

No. 638,772.

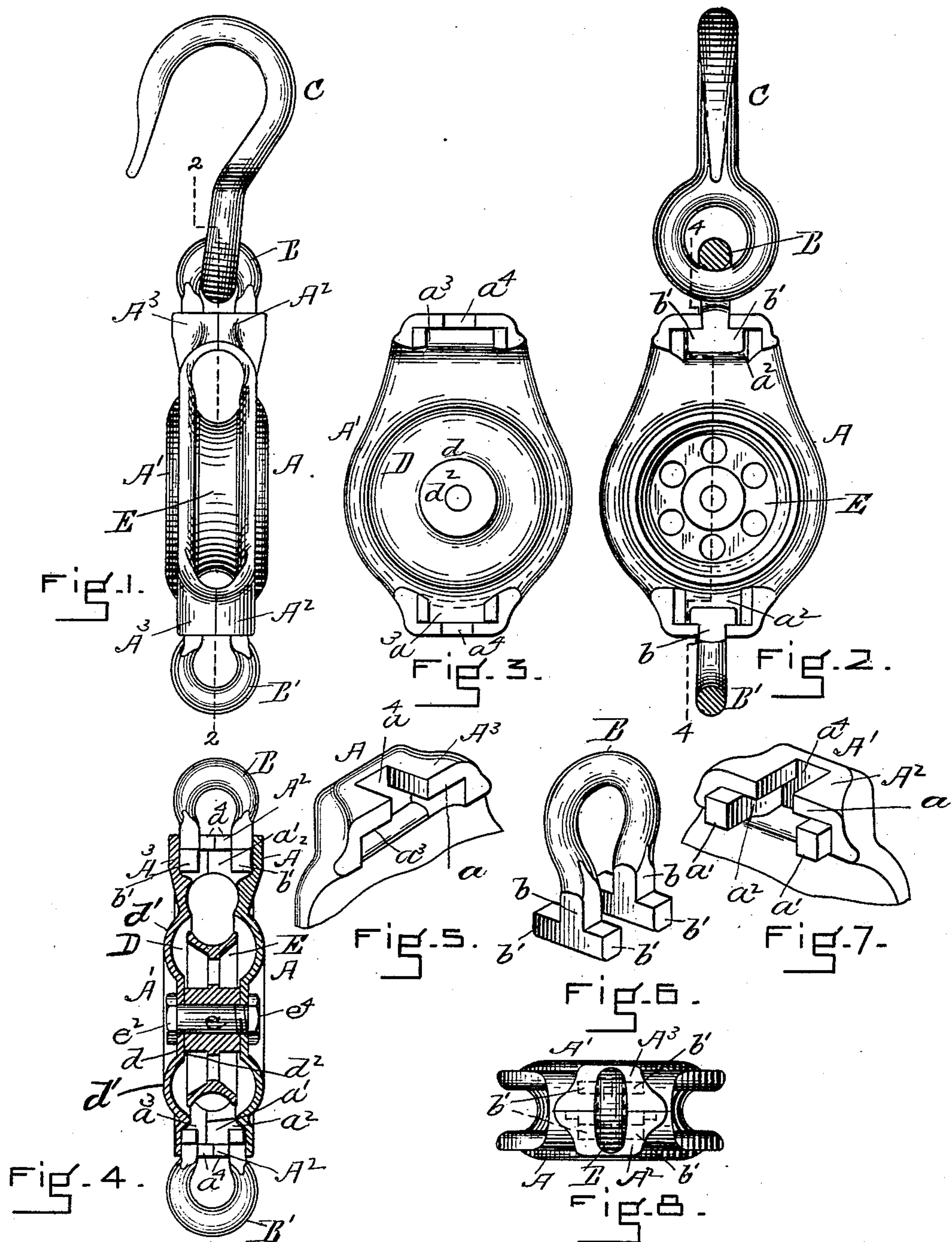
Patented Dec. 12, 1899.

A. B. TARBOX.
TACKLE BLOCK.

(Application filed Mar. 30, 1899.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES

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2 Sheets—Sheet 2.

