

A. LAMBERT.
DERRICK PIVOT CONNECTION.
APPLICATION FILED NOV. 12, 1909.

967,203.

Patented Aug. 16, 1910.

3 SHEETS—SHEET 1.

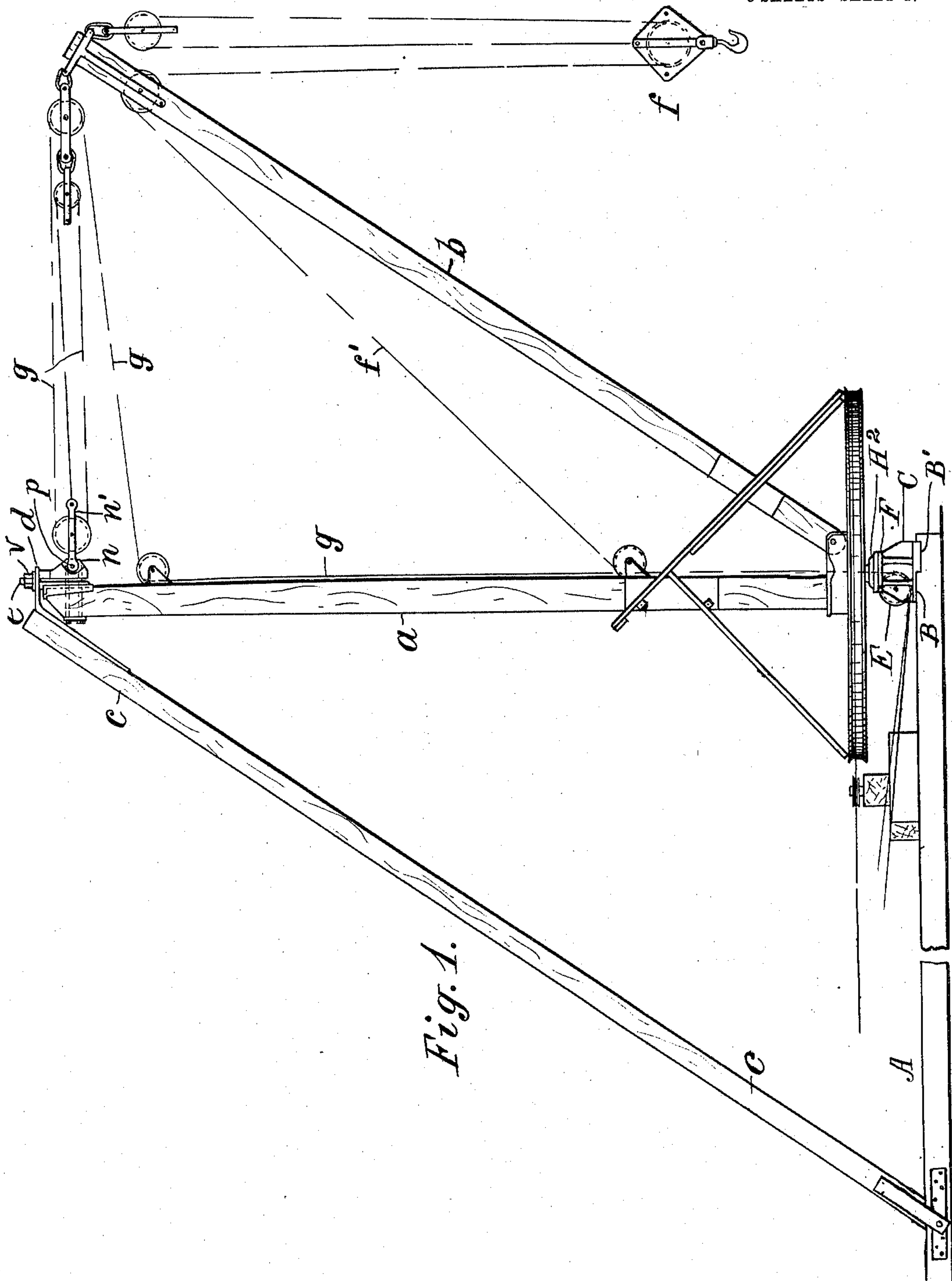
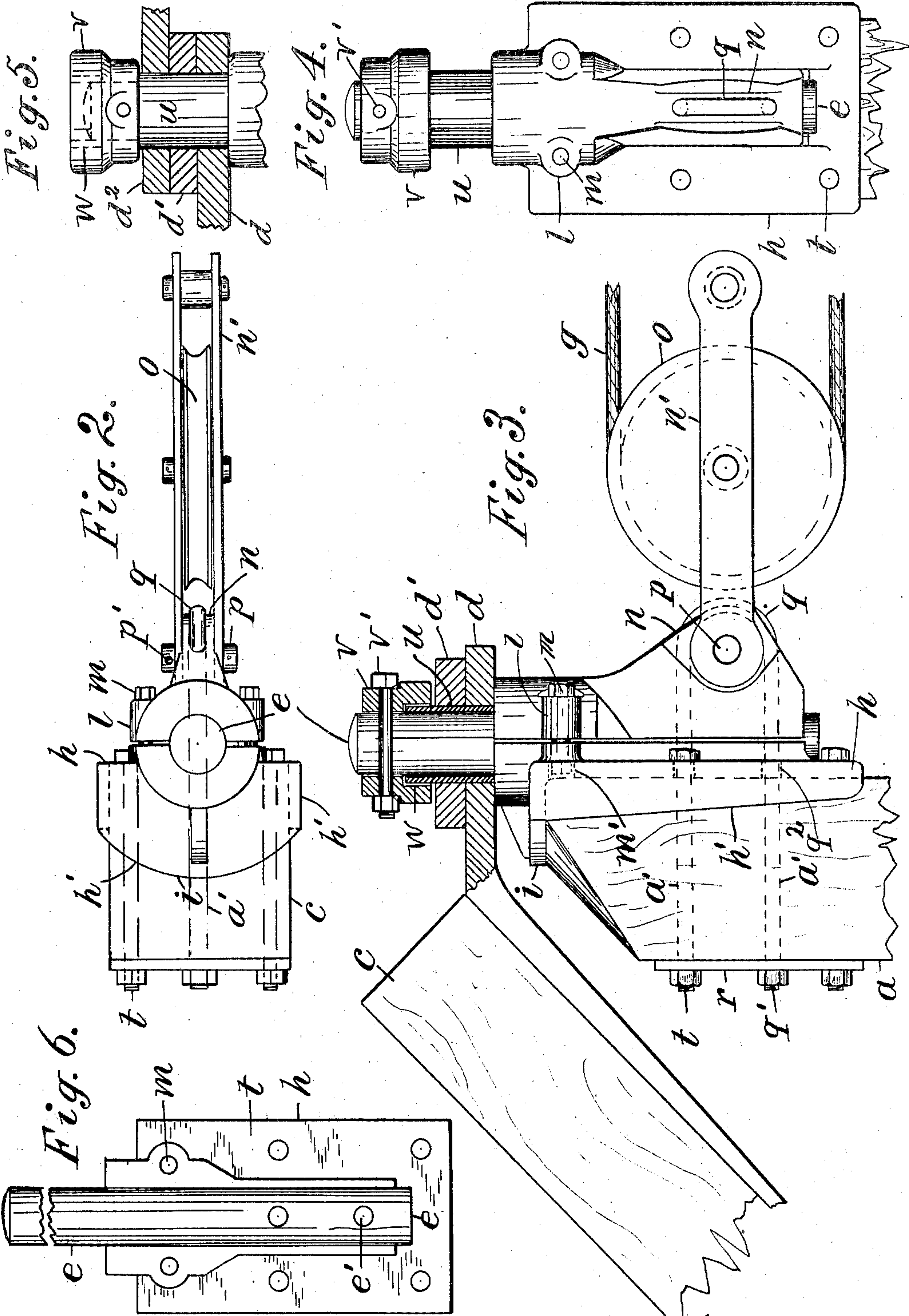


