

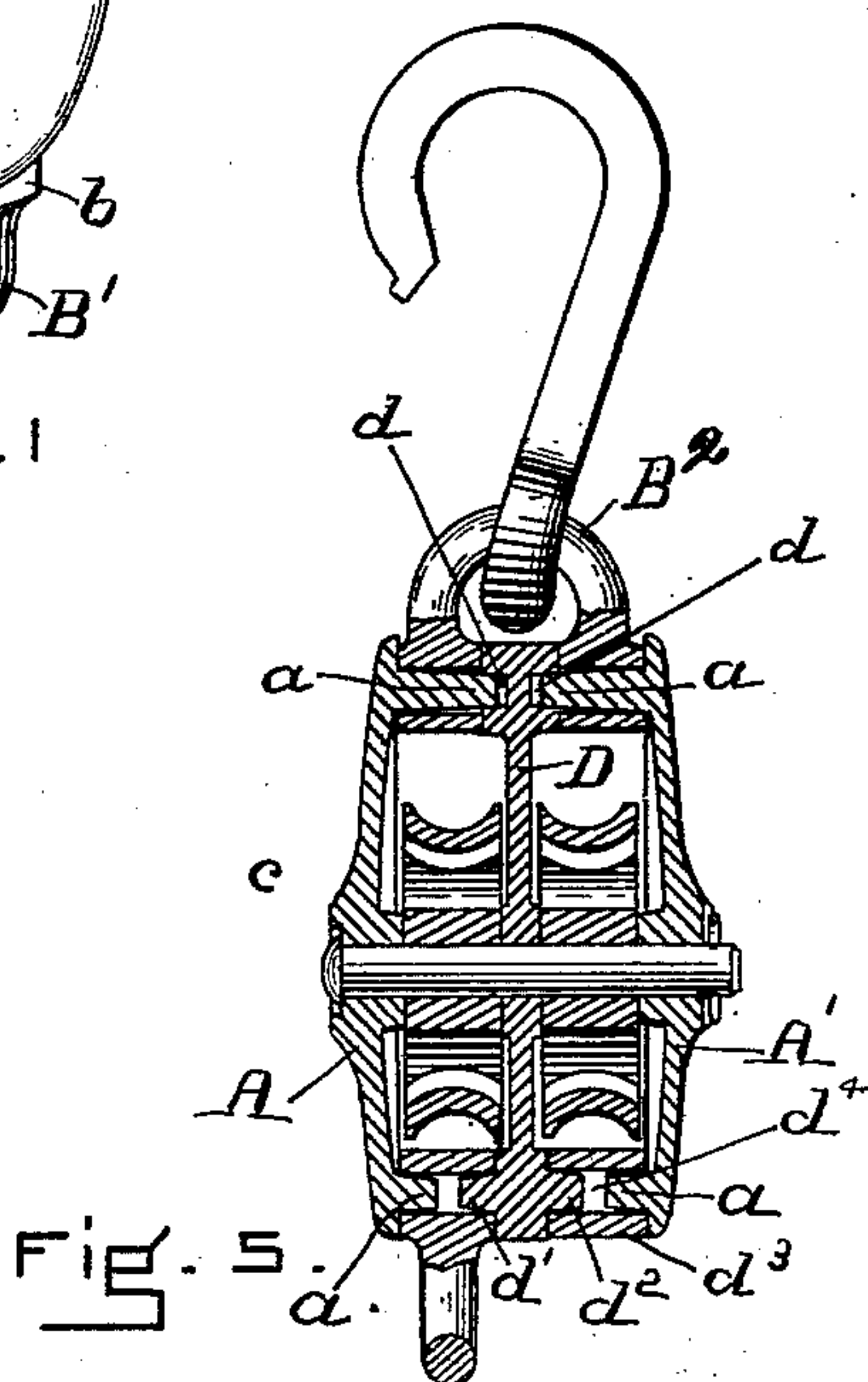
