

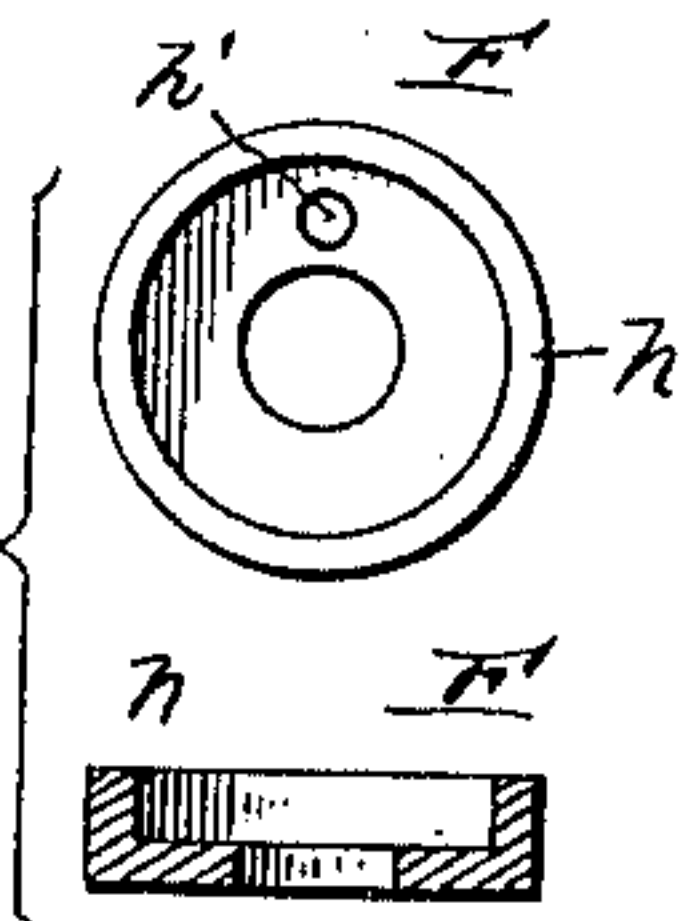
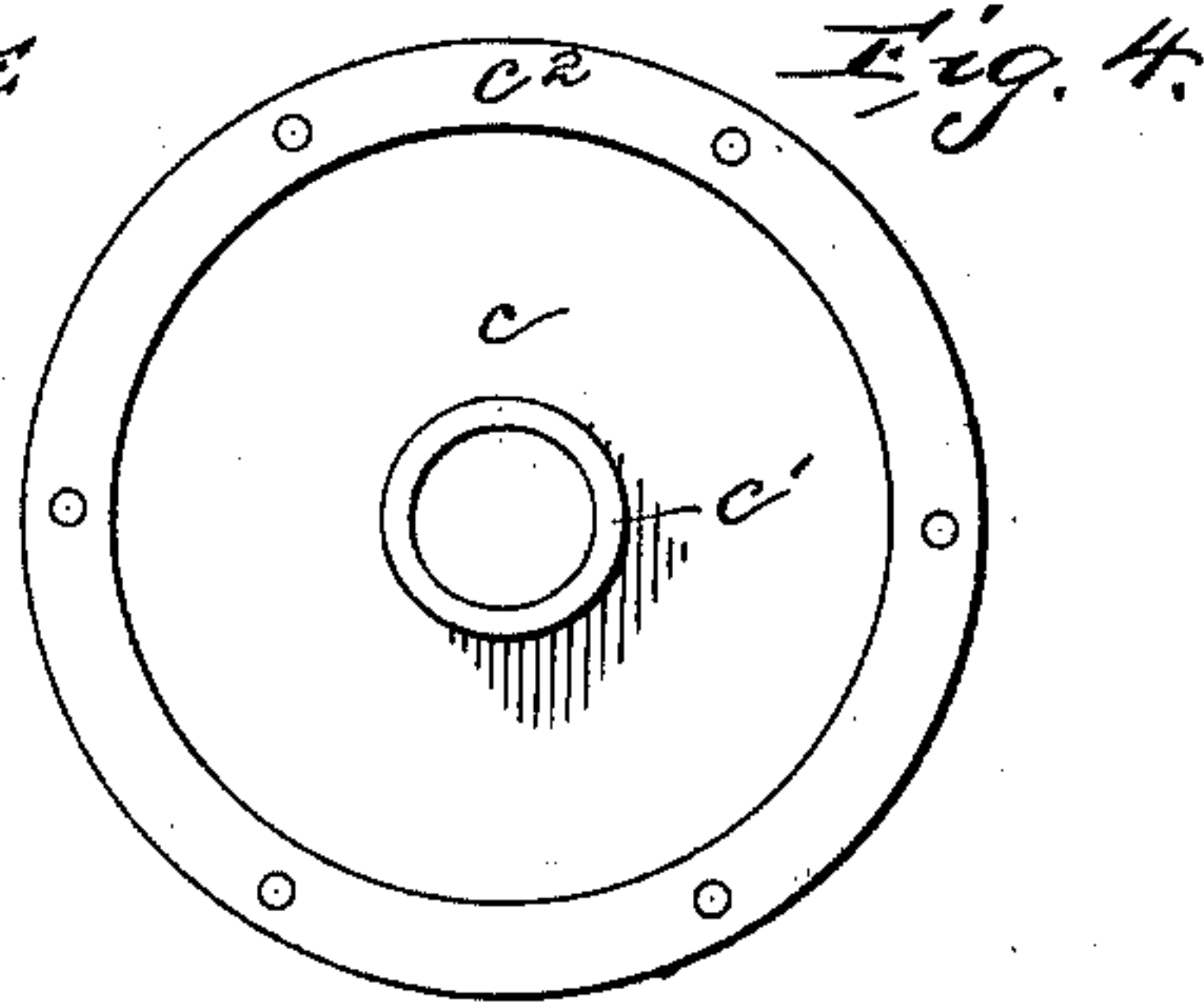