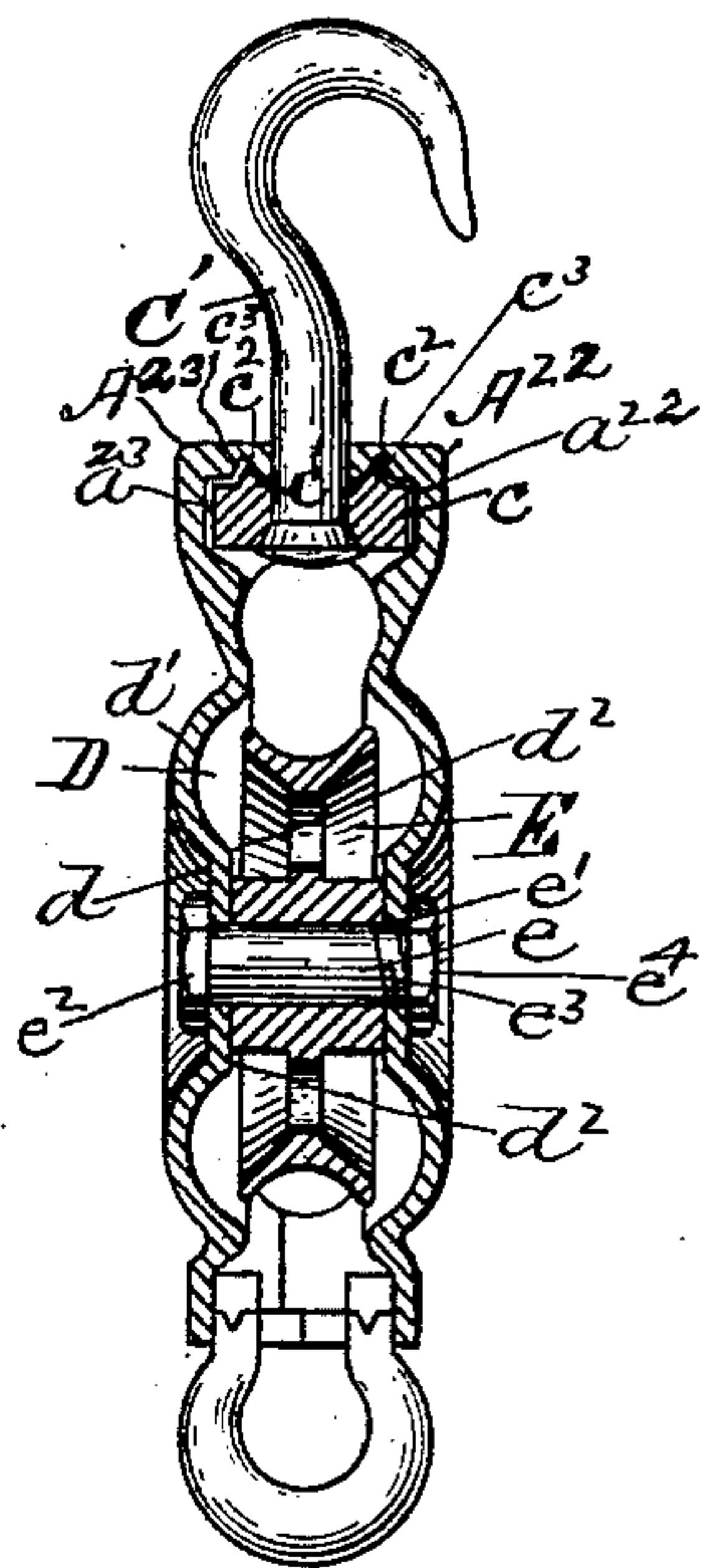


FIG. 9.