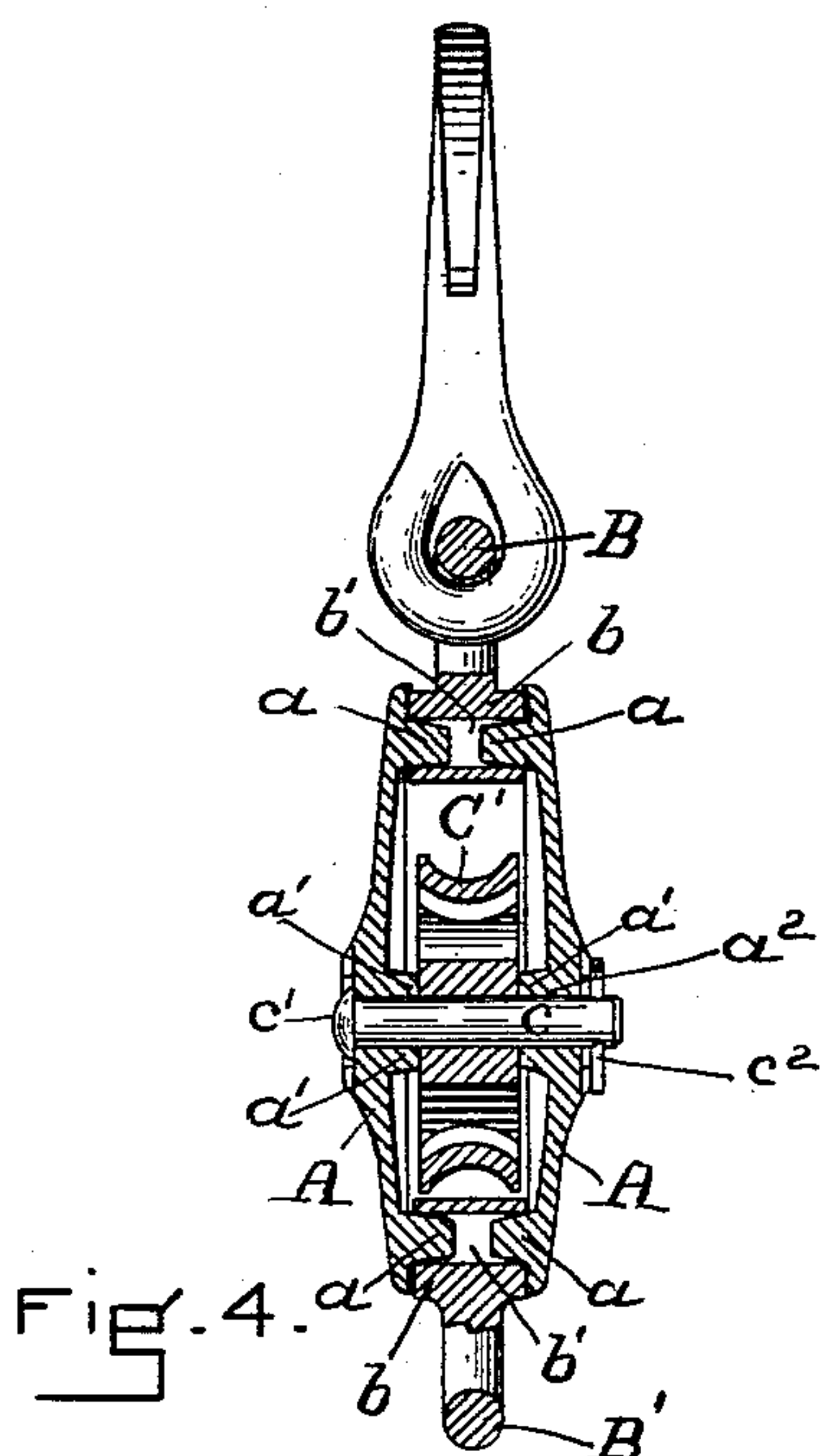
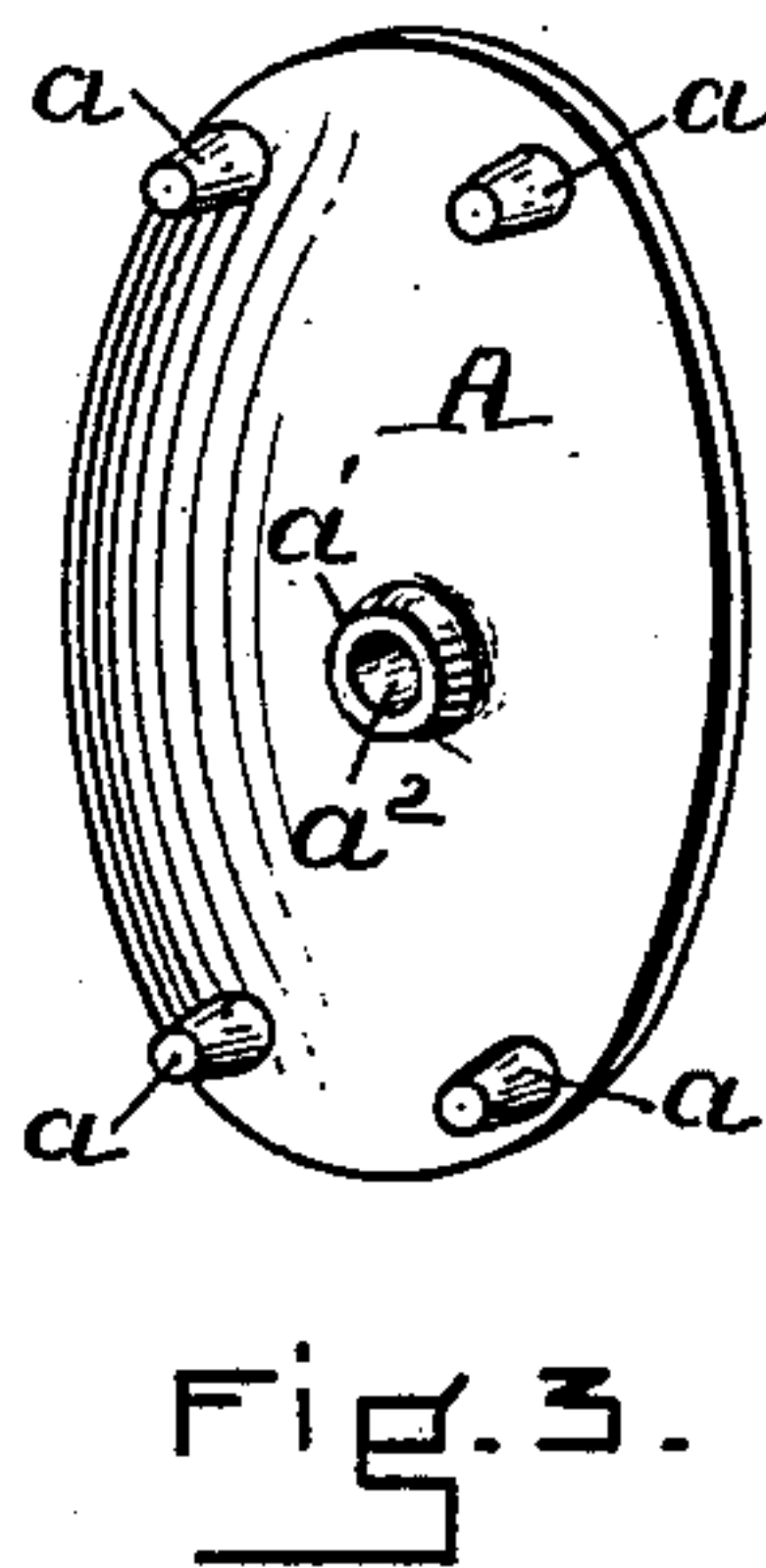