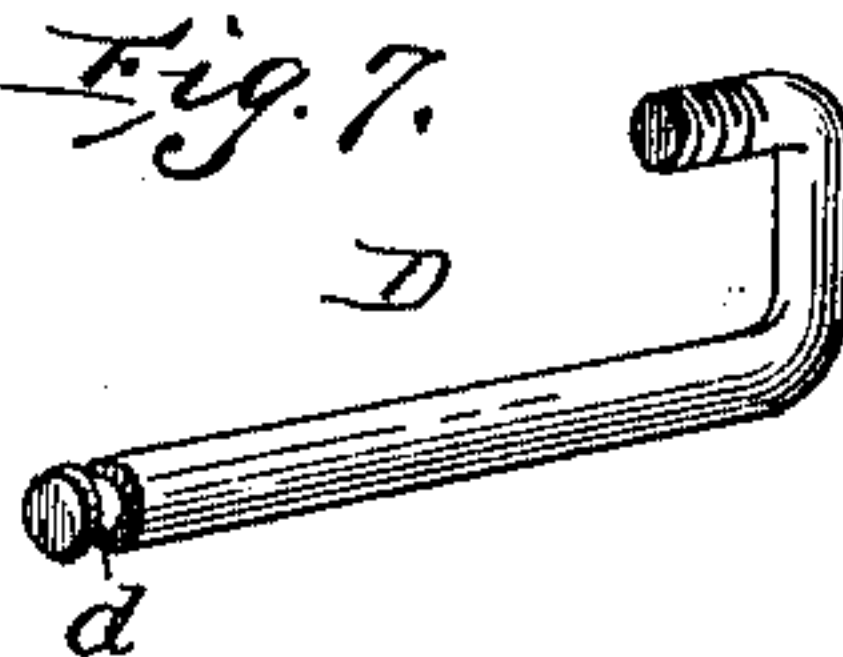