Fig. 1.

Witnesses:
L. Lee.
Walter Greenbaum.

Inventor
Asher Lambert, per
Thomas S. Crane, Atty.

967,203.



Witnesses:
L. Lee.
J. Walter Greenbaum.

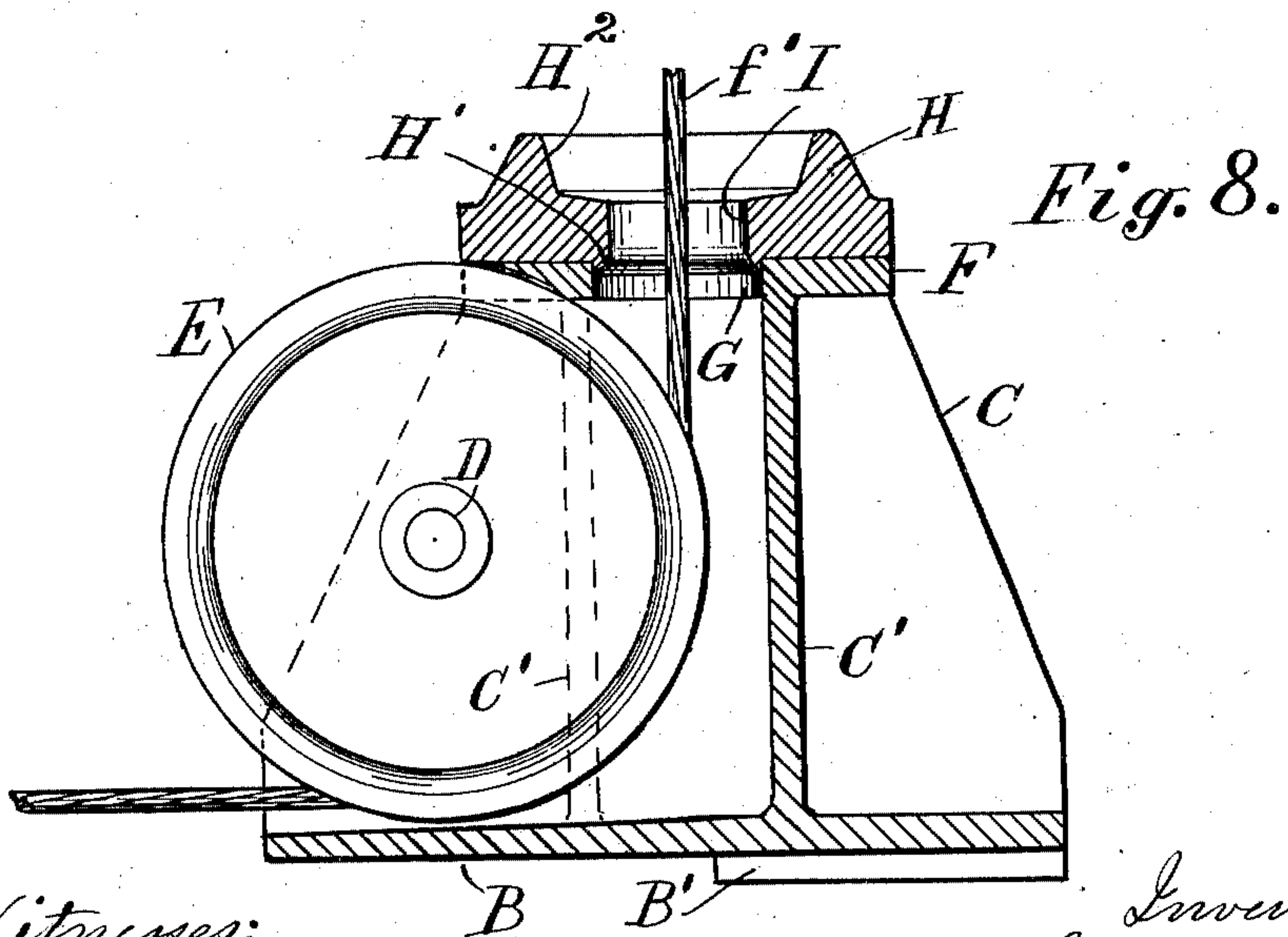
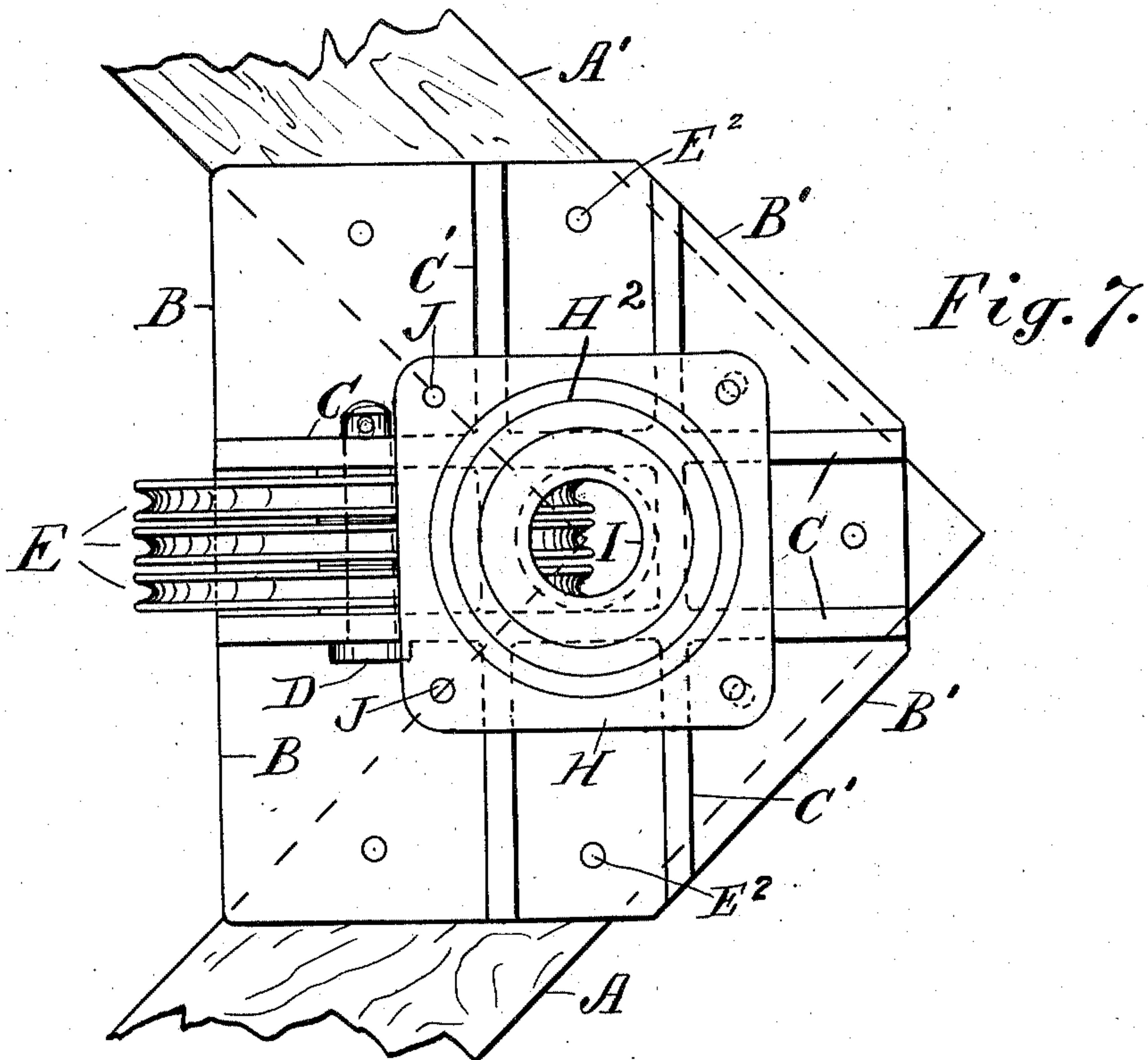
Inventor.
Asher Lambert, per
Thomas S. Crane, Atty.

