

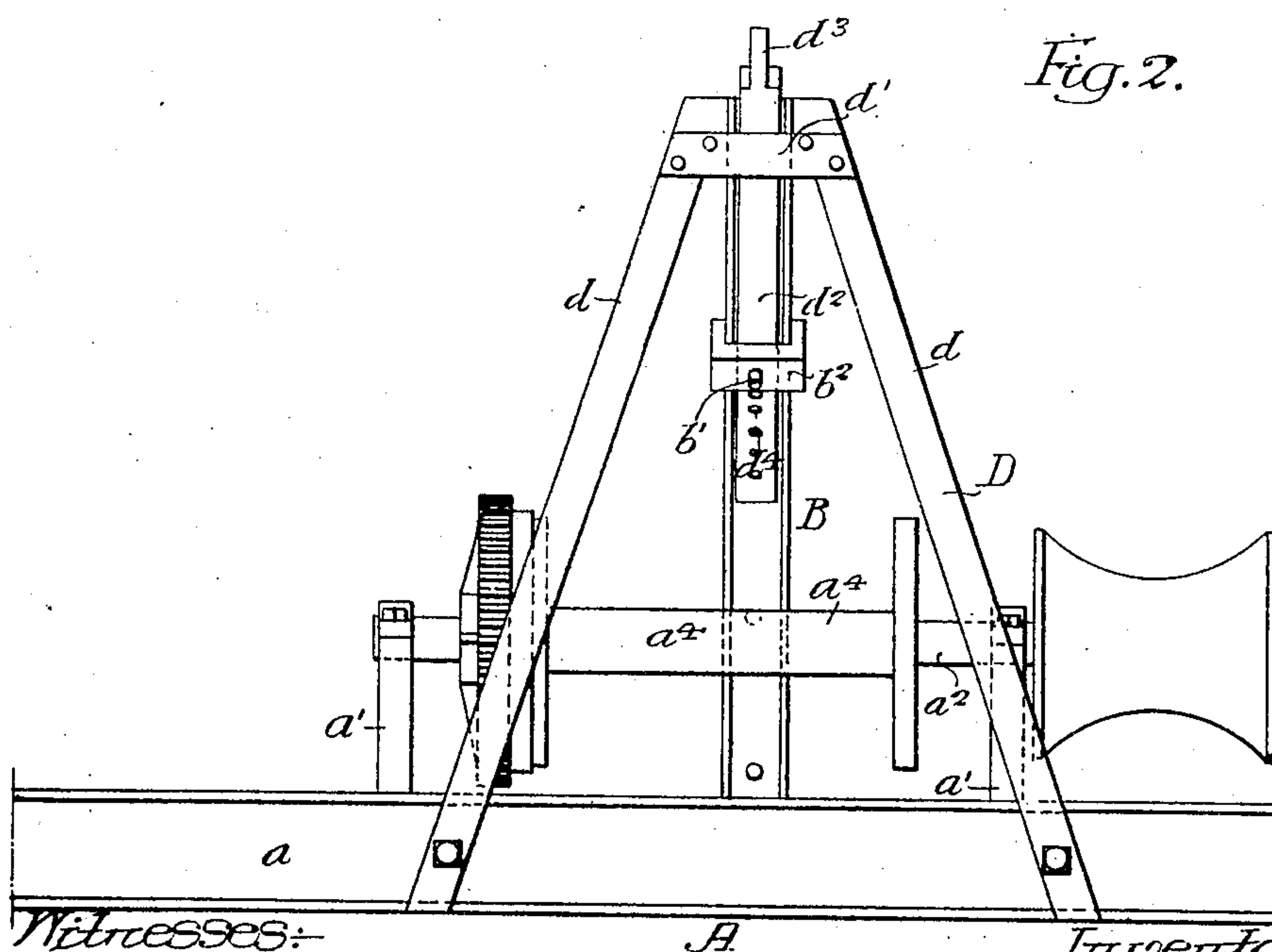