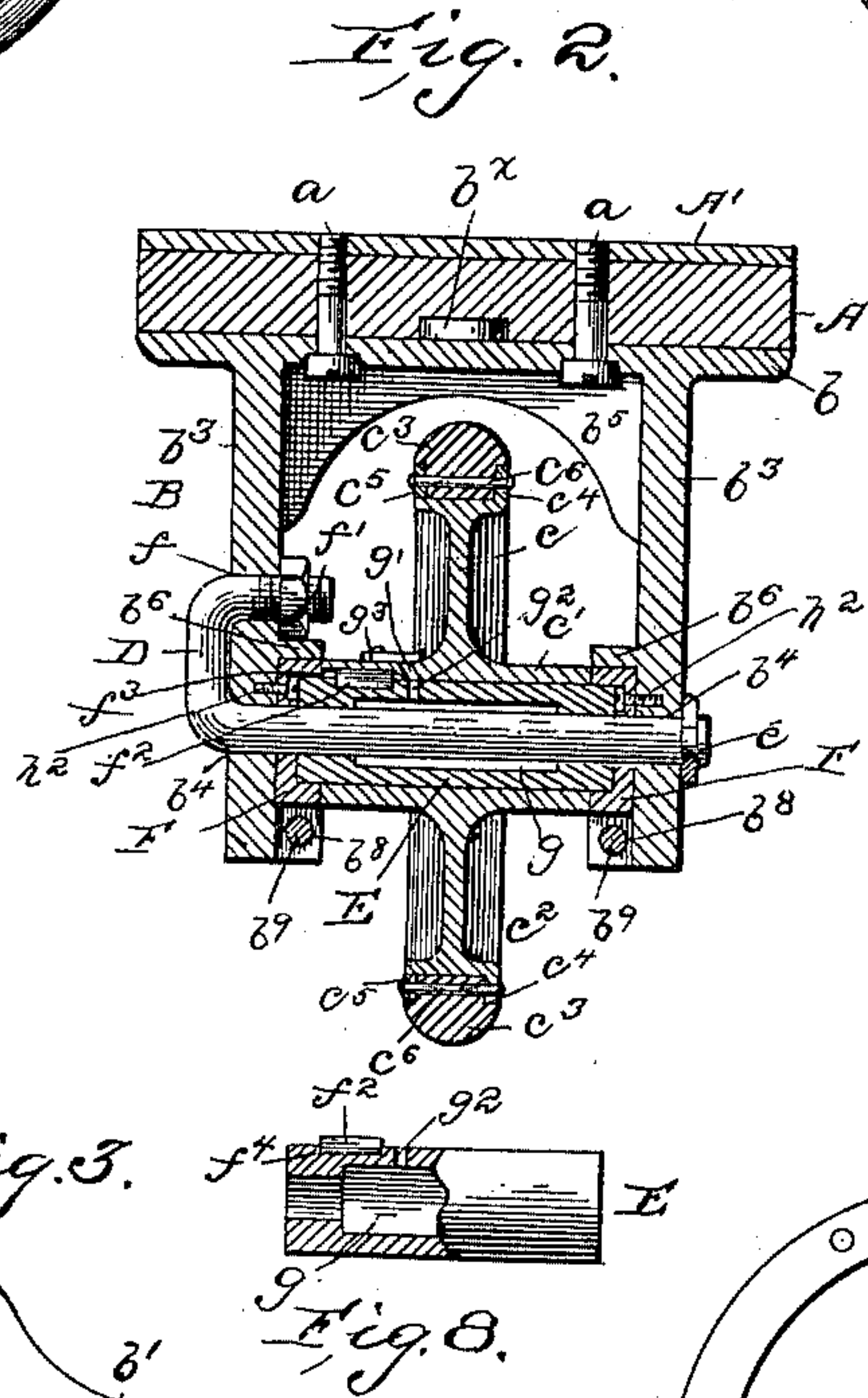
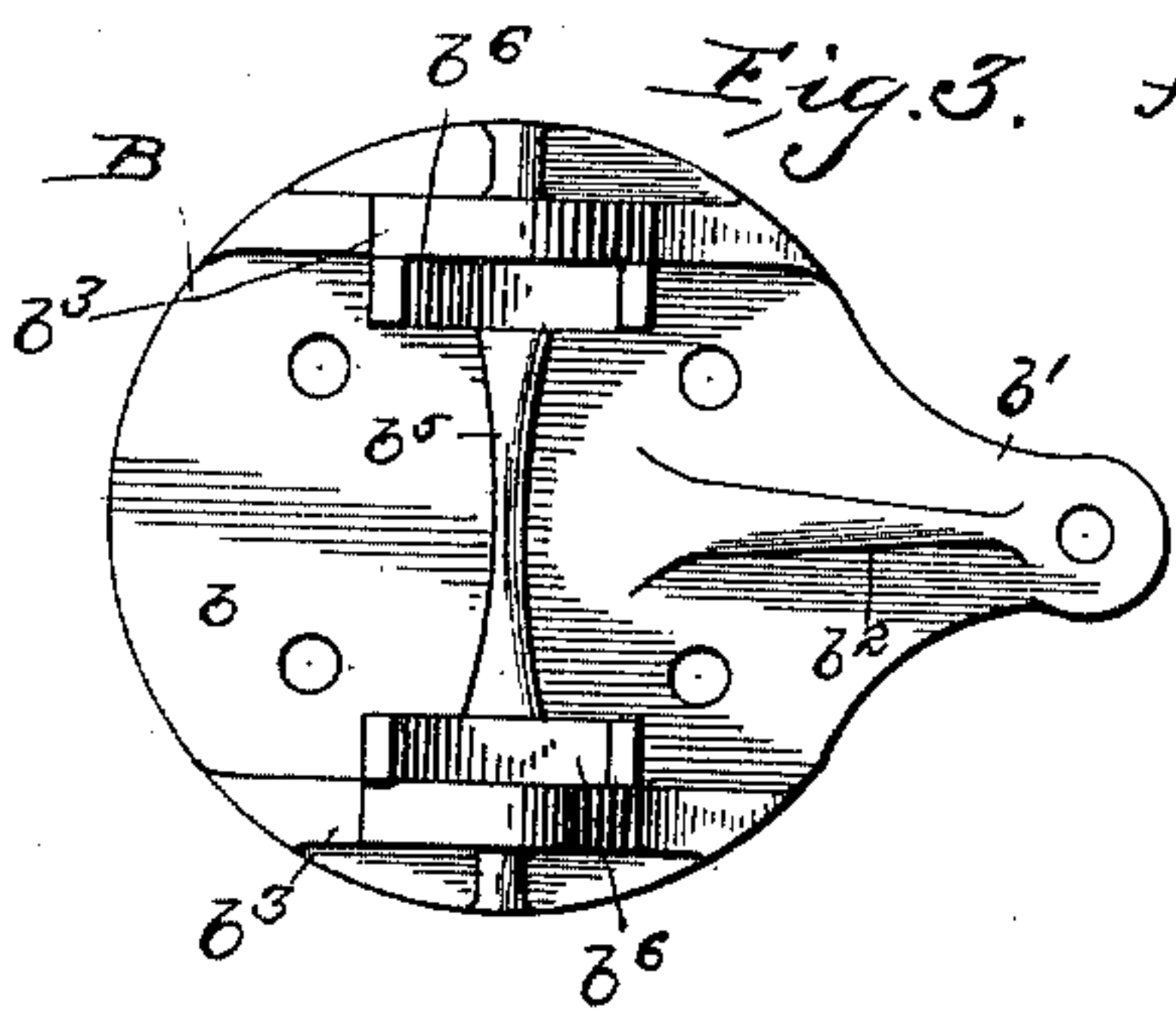