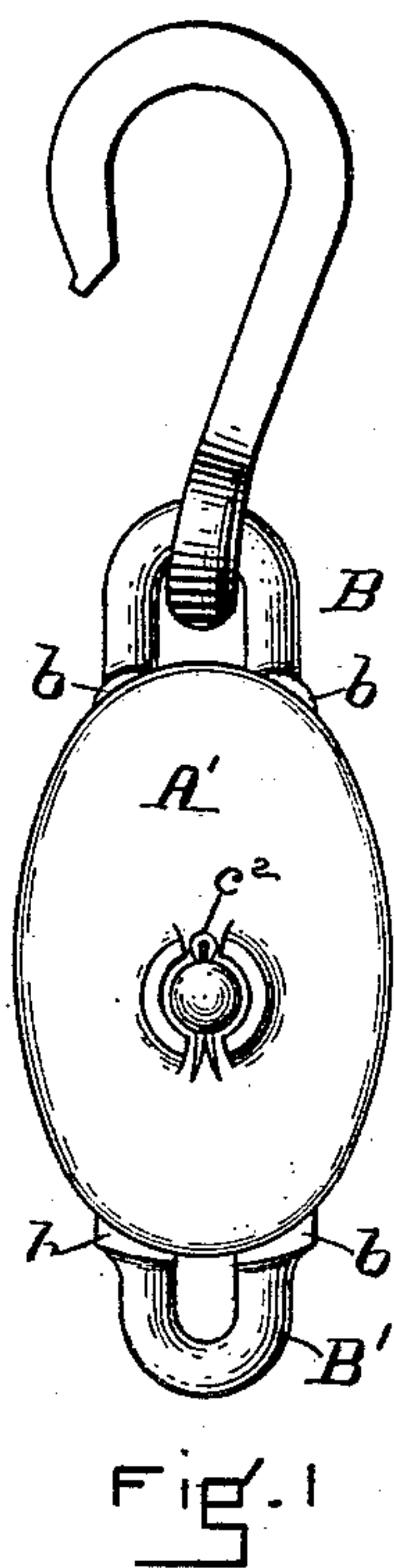