967,203.

A. LAMBERT.
DERRICK PIVOT CONNECTION.
APPLICATION FILED NOV. 12, 1909.

Patented Aug. 16, 1910.

3 SHEETS—SHEET 3.



Witnesses:
L. Lee.
J. Walter Schaub.

Inventor.
Asher Lambert, per
Thomas S. Crane Atty.

UNITED STATES PATENT OFFICE.

ASHER LAMBERT, OF NEWARK, NEW JERSEY.

DERRICK PIVOT CONNECTION.

967,203.

Specification of Letters Patent.

Patented Aug. 16, 1910.

Application filed November 12, 1909. Serial No. 527,612.

To all whom it may concern:

Be it known that I, ASHER LAMBERT, a citizen of the United States, residing at 1 Johnson avenue, Newark, county of Essex, and State of New Jersey, have invented certain new and useful Improvements in Derrick Pivot Connections, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

This invention relates to that class of derrick in which a post is supported at the top by guys or braces and has a jib jointed thereto to be raised and lowered by suitable hoisting apparatus, the jib also supporting the hoisting-pulley, and the ropes for operating the jib and the hoisting-pulley being carried through the lower pivot of the post and thence horizontally over a sheave-pulley so as to operate freely when the post is turned in various directions by its bull-wheel. The post in the present invention may be made of solid wood as the pivots are at one side of the post so that the hoisting-ropes are not required to pass through the post at any point.