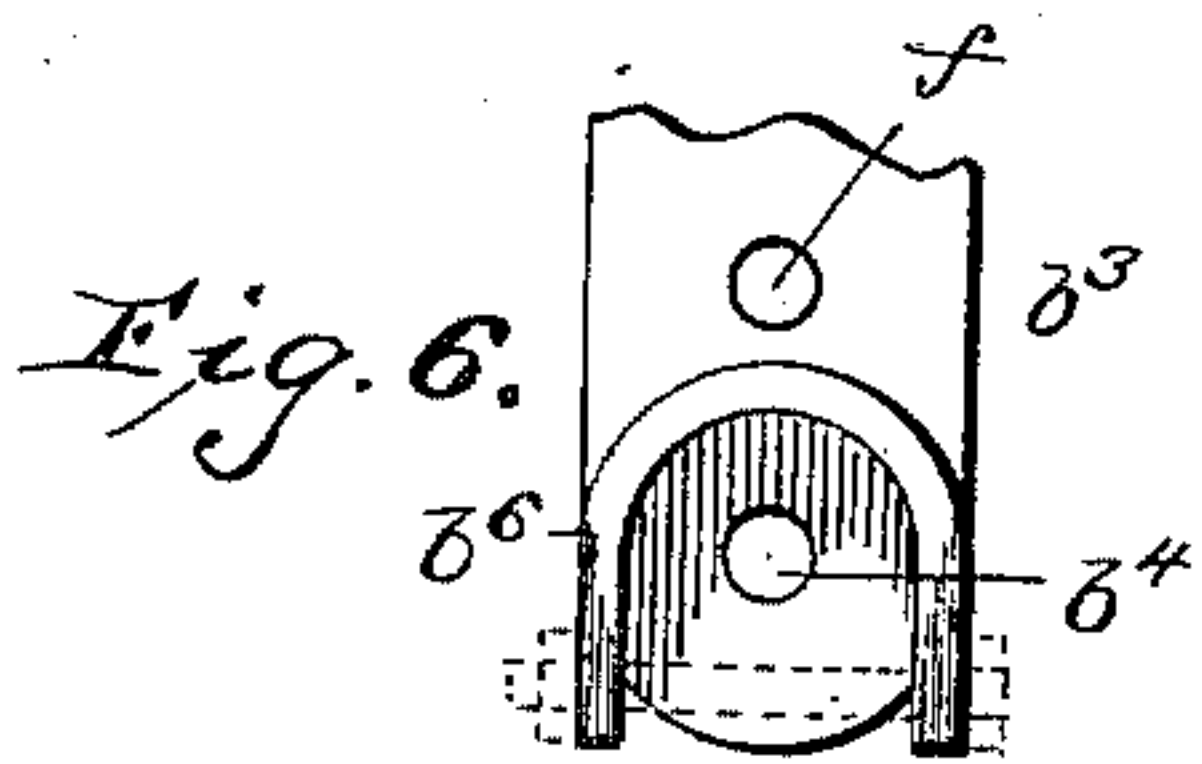
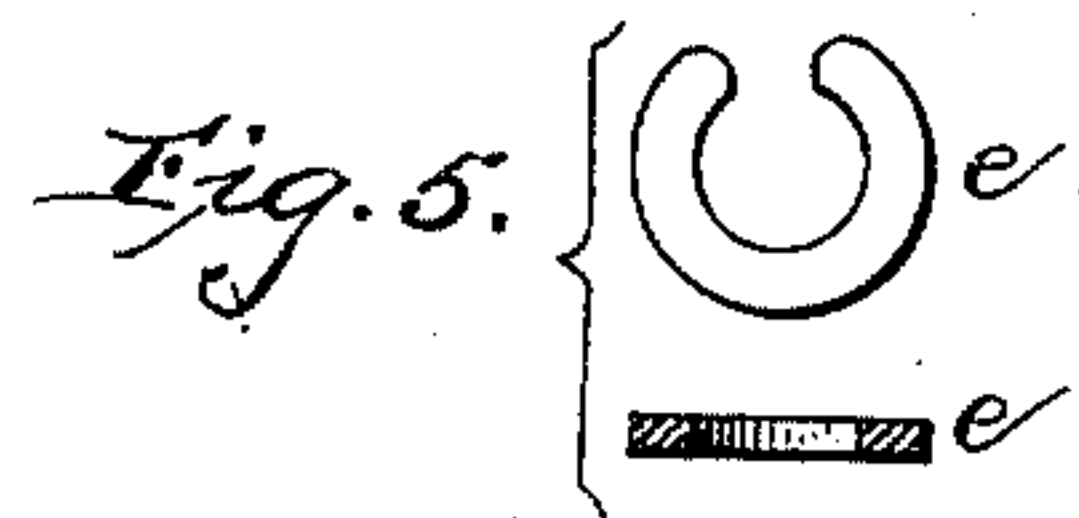