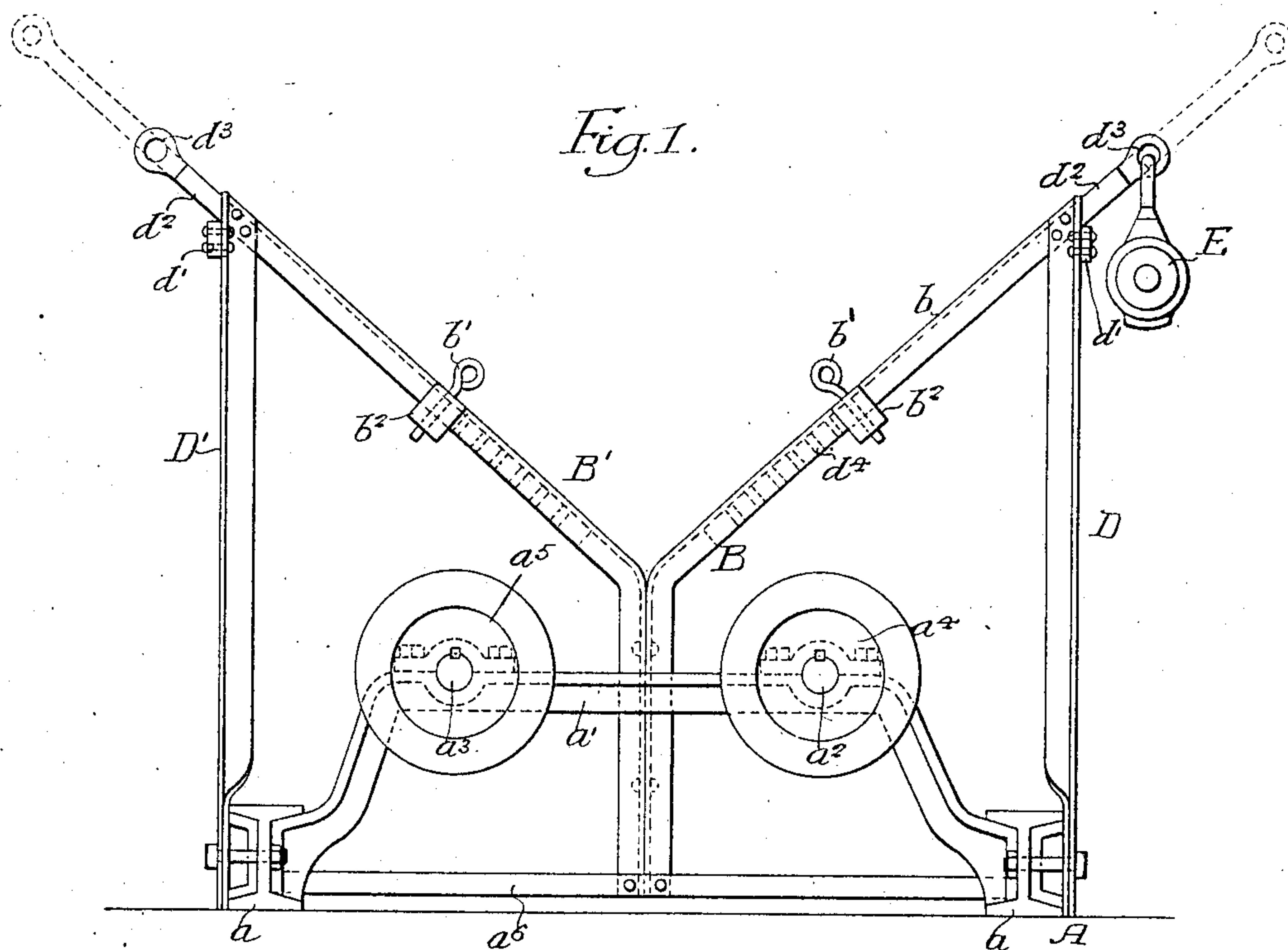
No. 882,311.