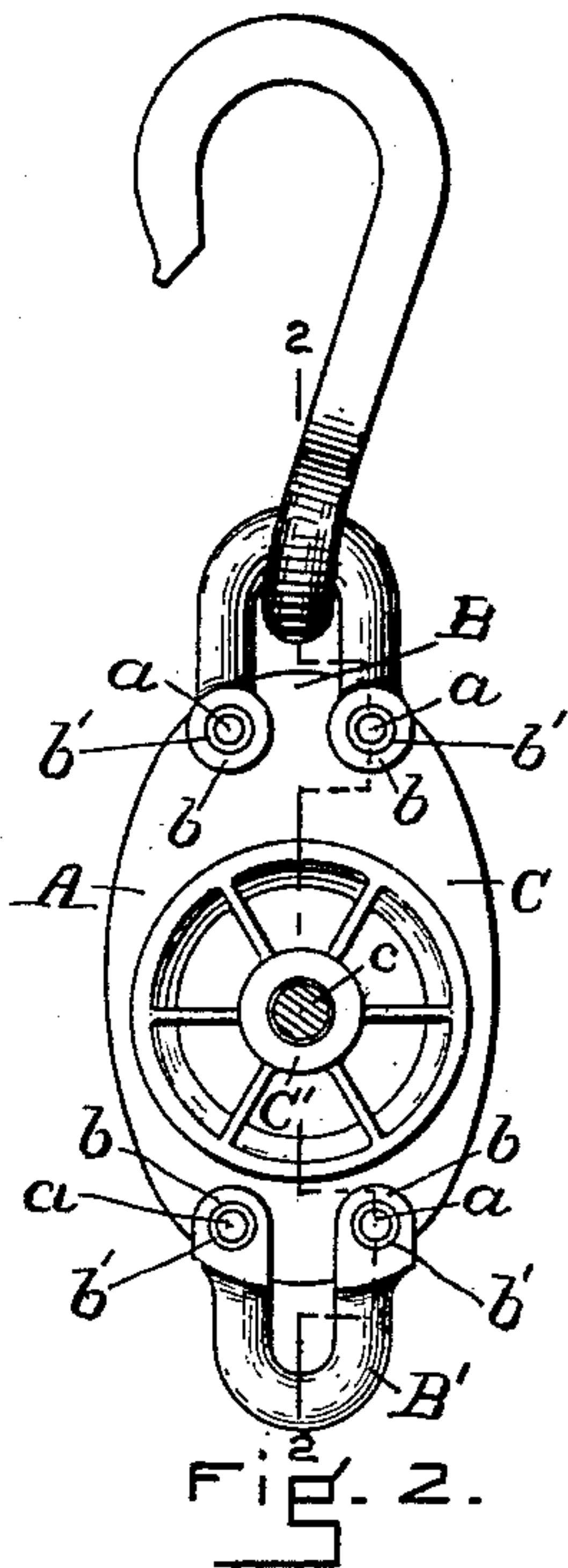
No. 638,784.