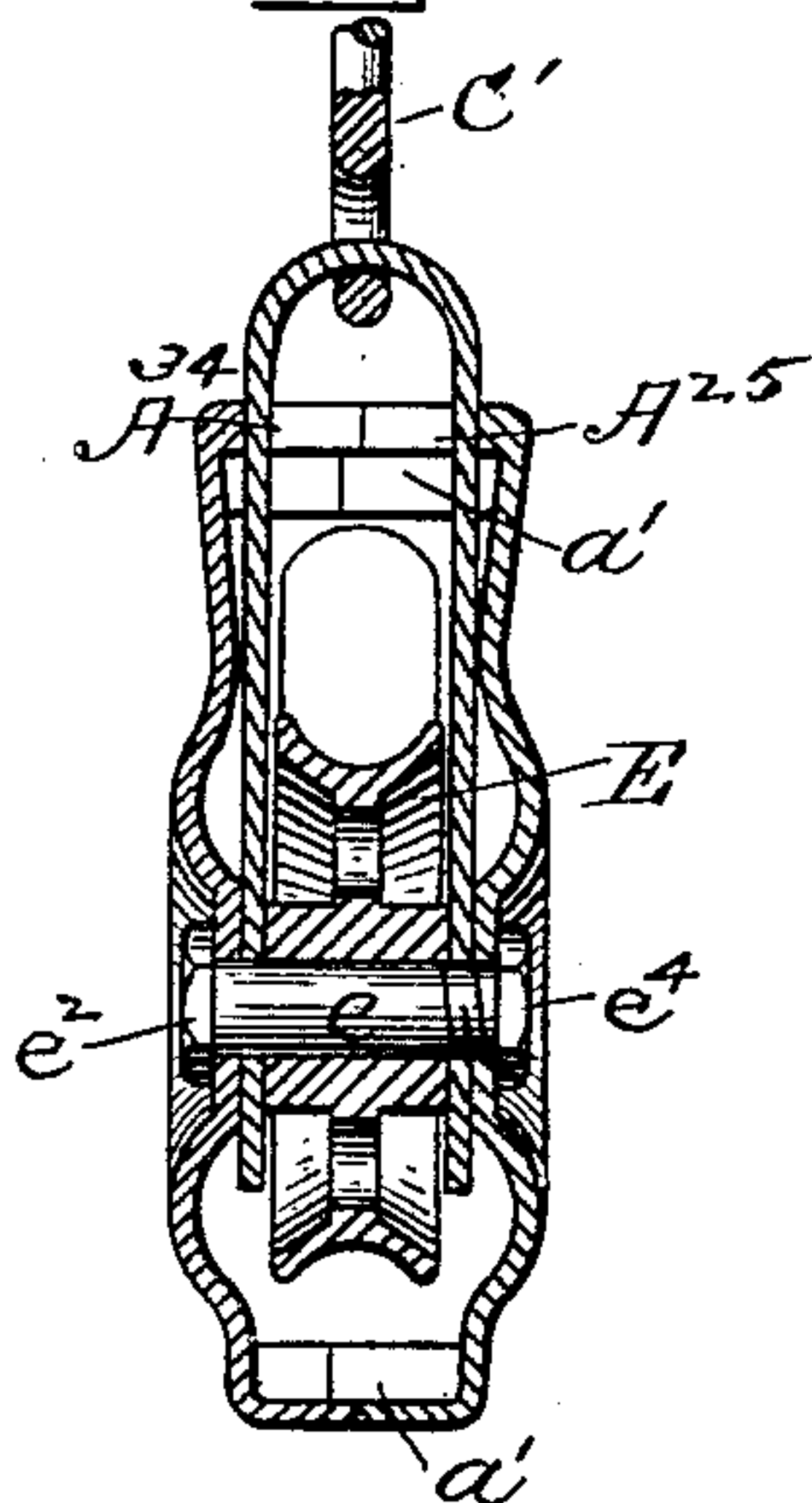


FIG. 12.