The invention furnishes an improved construction for the pivot-pin at the top of the post which makes the pin readily renewable and provides it with a wearing sleeve where the eyes of the braces fit upon it. The sleeve is preferably made long enough to receive the eyes of three braces and has a reversible collar upon the top adapted to cover the upper third of the sleeve when only two braces are applied thereto.

The invention also provides an improved metal base to support the post which renders the bottom sheave-pulley more accessible by placing it above the sills instead of between them, as is common; and such base is provided with a step which is removable and renewable when worn or cracked.

The invention will be understood by reference to the annexed drawing, in which—

Figure 1 is an elevation of a derrick provided with the improvement; Fig. 2 is a plan of the upper pivot-attachments; Fig. 3 is a side view of the same parts with the sleeve, the eyes and collar upon the pivot-pin in section at the center line where hatched; Fig. 4 is a front view of the pivot-attachments with the collar upon the pivot-pin adjusted to receive two eyes; and Fig. 5 shows the upper end of the pivot-casting and

pivot-pin with the collar reversed to receive three eyes. Fig. 6 is a front view of the pivot-casting and the pin laid therein. Fig. 7 is a plan, and Fig. 8 a sectional elevation of the base and step for the derrick.

In Fig. 1, *a* designates the post, *b* the jib pivoted to the bottom of the same, and *c* one of the braces having an eye *d* fitted to the pivot-pin *e* on top of the post. The hoisting-sheave *f* is shown operated by a hoisting-rope *f'* and the jib is raised and lowered by a rope *g*. The fixtures for the pivot-pin *e* consist of a pivot-casting having a plate *h* fitted to one side of the post *a*, and an extension *i* of such plate resting upon the top of the post. The plate also has flanges *h'* embracing opposite corners of the post. A grooved seat is formed upon the face of the plate *h* to receive one side of the pin *e*, and a grooved cap is fitted to the outer side of the pin and provided at its upper end with bolting lugs *l* having bolts *m* extended through the same into the plate *h*. The heads of these bolts are sunk in recesses *m'* upon the inner side of the said plate. The lower part of the cap is unprovided with bolting-lugs but is provided with a projecting lug *n* having flat sides to receive two frame-bars *n'* which carry the sheave *o* for the jib hoisting-rope *g*. A bolt *p* is inserted through the frame-bars *n'* and the lug *n*, and secured by linch-pins *p'* or other suitable means. A staple-bolt bent into U-shape with a loop *q* at one end, and two legs *q'* is fitted through holes extended transversely through the lug *n* above and below the bolt *p*, and through-holes *e'* in a pivot-pin *e*, holes *q²* in the plate *h* and holes *a'* in the post, the legs *q'* of this staple-bolt projecting sufficiently from the post for the application of a washer-plate *r* and nuts *s*. Bolts *t* are also inserted through the plate *h* and the posts to lock the pivot-casting securely thereto. The loop of the staple-bolt surrounds the metal through which the sheave-bolt *p* is extended and thus strongly supports such bolt, while it also secures the pivot-pin in place, by clamping the cap firmly to the post and by its penetration through the pivot-pin. This connection of the pivot-pin to the pivot-casting permits the pin to be firmly secured without boring any socket in the casting or turning the pin to fit therein, and thus permits the pin to be made and fitted

to the casting very cheaply. To prevent wear of the pin and thus avoid its renewal, it is provided above the top of the pivot-casting with a bushing *u* which is preferably made of steel-tubing slipped over the pin, and of sufficient height to receive more than two of the eyes *d*, *d'*, in case three braces are desired. The sectional view in Fig. 3 clearly shows this construction, with a collar *v* fitted removably to the top of the pin and held in place by a through-bolt *v'*. The collar is formed upon one end with an annular socket or recess *w* adapted to cover one-third of the sleeve *u*. When the recessed end of the collar is fitted over the sleeve as shown in Figs. 3 and 4, the sleeve is exposed sufficiently to receive two of the brace-eyes *d*, *d'*, but the collar may be reversed as shown in Fig. 5, thus throwing the socket upward and exposing all of the sleeve so as to receive three braces, as shown in that figure.