Patented Dec. 12, 1899.

W. C. WHEELER.  
TACKLE BLOCK.

(Application filed Mar. 30, 1899.)

(No Model.)



WITNESSES

J. M. Dolan  
S. A. Walsh.

INVENTOR

William C. Wheeler  
by his atty.  
Clarke & Raymond



# UNITED STATES PATENT OFFICE,

WILLIAM C. WHEELER, OF LOCKPORT, NEW YORK, ASSIGNOR TO THE  
BOSTON & LOCKPORT BLOCK COMPANY, OF SAME PLACE.

## TACKLE-BLOCK.

SPECIFICATION forming part of Letters Patent No. 638,784, dated December 12, 1899.

Application filed March 30, 1899. Serial No. 711,082. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM C. WHEELER, a citizen of the United States, residing at Lockport, in the county of Niagara and State of New York, have invented a new and useful Improvement in Tackle-Blocks, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in explaining its nature.

The invention relates to the type of tackle-block having two cheek-pieces, upper and lower shackles, and an interposed sheave or sheaves.

It is desirable that tackle-blocks should have as few parts as possible and should require as little machine work or labor in their manufacture as can well be given them, the former for the purpose of increasing the strength and durability of the block and the latter for the purpose of lessening the expense of its manufacture.

Heretofore it has been common to take blocks having independent cheek-pieces and of the type to which this invention belongs, with their cheek-pieces united by rivets passing through both ends of the cheek-pieces, uniting or tying them together, and requiring the machine-work necessary for such a form of construction. By my invention the end rivets are entirely dispensed with, the cheek-pieces are not tied together at their ends, and the cheek-pieces are secured together only by the pin or axle which carries or supports the sheave. The shackles are attached to the cheek-pieces by means of integral studs, lugs, or extensions from the inner surfaces of the cheek-pieces near each end, which enter pin or stud holes or recesses in the portions of the shackles between the cheek-pieces. The pins or studs are formed integral with the cheek-pieces, require no machine-work to form or shape them, and the shackles are formed with pin or stud receiving recesses in the act of casting or forging them, and likewise require no machine-work to fit them to receive the pins or studs.

In the drawings, Figure 1 is a view in elevation of the block. Fig. 2 is a view in elevation of the parts back of one cheek-piece, which is removed. Fig. 3 is a view in per-

spective of a cheek-piece detached. Fig. 4 is a view in vertical section crosswise the block upon the dotted line of Fig. 2. Fig. 5 is a view upon the same section, representing the application of my invention to a block having two sheaves.

Referring to the drawings, A A' are the cheek-pieces. They are preferably made of any suitable metal and usually formed by casting. They may have any desired exterior and interior configuration. Each cheek-piece has extending inward from its inner surface near its upper and lower ends the integral studs, pins, or projections *a*. These may be of any suitable shape and be arranged singly or in pairs, and in the drawings I have represented them as in pairs and as oppositely arranged, so that the two at one end of one cheek-piece will match the two upon the same end of the opposite cheek-piece. These pins, studs, or projections provide the means for attachment to the cheek-pieces of the upper and lower shackles B B' and also the means for preventing the sidewise or torsional movement of one cheek-piece in relation to the other. The shackles are represented as in the form of a loop with enlarged ends *b*, and the upper shackle is preferably larger and stronger than the lower one. These enlarged ends of the two shackles are contained between the cheek-pieces and serve as distance-pieces in fixing the width of the sheave-cavity C between the cheek-pieces and as relatively wide bearings or supports upon which the cheek-pieces are clamped. There are formed in these enlarged ends holes or recesses *b'*, which preferably extend through them from side to side and which are cast or otherwise formed in the act of shaping them of a size, and are spaced to receive and contain the cheek pins, studs, or projections *a*, which thus serve to attach the shackles to the cheek-pieces.

The cheek-pieces are represented as having a convex outer surface and a concave inner surface, and from the inner surface of each there extends a short hub *a'*, which in the two are oppositely arranged and through each of which and its cheek-piece extends a hole, formed by casting or in the act of shaping the cheek-piece. These furnish the sup-



ports for the cross-pin or axle  $c$ , which has a head  $c'$ , which bears against the outer surface of the cheek-piece  $A$ , while its other end extends beyond the outer surface of the other cheek-piece  $A'$ . It serves in its usual capacity as a bearing for the sheave  $C'$ , and it also serves additionally to tie the cheek-pieces rigidly together, with their ends clamped upon or in tight contact with the portions of the shackles contained between them and with the pins, studs, or projections  $a$  engaged with the cheek-pieces.

I prefer that the cheek-pieces be pressed together and upon the shackles with considerable pressure and that they be secured together while under pressure and also be continuously held under pressure by the stud or axle  $c$  and a cotter-pin  $c^2$ , passing through the exposed end of the pin. The convex form of the side pieces is a desirable one for causing the pressure with which they are held together by the said pin or axle to be applied upon the shackles.

I have described a block having one sheave; but I desire to be understood that the invention can be applied to a block having two sheaves, and a two-sheave block is represented in Fig. 5.

I would further say that the pins or studs and the pin-receiving holes or recesses may be arranged so that the shackles shall bear the pins and the cheek-pieces have the holes without departing from the spirit of my invention.