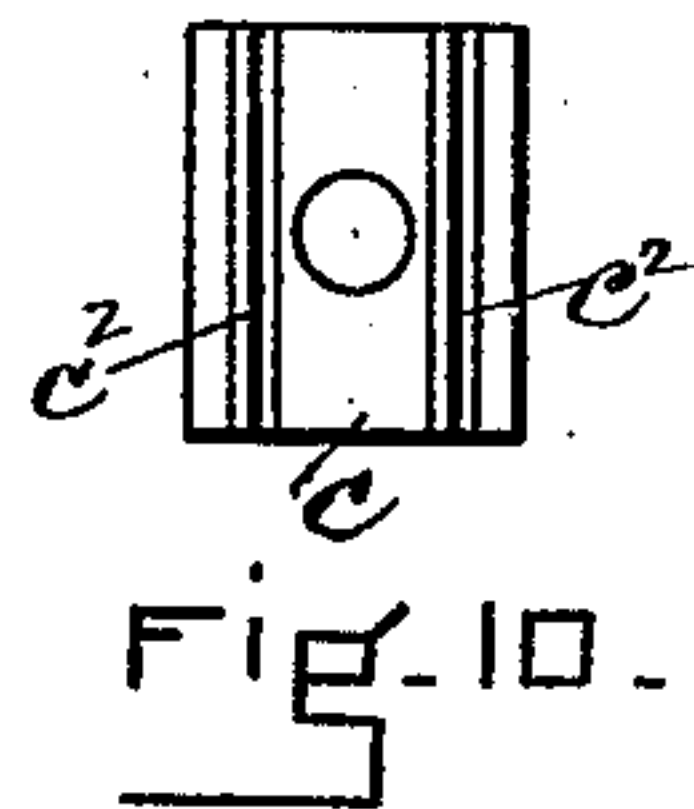


FIG. 10.