H. A. HETTINGER.  
DERRICK.

PATENTED MAR. 17, 1908.

APPLICATION FILED MAY 17, 1907.

3 SHEETS—SHEET 1.



Witnesses:

Willa A. Burrows  
Augustus B. Coppes

Inventor.  
Henry A. Hettinger  
by his Attorneys,  
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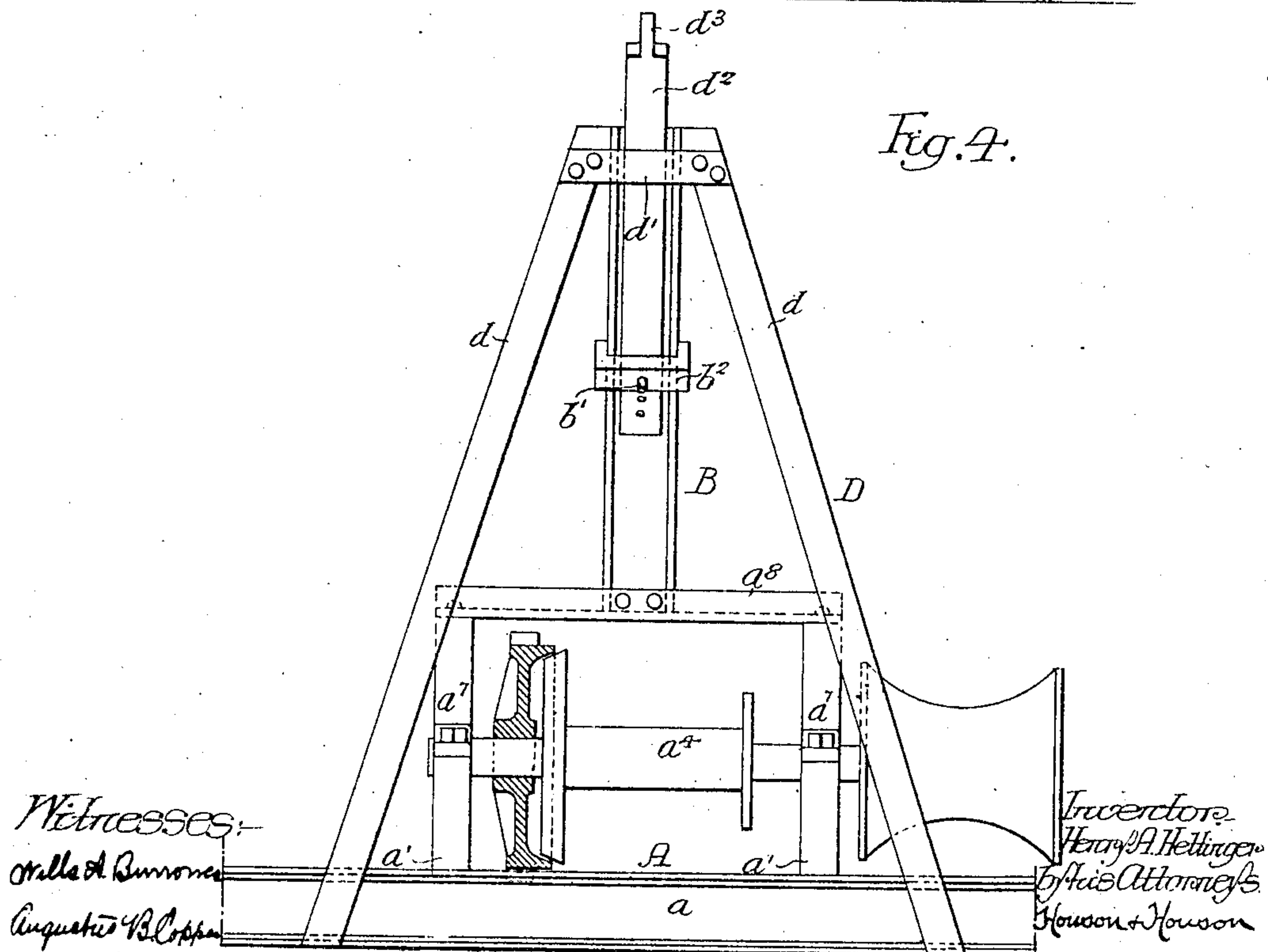
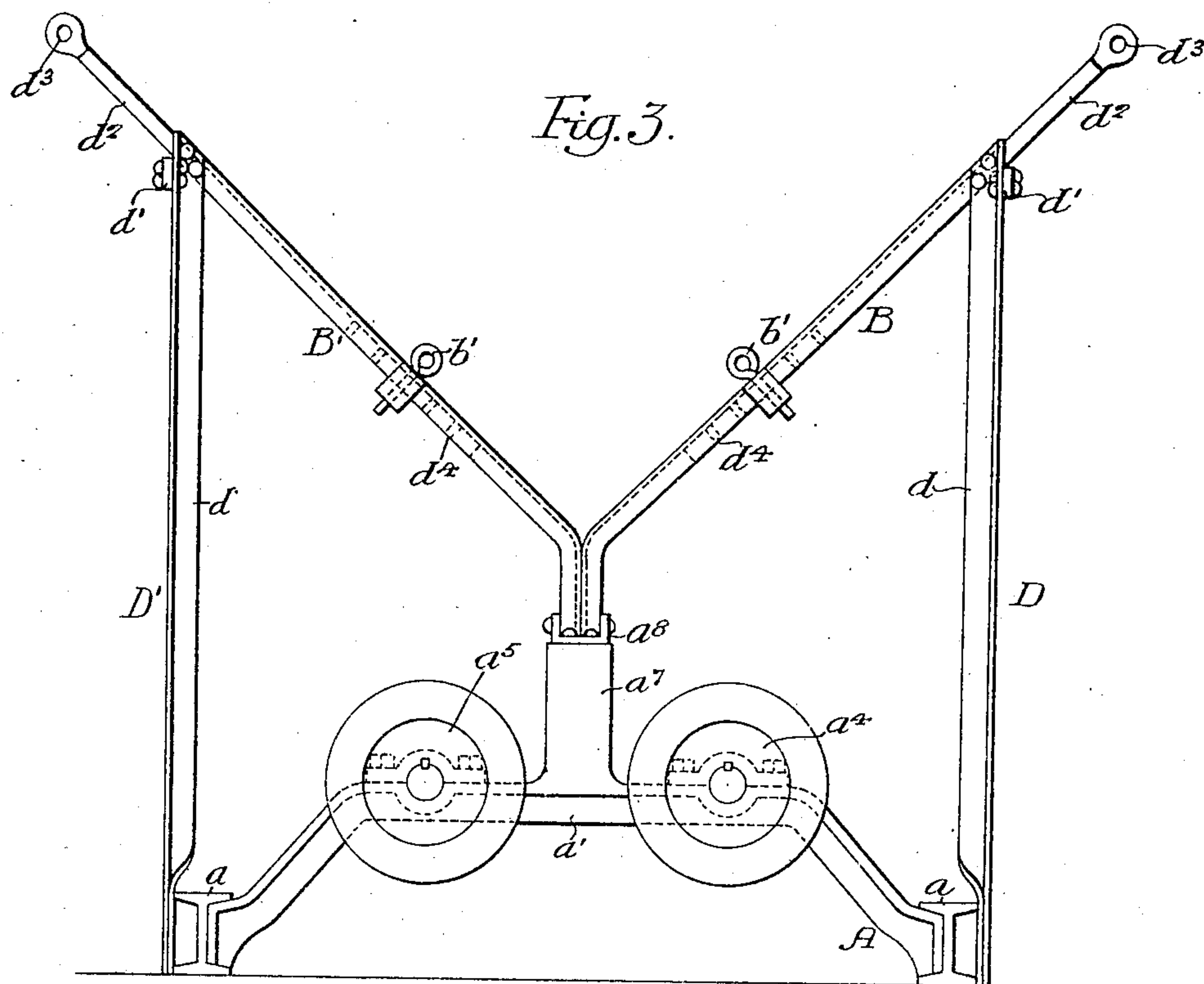
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3 SHEETS—SHEET 2.