The connections between the shackles and the side pieces, it will be observed, also prevent torsional movement of the cheek-pieces of the blocks with relation to each other.

In the single-sheave structure the pins, studs, or projections do not bottom or come in contact with each other, thereby permitting the surfaces of the cheek-pieces about the pins or studs to be brought into contact with the sides of the interposed portions of the shackles.

In Fig. 5 I have shown my invention applied to a block bearing two sheaves. It varies from what has already been described in that a center piece  $D$  is introduced between the cheek-pieces and in that the studs or pins  $a$  of the cheek-pieces at the upper end of the block extend entirely through the holes in the upper shackle  $B^2$  and enter the recesses  $d$  in the upper end of the center piece and in that the upper shackle is turned a quarter and its interposed parts are separated by the center piece and are confined between the center piece and the cheek-pieces. The lower part of the center piece has pins or projections  $d'$   $d^2$ , the first of which engage the lower shackle and hold it in connection with the pins  $a$  on the lower end of the cheek-piece  $A$ , in this respect accomplishing the function of the pins on the lower part of the cheek-piece  $A'$  in the single-sheave construction. A distance-block  $d^3$ , having holes  $d^4$ , one only of which is shown, is interposed between the lower end of the center

piece and the lower end of the cheek-piece  $A'$ , the pins  $d^2$  of the center piece entering said holes and the pins or studs, as well as the pins or studs on the cheek-piece  $A'$ . The axle or pin  $c$  supports the two sheaves, binds the cheek-pieces together, and clamps between their ends the shackles and the center piece.

It will be seen that by the construction of block herein described the various parts are formed in the act of casting, pressing, or drop-forging to a shape which enables them to be assembled and interlocked and without submitting them to drilling or other machine-work in fitting the parts after they have been cast or otherwise formed, and that this permits the quick assembling of the said parts by low-priced labor, effecting a saving in the time of the construction and a consequent saving in expense, and this is true not only of the single-sheave blocks, but of blocks containing two or more sheaves.

Having thus fully described my invention, I claim and desire to secure by Letters Patent of the United States—

1. The tackle-block herein described, comprising cheek-pieces, shackles, pins or studs uniting the shackles and cheek-pieces, a sheave pin or axle rigidly securing said cheek-pieces together, and a sheave on said pin or axle.

2. A tackle-block having independent cheek-pieces, shackles, portions of which extend between the cheek-pieces and form distance-pieces therefor in fixing the sheave-cavity, pins or studs uniting the shackles with the cheek-pieces, a cross-pin or axle rigidly securing two cheek-pieces together and forming their sole fastening means and a sheave mounted upon said axle or pin.

3. A tackle-block comprising cheek-pieces, shackles, portions of which extend between the cheek-pieces, pins, studs or projections integral with the cheek-pieces and extending into holes or recesses in the shackles, and a sheave axle or pin rigidly uniting the cheek-pieces and forming the only means for fastening them together, and a sheave mounted upon said pin or axle.

4. A tackle-block comprising concavo-convex cheek-pieces provided with studs or projections, shackles having portions which extend between said cheek-pieces and are engaged by said pins or projections, a sheave pin or axle passing through said cheek-pieces at the point of their greatest crowning, and securing them together under strain, and a sheave mounted on said pin or axle.

5. As an improved article of manufacture, the rivetless block herein described, the same comprising cheek-pieces having integral studs or projections, shackles united to said cheek-pieces by said integral studs, and a sheave pin or axle rigidly securing said cheek-pieces together and forming the sole means for uniting said cheek-pieces, and a sheave on said pin or axle.

6. A tackle-block comprising among its



members independent cheek - pieces and shackles, integral connecting - pins on said members, which pins unite said cheek-pieces and shackles, a sheave pin or axle rigidly securing said cheek-pieces together and locking said cheek-pieces and shackles together and a sheave on said sheave pin or axle.

7. A block having independent cheek-pieces and independent shackles and means for combining and connecting the cheek-pieces and shackles comprising two pins, studs or projections at each end of the block integral

with the cheek-pieces, and which enter corresponding holes or recesses in the other part or parts to connect them together and prevent torsional movement, and means for clamping the side pieces upon the shackles with the said pins, studs or projections in engagement with the pin, stud or projection containing holes or recesses. 15

WILLIAM C. WHEELER.

In presence of—

MYRON H. TARBOX,  
E. D. WHITNEY.