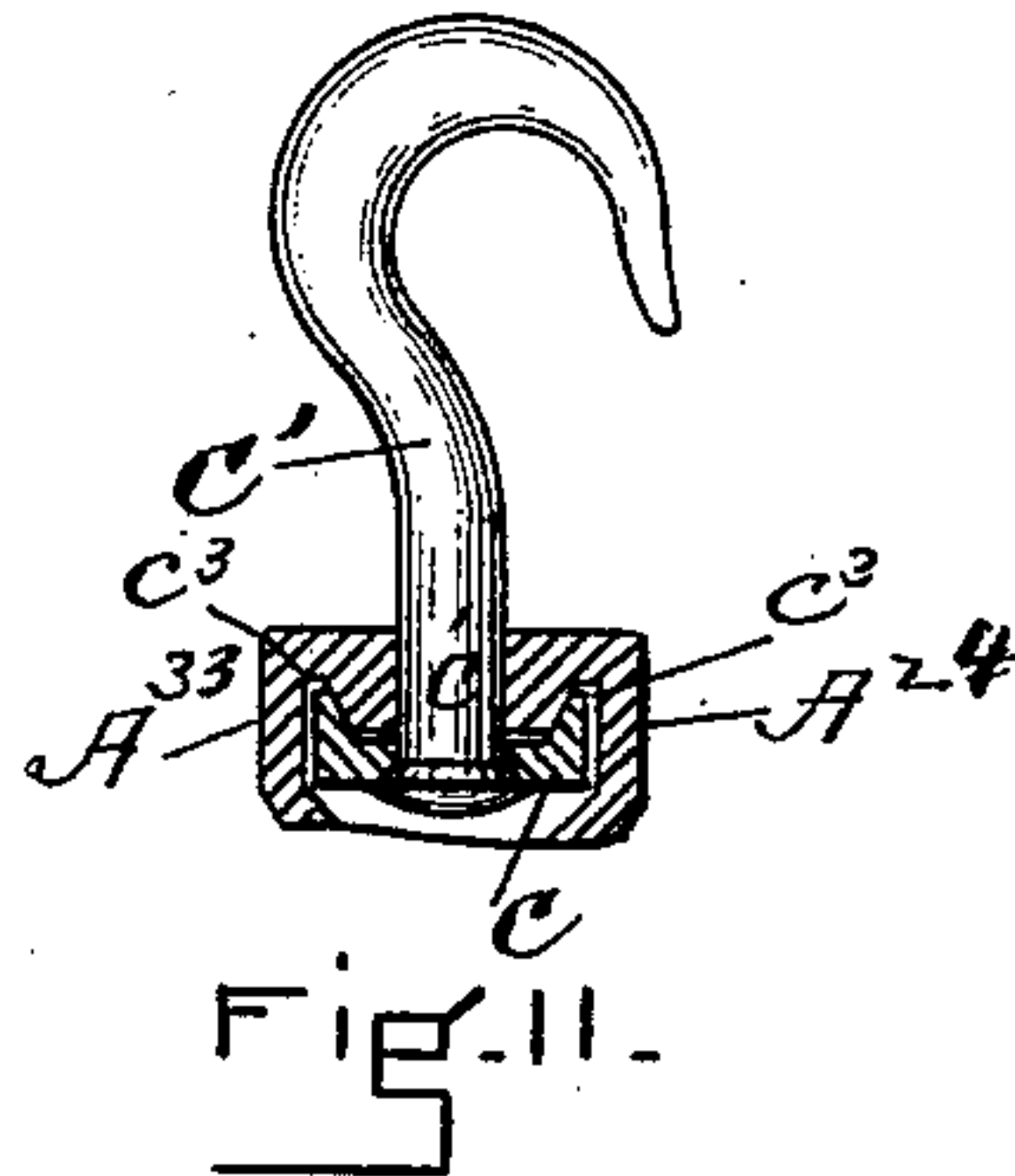


FIG. 11.

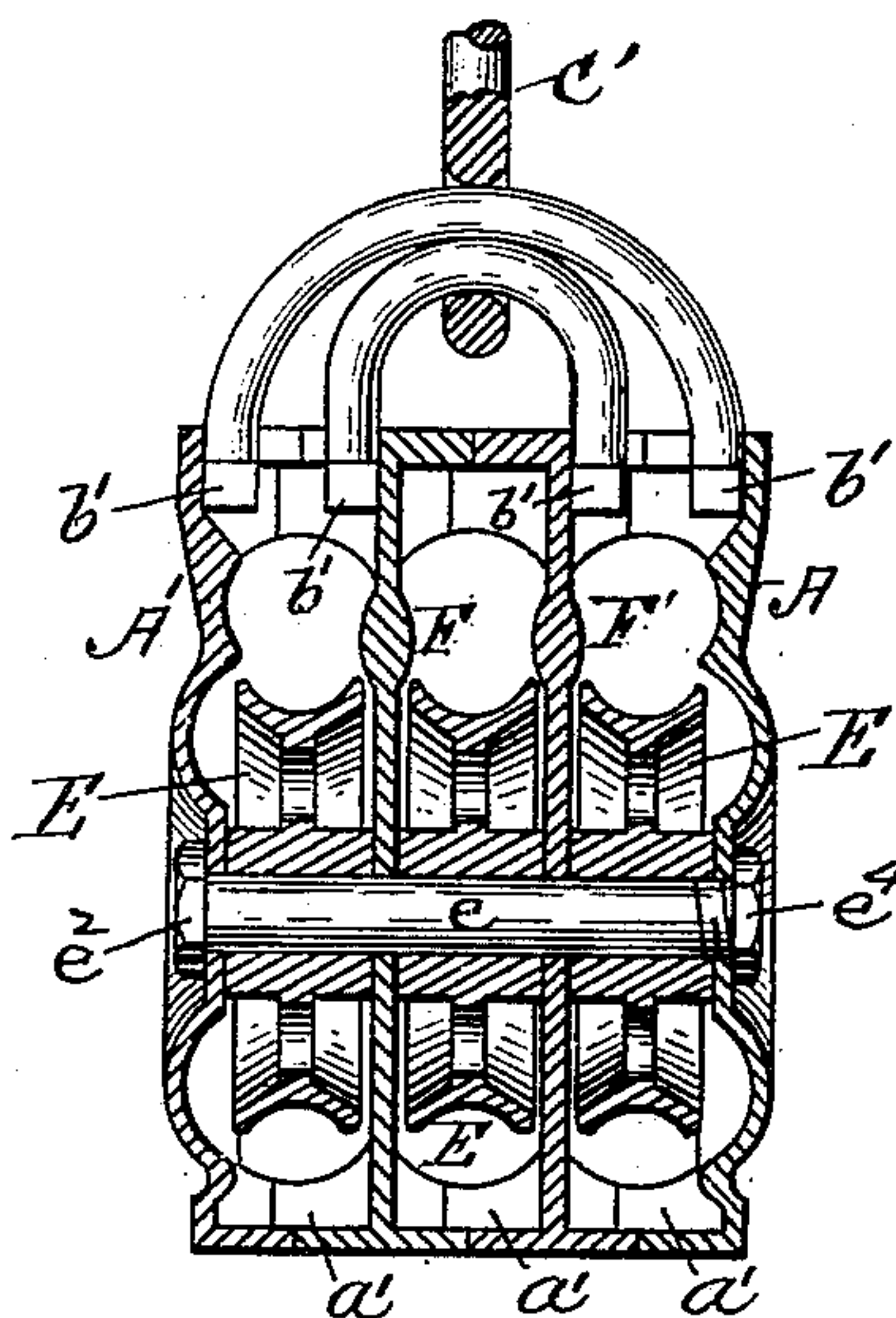


FIG. 13.