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3 SHEETS—SHEET 3.

Fig. 5.

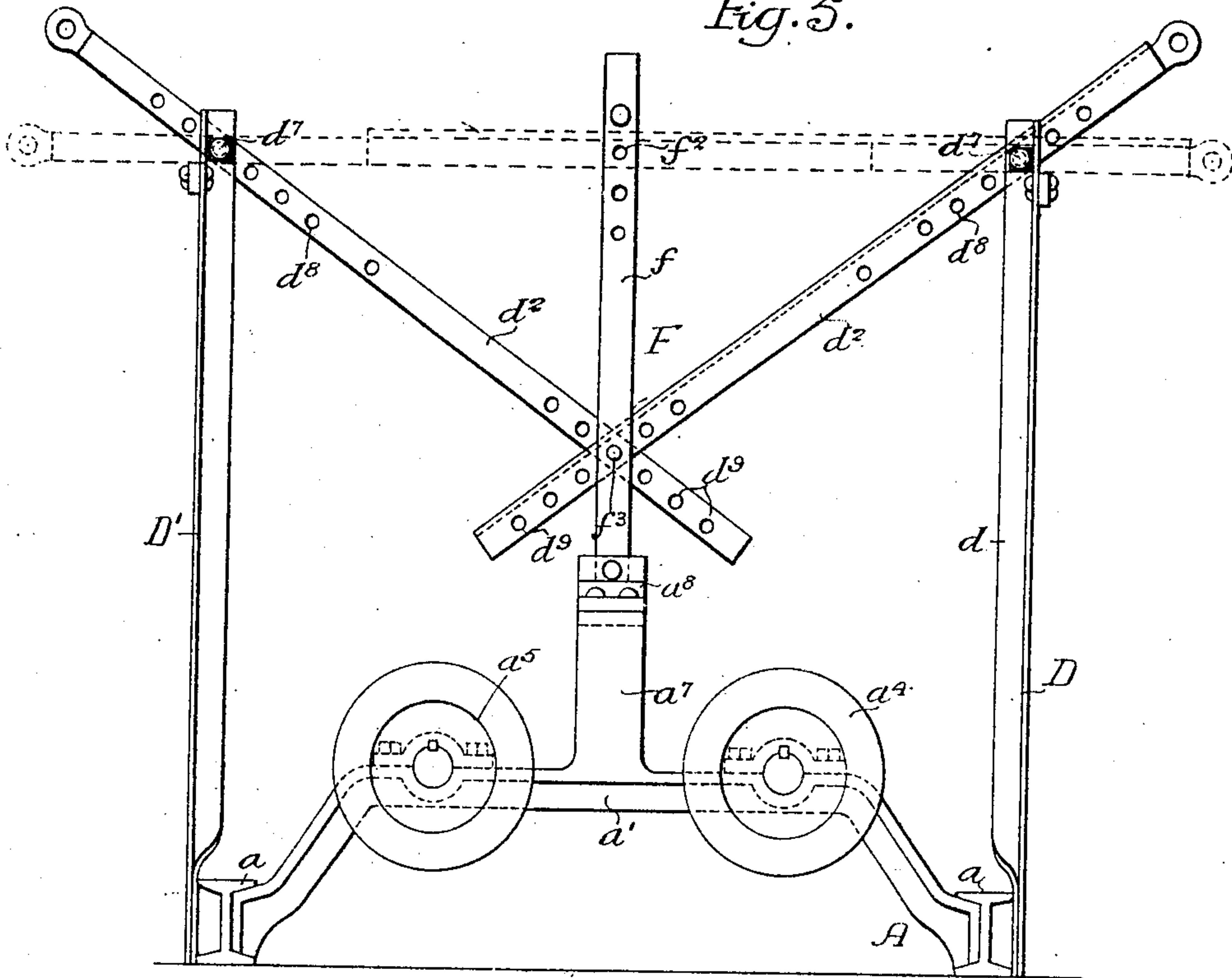
