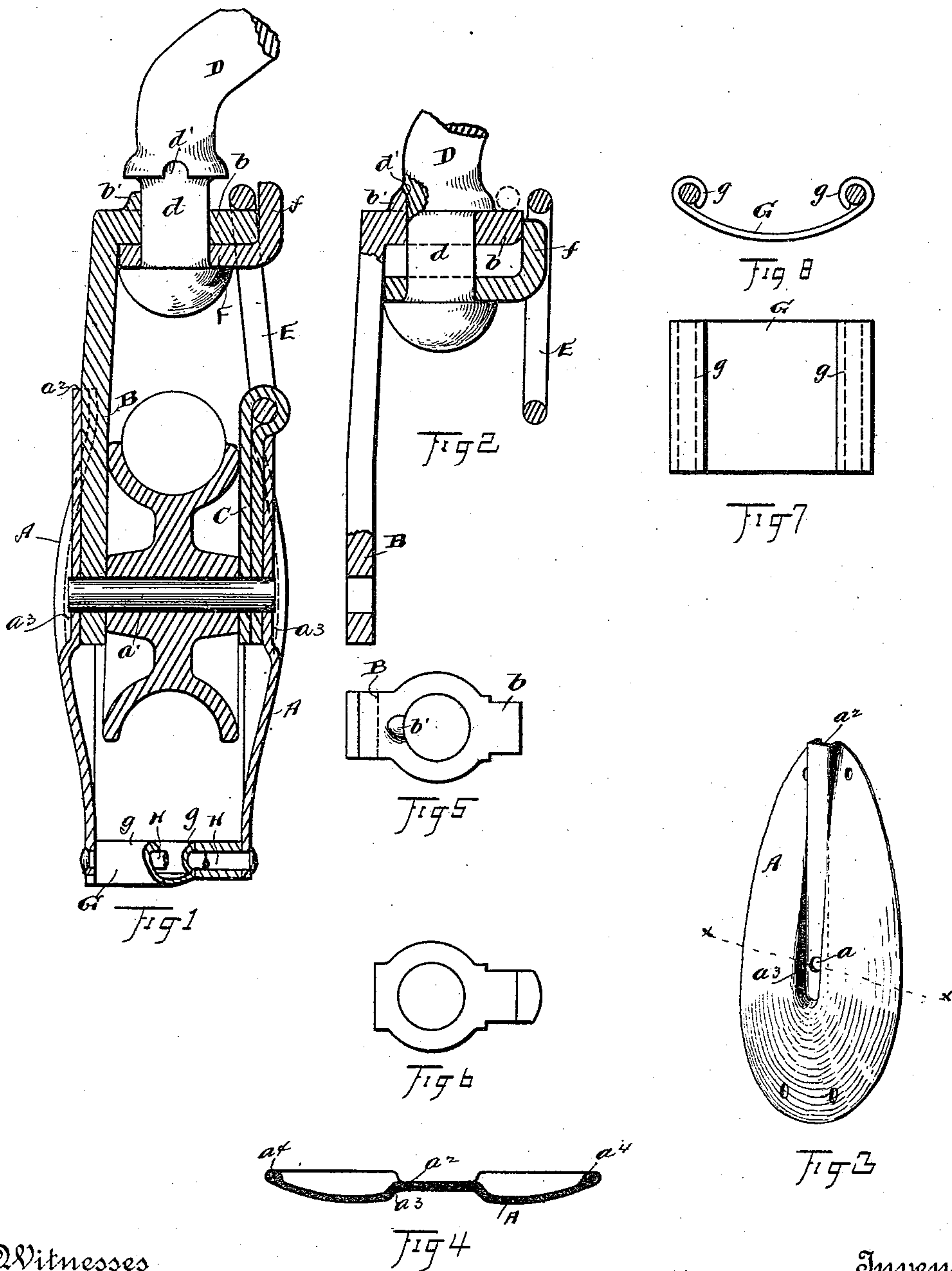


(No Model.)

H. V. HARTZ.  
SNATCH AND TACKLE BLOCK.

No. 442,679.

Patented Dec. 16, 1890.



Witnesses  
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# UNITED STATES PATENT OFFICE.

HENRY V. HARTZ, OF CLEVELAND, OHIO.

## SNATCH AND TACKLE BLOCK.

SPECIFICATION forming part of Letters Patent No. 442,679, dated December 16, 1890.

Application filed March 10, 1890. Serial No. 343,384. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY V. HARTZ, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Snatch and Tackle Blocks; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in snatch and tackle blocks; and the invention consists in the construction and combination of parts, substantially as shown and described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a central transverse section of a snatch-block constructed according to my invention, showing the several parts in operating position. Fig. 2 is a view on the same lines as in Fig. 1, showing the upper portion of the block with the parts in position to release the link. Fig. 3 is a detail of one of the cheek-pieces; and Fig. 4 is a central section on line  $x x$ , Fig. 3. Fig. 5 is a plan view of the hook-strap, and Fig. 6 is a plan view of the washer or locking-plate which confines the link. Fig. 7 is a plan view, and Fig. 8 an edge view, of the connecting-piece interposed between the cheek-pieces in the lower portion of the block.