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UNITED STATES PATENT OFFICE.

ALFRED B. TARBOX, OF CHELSEA, MASSACHUSETTS, ASSIGNOR TO THE
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TACKLE-BLOCK.

SPECIFICATION forming part of Letters Patent No. 638,772, dated December 12, 1899.

Application filed March 30, 1899. Serial No. 711,108. (No model.)

To all whom it may concern:

Be it known that I, ALFRED B. TARBOX, a citizen of the United States, residing at Chelsea, in the county of Suffolk and State of Massachusetts, 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 improvement in tackle-blocks hereinafter described; and it consists in various details of construction and organization whereby the block is improved both as regards its strength and manner of joining its parts together; also as regards the arrangement of the sheave or sheaves and cheek-pieces, whereby the sheave-rope is protected and its wear diminished, and also as regards the cost of the manufacture of the block.

In the drawings, Figure 1 is a view in end elevation of a complete single-sheave block having the features of my invention. Fig. 2 is a view in vertical section upon the dotted line 2 2 of Fig. 1, showing in elevation the parts back of said line. Fig. 3 is a view in elevation of one of the cheek-pieces of the block detached, showing the inner side thereof. Fig. 4 is a view in cross vertical section of the complete single-sheave block upon the dotted line 4 4 of Fig. 2. Fig. 5 is a view in perspective of one end of the female cheek-piece. Fig. 6 is a view in perspective of a shackle. Fig. 7 is a view in perspective of one end of the male cheek-piece. Fig. 8 is a view in plan of the single-sheave block of Fig. 4. Fig. 9 is a view in cross vertical section illustrating a modification in construction to which reference is hereinafter made. Fig. 10 is a view in plan of the hook-block of Fig. 9. Fig. 11 illustrates another modification hereinafter described. Fig. 12 illustrates the application of the invention to a strap-block. Fig. 13 illustrates the invention when applied to a block having more than one sheave.

One of the principal objects of the invention is to provide a structure which will re-

quire little, if any, machine-work in the fitting of the various parts and the assembling thereof, and for this reason the employment of rivets and rivet-holes is practically dispensed with. In the single-sheave block the cheek-pieces are formed of metal, either by casting or by striking up, and they are shaped in the casting, forging, or striking up at their ends to abut or interlock when brought together and also to receive and hold the ends of the shackles, which are shaped by casting, forging, or striking up to combine, without fitting, with these interlocked ends. The same principle is practiced in a block having more than one sheave, as in Fig. 13, where the center pieces are also formed by casting, striking up, or forging and with their upper and lower ends shaped to interlock with each other and with the cheek-pieces, so that they can be assembled as they are taken from the sand or the mold and without fitting or machine-work of any kind.

I will first describe my invention as applied to a block having interlocked cheek-pieces and a single sheave, and as represented in Figs. 1 to 8 of the drawings, inclusive.

A A' represent the cheek or side pieces of such a block. They are of metal and are formed by casting, pressing, forging, or in any other suitable way, and they are provided at their upper and lower ends with lateral interlocking extensions which project from the inner sides of the cheek-pieces toward each other and abut, thus forming a sheave housing or shell, the ends of which are practically solid and are integral with the sides and are interlocked with each other, and between which ends and sides is the open cavity or space for the reception of the sheave. The interlocking ends of the block-case are also shaped to interlock with the shackle.

The cheek piece or side A has at its upper and lower ends the lateral extensions A², (see Figs. 1, 4, and 7,) and the cheek or side piece A' has at each end the lateral extension A³. (See Figs. 1, 4, and 5.) These extensions A² and A³ are relatively wide and their inner vertical edges a³ are straight and parallel and abut when the two pieces are together.