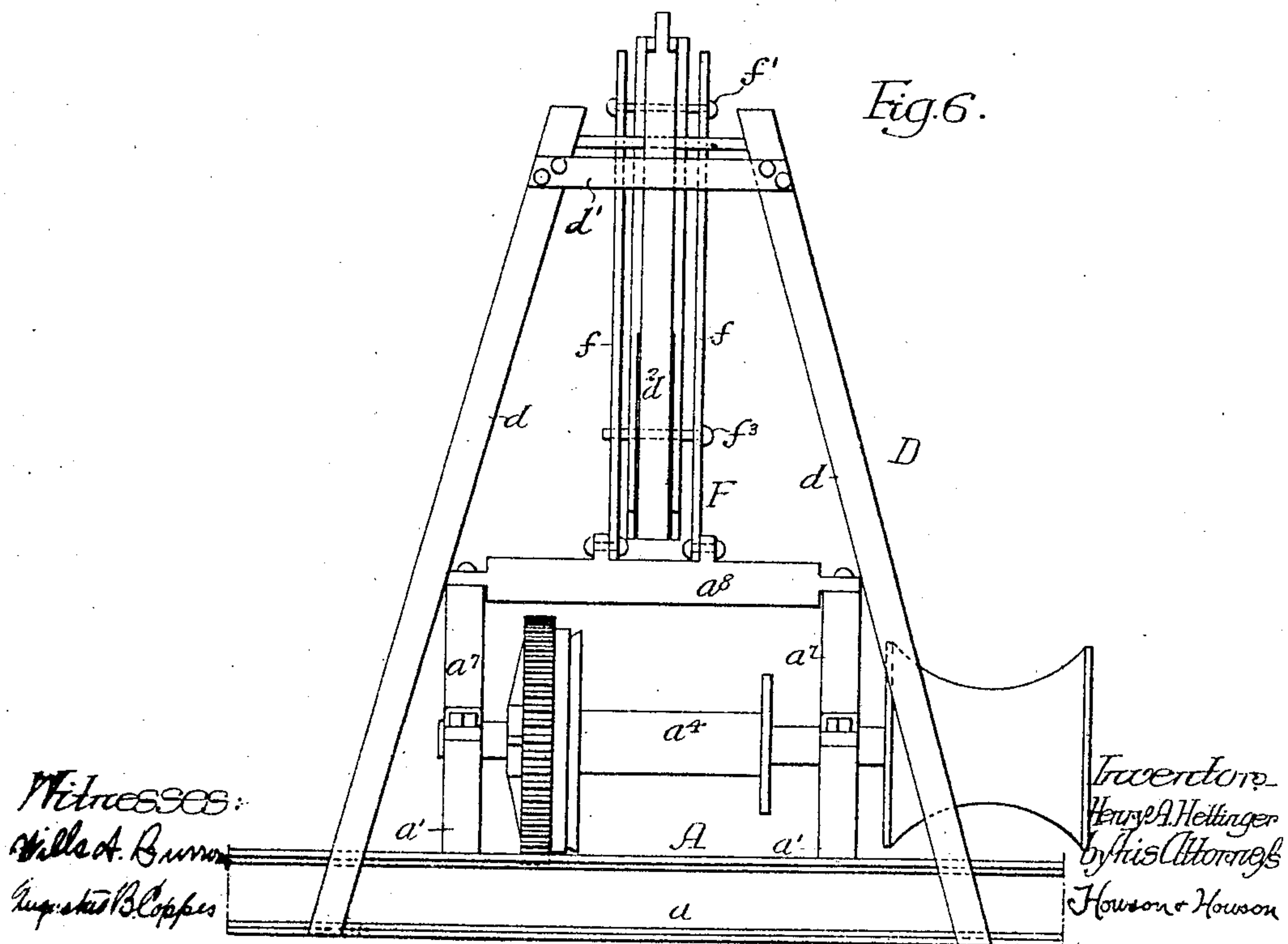


Fig. 6.



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# UNITED STATES PATENT OFFICE.

