of said mast, said mast having a central passage through which the boom-rope is carried from one sheave to the other, substantially as described.

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