The base for the bottom of the posts consists of a ribbed box-casting having a foot *B* fitted to the tops of two angularly arranged sills *A*, *A'*, shown in Figs. 1 and 7, which sills are united at a right angle below the post and extended backwardly to receive the feet of the braces *c*. The base has the two sides *C* of the box extended upwardly from the foot to carry the horizontal pivot *D* of the sheave-pulleys *E* which guide the derrick-ropes. The sides lie close to the sheaves so as to stiffly support their pivot *D*. A seat *F* is cast on top of the side-plates *C* and is formed with a central rope-aperture *G*. The inner edges of the sheaves lie beneath such aperture as shown in Fig. 7. A step *H* is fitted to the seat and has a boss *H'* to center it in the aperture *G*, and the socket *H²* to receive the lower pivot of the post. The step has a center opening *I* for the passage of the ropes. The bolts *J* secure the step detachably upon the top of the base, which permits the removal and renewal of the step when required. The base has upright stiffening ribs *C'* at the sides of the plates *C*, and its foot *B* has flanges *B'* fitted to the outer edges of the sills *A*, *A'*, to resist the side thrust of the post, and the foot is also secured to the sills by bolts *B²*.

It has been common to support the step upon two adjacent beams resting upon the sills, with side-plates extending downward from the step to carry the pivot of the sheaves; but in such case the contiguity of the two beams to the side-plates prevents access to the pivot of the sheave-pulleys, and thus renders it impossible to remove or renew them without taking down the derrick. With the improved base shown in Figs. 7 and 8, the pivot of the sheaves is located above the sills and can be readily removed so as to renew the sheaves when required, to lubricate the same, or to renew them when

either the pivot or the sheaves are worn. This construction also makes the step detachable from the side-plates which carry the sheave-pulleys, and thus enables the step, which is liable to rapid wear, to be renewed without renewing the side-plates or any other parts of the base. It also preserves the adjustment of the base and sheave-pulleys upon the sills, as neither requires to be disturbed or detached when renewing the step.

Having thus set forth the nature of the invention what is claimed herein is:

1. The combination, with a central derrick-post, of a pivot-casting secured upon one side of the same at the top and having a vertical groove, a pivot-pin fitted to such groove, and a cap secured upon the pivot-casting to hold such pin detachably in place.
2. The combination, with a derrick-post, of a pivot-casting secured upon one side of the same at the top and having a vertical groove, a pivot-pin fitted to such groove, a grooved cap secured to the pivot-casting over the pin and provided with a sheave-frame bolt for the attachment of a sheave-frame, and a staple-bolt having its legs extended through the cap, the pivot-pin, the pivot-casting and the post, and its loop embracing the sheave-pin lug.
3. The combination, with a derrick-post, of a pivot-casting secured upon one side of the same at the top and having a vertical groove therein, a pivot-pin *e* fitted to such groove, a grooved cap fitted over the pin and having bolt-lugs *l* upon its upper part and flattened upon its lower part to form a lug *n* for a transverse sheave-frame bolt, the bolt *p* inserted through such lug, with the sheave-frame *n'* jointed thereon, and the staple-bolt having its legs *q'* extended through the lug, the pivot-pin, the pivot-casting and the post, with washer and nuts upon their ends, the loop of the staple-bolt embracing and strengthening the lug where the transverse sheave-frame bolt is inserted.
4. The combination, with a derrick-post, of a pivot-casting secured upon one side of the same at the top, a pivot-pin secured detachably upon the outer side of such casting, and a wearing sleeve fitted to such pivot-pin above the top of the casting.
5. The combination, with a derrick-post, of a pivot-casting secured upon one side of the same at the top, a pivot-pin secured detachably upon the outer side of such casting, a wearing sleeve fitted to such pivot-pin above the top of the casting of suitable length to receive the several eyes upon the braces for the post, and a reversible collar secured detachably upon the pin above the sleeve and having a socket to embrace a part of its length.
6. The combination, with a derrick-post, of a step, and a metallic base separate from

the step and adapted to support the step above the sills and having a pivot above the sills for the pulley-sheaves.

7. The combination, with a derrick-post
5 and sills jointed beneath the bottom of the same, of a base having a foot B to rest upon the sills at their junction with flanges B' adapted to embrace the outer edges of the sills, side-plates C having the pivot D with
10 pulley-sheaves journaled upon the same be-

tween the side-plates, and the seat F upon the side-plates with the step H secured detachably thereon by bolts J.

In testimony whereof I have hereunto set my hand in the presence of two subscribing 15 witnesses.

ASHER LAMBERT.

Witnesses:

THOMAS S. CRANE,
ROBT. L. HATFIELD.