The extension A^2 has the interlocking ears or lugs a' , there being two on each extension. They are preferably arranged on the same horizontal line and are also, preferably, separated from each other by a recess or cavity a^2 . (See Fig. 7.) The ears or lugs are rectangular in section, and they enter recesses a^3 in the extensions A^3 of the cheek-piece A' , their upper and outer sides fitting or matching the under and outer surfaces of the said recesses at the angles therein. These lugs or ears thus interlocked with the extensions A^3 prevent torsional movement of the pieces in relation to each other, and they also serve to directly connect the pieces at their upper and lower ends and to strengthen them there.

The extensions A^2 A^3 have the plain faces a , which abut against each other, and said extensions also have in them the vertical openings a^4 , (see Figs. 4, 5, and 7,) which extend into the recesses a^2 a^3 , respectively, and which are in line with each other when the cheek-pieces are together. (See Fig. 4.) They serve to hold or contain the shanks b of the upper and lower shackles B B' . The shanks are square in form, are of the width of the openings, and their outer surfaces are separated by a space about the length of the openings when together, so that they snugly fit therein.

The shackles are connected with the cheek or side pieces by the ears b' , which extend laterally across the end of the shanks and enter the recesses a^2 and a^3 , spanning the opening a^4 , and lapping upon portions of the extensions on each side of said openings. (See Fig. 2.) It will be seen that by this construction the shackles are interlocked with the interlocked cheek-pieces one shank of the shackle being interlocked directly with one of the cheek-pieces and the other shank of the shackle being interlocked with the other.

The interlocking parts of the shanks and of the cheek-pieces may be so shaped that the drawing strain upon them when in use will also act to draw together the ends of the cheek-pieces. This result is obtained when the construction represented in Figs. 9, 10, and 11 is used. In said figures in lieu of the upper shackle I have shown a hook C' , connected with the cheek-pieces by the equivalent of the shackle-ears b' —namely, the block c . This block substantially fills the recesses a^2 a^3 in the extensions A^2 A^3 of the cheek-pieces, and it serves to receive and hold the shank c' of the hook, which is free to turn in it, and it also has the upwardly-extending locking-wedges c^2 , the inner inclines of which enter the wedge-shaped recesses c^3 in the said extensions and the inner surfaces of which may be formed to bear against the inner surfaces of the said recesses before the wedges have fully bottomed in said recesses, so that draft upon the block c will cause the wedges to not only interlock the extensions of the cheek-pieces, but will also serve to draw them together.

Fig. 10 represents in plan the hook-block shown in Fig. 9.

In Fig. 11 a hook-block having wedges slightly differing in shape and location from those shown in Fig. 9 is represented, and the corresponding recesses of the extensions A^2 A^3 are changed to correspond.

In Fig. 9 the lower shackle is represented as having ears provided with wedge extensions upon their under side which enter corresponding recesses in the extensions.

The cheek-pieces are also provided with cavities D upon their inner sides which surround the hubs d and are surrounded by a circumferential rounded wall d' , which extends somewhat beyond the faces d^2 of the hubs d , which carry the sheave pin or axle e . These cavities are somewhat larger in diameter than the diameter of the sheave E and they furnish a cavity or housing for the sides of the sheave, while the wall d' partially covers the outer edge of the sheave closely to it and serves to guide the tackle-rope to the run of the sheave, while it prevents it from being worn by coming in contact with the edges thereof. The cheek-pieces also have upon their outer sides around the axle or pin-holes e' cavities or recesses for containing the ends of the axle or pin and its fastening-nuts or head and nut. The pin shown has the head e^2 at one end and the screw-thread e^3 at the other, which receives a nut e^4 . It is this or similar means which firmly and rigidly unite the cheek-pieces together with their ends interlocked and the shackles in place.

I prefer that the shanks of the shackles shall fit the openings in the extension quite snugly and shall also be held from sidewise movement by the contact of the cheek-pieces with their outer sides and with the outer sides of the ears.

In Fig. 12 I have represented the upper shackle as having arms which extend through openings in the upper extensions A^2 A^3 , and instead of having ears to engage the upper extensions they extend between the cheek-pieces and outside the sheave to a point below the sheave pin or axle with which they are connected, the sheave pin or axle passing through them. A shackle of this character may be made of bar or strap iron.