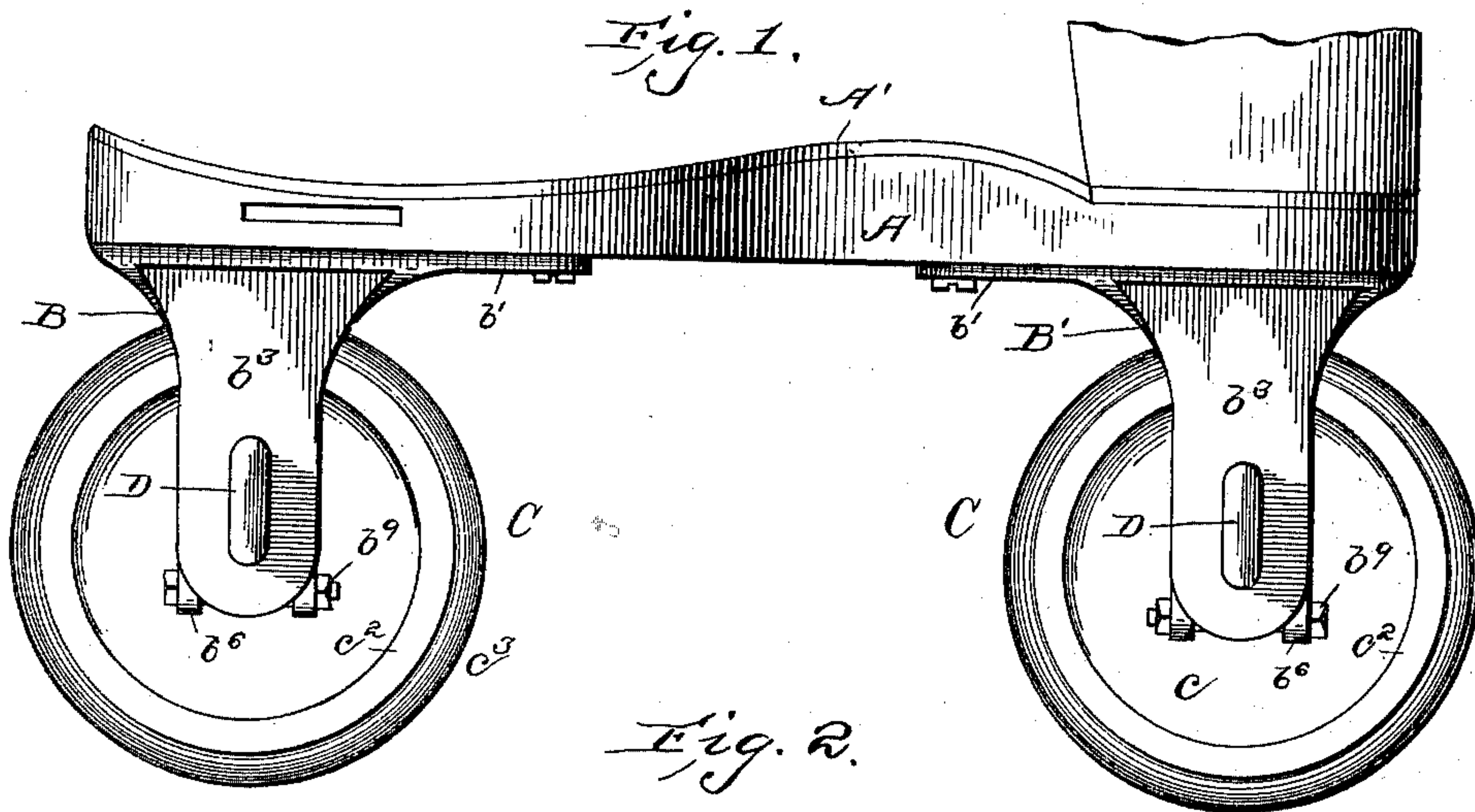
No. 619,225.