HENRY A. HETTINGER, OF BRIDGETON, NEW JERSEY.

## DERRICK.

No. 882,311.

Specification of Letters Patent.

Patented March 17, 1908.

Application filed May 17, 1907. Serial No. 374,234.

*To all whom it may concern:*

Be it known that I, HENRY A. HETTINGER, a citizen of the United States, residing at Bridgeton, in the county of Cumberland, State of New Jersey, have invented certain Improvements in Derricks, of which the following is a specification.

One object of my invention is to provide a novel form of frame work arranged to form a derrick particularly adapted for use on small sailing vessels, which shall have its parts so arranged that while giving the necessary support for a hoisting block or blocks, shall not interfere with any part of the sailing gear of the vessel.

A further object of the invention is to provide a derrick with an adjustable block-supporting arm or arms for suspending a pulley block at the point where this latter will most efficiently perform the work for which it is designed; the supporting structure for the arm or arms being so designed as to permit the same being moved when not in use, so that it will not interfere with the boom of the vessel upon which this particular type of derrick is ordinarily used.

It is also desired to provide a derrick having the above noted characteristics which shall be relatively inexpensive to construct and yet strong and compact.

These and other advantageous ends I attain as hereinafter set forth, reference being had to the accompanying drawings, in which:—

Figure 1, represents an end elevation of the preferred form of my invention; Fig. 2, is a side elevation of the structure shown in Fig. 1; Figs. 3 and 4, are respectively end and side elevations of a modified form of my invention in which the adjustable members are connected to their supporting structure by inclined arms mounted on a cross bar extending above the winding drums, and Figs. 5 and 6, are respectively end and side elevations of another modification of my invention in which the adjustable members are pivoted to their supporting frames.

Referring to Figs. 1 and 2 of the above drawings, A represents the main frame of a derrick, which in the present instance consists of a pair of parallel side members  $a$  formed of structural sections such as I-beams. These are connected together by and serve as supports for, two castings  $a'$  provided with bearings for the reception of shafts  $a^2$  and  $a^3$ , respectively carrying wind-

ing drums  $a^4$  and  $a^5$  and also winch heads as shown. These shafts are driven and controlled in any desired manner and may be of any suitable construction. Extending between the side members  $a$  of the frame, is a transverse member  $a''$  to which are rigidly attached a pair of upwardly extending members B and B'. These in the present instance consists of lengths of channel iron, which after extending to some point above the winding drums, are bent away from each other each at an angle of about  $45^\circ$  to the perpendicular; the upper end of each member being rigidly connected to side frames D or D', as the case may be. Each of these side frames, as shown in Fig. 2, consists of two lengths  $d$  of angle iron bolted to one of the side members  $a$  and inclined toward each other; their upper ends being held together by a cross bar  $d'$  to which is rigidly connected, as before noted, the inclined portion of one of the members B or B'. These two members B and B', where they extend adjacent to each other, are bolted together or otherwise rigidly connected, and in addition each of them is provided with an extensible arm  $d^2$  having an eye  $d^3$  at its upper end for the reception of the hook of the pulley block. Both of said members B and B' have holes  $b$  for the reception of pins  $b'$ ; there being mounted upon each member and adjacent to this hole a yoke piece  $b^2$  also having in it a hole into which the pin  $b'$  may be extended. Each adjustable arm  $d^2$  has a number of holes  $d^4$  and it is obvious that it may be moved in its supporting member B or B' so as to project beyond the frame D to a greater or less extent, being maintained in any desired position by the pin  $b'$ .

When the derrick is not in use, the arms  $d^2$  are moved into their innermost positions, with the pulley block E suspended immediately adjacent to the supporting frames D or D', and as a consequence there is no interference with the swinging of the vessel's boom, inasmuch as the various parts are designed to be below this when in the positions shown in the figures. Under operating conditions, however, when the derrick is being used, the boom is out of the way, and the arms  $d^2$  are projected into their outer position so as to support their pulley blocks at a greater distance above the deck and also nearer the sides of the vessel.