In Fig. 13 I have represented my invention as applied to a block having more than one sheave, three sheaves being shown. The block has two center pieces F F' and two upper shackles instead of a single upper shackle. The center pieces are engaged with each other and the outer shackle to the cheek-pieces and the inner shackle to the center pieces by lateral projections in the manner already described. The cheek-pieces are united by the sheave pin or axle, as above specified, which, however, also passes through the holes in the center pieces and carries the three sheaves.

I prefer that the shackles shall be connected with the side pieces in a manner to bring

the strain on the block as much in line with the side pieces as possible.

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 having at their ends integral, interlocking extensions provided with openings; and shanks or arms having sections extending through said openings and united with the said cheek-pieces within said openings.

2. In a tackle-block, the cheek-pieces having at each end integral interlocking extensions provided with openings for the shanks or arms of the shackles, and said shackles having shanks extending through said openings and ears or lugs at their inner ends spanning said openings and engaging the cheek-pieces.

3. A tackle-block comprising cheek-pieces provided with integral interlocking extensions at their ends, openings in said extensions, and shackles having shank-pieces extending through said openings and provided with means within said openings for securing them to the cheek-pieces.

4. A tackle-block comprising cheek-pieces provided with integral interlocking end extensions, openings and recesses in said extensions, seats for the shackle ends formed by said openings and recesses, and shackles having shanks to closely fit said openings and ears which are seated upon the said ear-seats, as and for the purposes described.

5. A tackle-block comprising integral interlocking cheek-pieces provided with end extensions, openings and recesses in said extensions and seats for the shackle ends formed by said openings and recesses, shackles having shanks to fit said openings and ears which seat upon the said ear-seats, a sheave axle or pin for rigidly fastening the said cheek-pieces together and upon the shackles and a sheave mounted upon said pulley or axle.

6. A tackle-block comprising cheek-pieces provided with integral end extensions having laterally-projecting interlocking members, shackles detachably connected with said end extensions and interlocked therewith, a sheave mounted between said cheek-pieces and a sheave pin or axle connecting said cheek-pieces.

7. A tackle-block comprising cheek-pieces provided with integral interlocking end extensions, openings and recesses in said extensions, seats for the shackle ends formed by

said openings and recesses in line with the side pieces and shackles having shanks to fit said openings and ears to seat upon said ear-seats, as and for the purposes set forth.

8. A tackle-block comprising two cheek-pieces one of which is provided with an end extension having a plane face a , a recess a^2 , an opening a^4 and interlocking ears a' and the other of which cheek-pieces has the plane face a which abuts against the face a of the first-named cheek-piece, an opening a^4 and a recess a^3 , as and for the purposes set forth.

9. In a tackle-block, the combination with cheek-pieces having extensions at both ends which abut and form a sheave-cavity between them; a sheave in said cavity; interlocking ears or lugs on the extensions of one of said cheek-blocks which engage corresponding seats on the extensions of the other of said cheek-pieces; shackles detachably held between said interlocked extensions, and means for fastening said cheek-pieces together.

10. A tackle-block comprising two cheek-pieces each of which is provided on its inner face with a hub for the sheave pin or axle, a sheave pin or axle mounted in said hub, a sheave mounted on said sheave-pin, and a circumferential wall, as d' , curving outwardly from the said hubs and projecting inward slightly beyond the edge of the sheave so as to form a cavity or housing of larger diameter than the sheave.

11. A tackle-block having cheek-pieces provided with circumferential, projecting wall, as d' , surrounding the ends of the sheave pin or axle, a sheave pin or axle mounted in said hub, said wall forming a sheave housing or cavity and projecting inwardly over the outer edges of the sheave; and a sheave mounted within said housing.

12. In a tackle-block the cheek-pieces having interlocking extensions at one or both ends and one or more center pieces having interlocking extensions to interlock with the extensions of the cheek-pieces and where more than one center piece is used with their own extensions, and shackles connected with the side pieces and with the center piece or pieces, a sheave axle or pin uniting the side pieces and passing through the center piece or pieces, and sheaves mounted upon said pin or axle.

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Witnesses:

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