Several novel features appear in this case, among which is the construction of the cheek-pieces A. These pieces, it will be seen, are concavo-convex in form and have flat straight bearing-surfaces for the side straps B C, extending down past the openings  $a$  therein for the sheave-spindle  $a'$ . To form these flat surfaces the pieces are reversely channeled. Thus there is a short channel  $a^2$  on the inside of the cheek-piece extending inward from the top edge till it feathers out on the curved portion of the cheek, and then begins the reverse channel  $a^3$  on the outside, having sufficient depth to bring the material inside on a plane with channel  $a^2$ , thus evening the surface against which the side straps B C rest. The spindle  $a'$  passes through holes in the ends of said straps and the cheek-pieces and is secured in any approved way. Thus it will

be seen that said straps connect immediately with the sheave-spindle instead of with the cheek-pieces, as is commonly done, which enables me to employ much lighter cheek-pieces than would be possible if connected directly to said pieces and to effect a great saving in weight, while I have the maximum of strength and durability of service of which the side straps B C and their connections are capable independent of the cheek-pieces. The cheek-pieces are of course greatly strengthened in cross-section by the channels formed therein, and this strengthening is further increased by upsetting the edge of said pieces, as seen at  $a^4$ , thus making a very strong plate, while at the same time it is exceedingly light.

A further advantage of upsetting the edge of the cheek-piece is the rounding thereof, as shown, whereby the rope or cable is protected from wear when it comes in contact with said edge, and there is no sharp or rough edge anywhere to scrape or scratch over a floor and injure the same.

A further object of the invention is to provide convenient means for locking and unlocking the parts; and to this end the hook-strap B is provided with a right-angled portion  $b$  at its top, in which the hook D is swiveled. Upon the opposite side is a short side strap C, formed with an eye, in which is pivoted the link E, that closes the side opening in the block and completes the connection upon that side.

F is a washer-plate provided with an upturned hook  $f$  at its outer extremity, adapted to pass above the edge or end of the horizontal portion  $b$  of the hook-strap, and the inner portion of the washer plate or piece has an opening for the passage of the shank  $d$  of the hook D. This shank  $d$  is, say, half an inch, or thereabout, longer than the combined thickness of the two plates through which it passes, and at one side in the overreaching portion of the shank is a small recess or cavity  $d'$ , and on the strap B, by the side of the opening for the hook-shank, is a projection or lug  $b'$  to match the recess or cavity  $d'$ . These parts are about one-fourth of an inch high, or thereabout, while the part of hook or projection  $f$  on washer-piece F which extends above the plane of the part  $b$  and the axial



play of the shank  $d$  correspond, substantially, in length. Thus it occurs that there may be slack on the block and the said parts more or less relaxed without danger of the link E becoming disengaged. How these parts operate when thus constructed is clearly shown in Figs. 1 and 2. Thus in Fig. 1 they are shown in operating position, and it is obvious that the parts cannot become disengaged though the hook is idle unless it happens, perchance, that the lug  $b'$  and cavity  $d'$  register and permit the parts to drop to the relation seen in Fig. 2, which is the position to which they are necessarily brought to disengage link E; but obviously the parts  $b'$  and  $d'$  are small, and in the ordinary handling of the block experience shows that accidental disengagement is not liable to occur and that there is no annoyance or trouble on this account; yet, when desired, the hook D can easily and quickly be turned by hand, so as to effect the desired registration of  $b'$  and  $d'$ , and thus instantly release the link E. Of course the positions of the lug  $b'$  and the cavity  $d'$  may be reversed, and equivalent or modified means may be substituted for these parts. At their lower portion the cheek-pieces are united by connecting-plates G, having eyes  $g$  at the ends for the passage of the binding bolts or rivets H. These plates are formed in dies to the desired shape, and in the case of tackle-blocks may be used at both ends of the block and are formed out of plain straight pieces of suitable metal in such way as to require no hand-work in their production or attachment, which works considerable saving in time and expense over the old method.

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

1. A pulley-block having concavo-convex cheek-pieces provided with flat seats for the supporting - straps, with the straps and the sheave, substantially as described.

2. A pulley - block provided with cheek-pieces formed of thin sheet metal and having their edges upset and rounded, substantially as described.

3. In a block, concavo-convex cheek-pieces consisting of thin sheets of metal having their edges upset and formed with flat seats for the side straps extending from about the sheave-spindle to the edge, in combination with the sheave-spindle and the side straps connected with said spindle and occupying said seats, substantially as described.

4. A snatch-block having a hook-strap at one side and a hook swiveled in the strap, and a strap and link on the other side, the link being adapted to engage on the horizontal portion of the hook-strap, and a washer-plate having its outer end extending above the horizontal portion of the hook-strap, substantially as described.

5. In a snatch-block, the hook-strap and the washer-plate adapted to extend above the end of the horizontal portion of said strap, a link confined by the right-angled portion of said plate, and a swiveled hook having limited axial play in said parts, substantially as described.

6. In a snatch-block, a swiveled hook and a suitable bearing for the shank of the hook, one of said parts provided with a projection and the other with a cavity to receive said projection, substantially as described.

7. In a snatch-block, the side straps, a link pivoted on one of said straps, a hooked washer to confine said link, and a hook swiveled in said block and having a shank axially adjustable therein, substantially as described.

8. In a snatch-block, the hook-strap B, having projection  $b$ , the washer-plate F, and the hook D, having the cavity  $d'$ , substantially as described.

9. In a block, the cheek-pieces and a connecting-piece between said cheek-pieces having eyes formed in its ends and bolts or rivets to bind the parts together, substantially as described.

Witness my hand to the foregoing specification this 6th day of March, 1890.

HENRY V. HARTZ.

Witnesses:

H. T. FISHER,  
N. S. McLANE.