In some instances I may construct the device as shown in Figs. 3 and 4, in which up-



ward extensions  $a^7$  are provided in the castings  $a'$ ; there being a cross bar  $a^8$  extending between and connecting the tops of these parts. In this case, the vertical portions of the parts B and B' are each shorter than in the case illustrated in Figs. 1 and 2, since they rest upon and are rigidly connected to the cross bar  $a^8$ . As previously described, each of these parts has an adjustable arm  $d^2$  arranged and constructed as noted.

In the case illustrated in Figs. 5 and 6, I mount upon the cross bar  $a^8$  a vertical frame F consisting of two bars  $f$  connected at intervals by a cross bolt  $f'$ ; these bars being provided with a number of holes  $f^2$  placed at intervals along their length. The adjustable arms  $d^2$  are in this instance provided with two series of horizontally extending holes  $d^8$  and  $d^9$  and are so arranged that both of them may be pinned in any adjusted position to the vertical member F, by means of a removable bolt or pin  $f^3$ , each of them being also held to the member  $d$  of its supporting frame D or D' by means of a removable bolt or pin  $d^7$ .

In Fig. 5, it will be seen that a wide range of adjustment may be given the arms both as regards the amount of their extension beyond the frames and also as regards the height of their outer ends. When the derrick is out of use they are drawn inwardly as far as desired and are pinned to the vertical member F in the substantially horizontal position noted in the dotted lines.

I have found the above described adjustable derrick particularly adapted for use on oyster boats, where it is especially advantageous to provide means for supporting a pulley block adjacent to and some distance above, the sides of the deck, and yet at the same time necessary that such a device shall not interfere with the handling or operation of the boom.

I claim:—

1. The combination of a pair of hoisting drums, a frame therefor, and a derrick mounted on said frame, said derrick consisting of two substantially vertical structures respectively mounted on said frame outside of the drums, a third structure supported by the frame in a vertical plane between the drums, and arms carried by said structures for the reception of pulley blocks, said arms being adjustable to vary the amount of their projection beyond one of said structures, substantially as described.

2. The combination with two hoisting drums, of a frame therefor, and a derrick mounted on said frame, said derrick consisting of two substantially vertical structures mounted on the frame on the outer sides of the drums, and a member connected to the

frame at points lying in a plane between the drums and arms adjustably mounted on said structures for the reception of pulley blocks, substantially as described.

3. The combination with two hoisting drums of a frame therefor, and a derrick mounted on the frame, said derrick consisting of two substantially vertical structures connected to the frame, a third structure having its support located in a plane extending between the drums, and arms carried by said structures for the reception of pulley blocks, said arms being adjustable to vary the heights of their outer ends, substantially as described.

4. The combination of a hoisting drum having a supporting frame, and a substantially vertical frame connected to one side of said supporting frame on one side of said drum, a member mounted on the opposite side of the drum and extended from the drum to the upper part of the said vertical frame, with an adjustable block-holding arm mounted on said member, substantially as described.

5. The combination with a hoisting drum having a supporting frame, of a substantially vertical frame mounted on said supporting frame on one side of the drum, a member on the other side of the drum and also connected to the supporting frame, said member extending upwardly and then being inclined over the drum and upwardly to the upper portion of the vertical frame, with an arm adjustably mounted on said inclined portion of the member, and means for retaining said arm in any adjusted position, substantially as described.

6. The combination with a pair of hoisting drums, of a supporting frame therefor, a vertical frame at each side of said supporting frame, with two members between the drums and also attached to said supporting frame, said members being respectively inclined upwardly over the drums to the upper portions of the vertical frames, with an arm mounted on the inclined portion of each of said members and longitudinally adjustable to vary the distance of its outer end from the vertical frame, substantially as described.

7. In a derrick, the combination of A frames, a central upright post, and jibs diverging upward from the post and supported at the apexes of the frames, each of said jibs being formed of two extensible members.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

HENRY A. HETTINGER.

Witnesses:

CHAS. P. COREY,  
DAVID N. BOWEN.