Patented Feb. 7, 1899.

J. A. REECE.
BICYCLE SKATE.

(Application filed Jan. 20, 1898.)

(No Model.)



Witnesses Ex
 J^r H Edwards Jr.
 Herbert Lawson.

Fig. 9.

In witness whereof
Joseph C. Reed
By J. M. Foster,
Attorney

UNITED STATES PATENT OFFICE.

JOSEPH A. REECE, OF WASHINGTON, DISTRICT OF COLUMBIA.

BICYCLE-SKATE.

SPECIFICATION forming part of Letters Patent No. 619,225, dated February 7, 1899.

Application filed January 20, 1898. Serial No. 667,317. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH A. REECE, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Bicycle-Skates; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in bicycle-skates.

It has for its object, among other things, to greatly simplify the construction and lessen the number of parts; also, to reduce friction and wear, to readily renew the wheel or cycle axle bearings, to provide against accident in event of the breaking of the axles, to effect the ready removal of the wheels or cycles with their adjunctive parts for their renewal or other purpose, and to effectively secure the same in place; and to these ends the invention consists of the sundry combinations of parts, including their construction and arrangement, substantially as hereinafter more fully disclosed, and specifically pointed out in the claims.

In the accompanying drawings, illustrating the preferred form of carrying out my invention, Figure 1 is a side view of my improved bicycle-skate. Fig. 2 is a cross-section taken through one of the wheel-brackets. Fig. 3 is a bottom view of one of said brackets. Fig. 4 is a side view of a portion of one of the wheels. Fig. 5 is a plan and an edge view of an axle-retaining ring or device. Fig. 6 is a broken detailed view of the lower inner side guard on each wheel-bracket. Fig. 7 is a detached perspective of one of the wheel-axles. Fig. 8 is a detached broken view of the lubricating axle-sleeve. Fig. 9 is a side and a sectional view of an axle washer or bearing.

Latitude is allowed herein as to details, as they may be changed without departing from the spirit or principles of my invention and the same yet remain intact.

In the embodiment of my invention I provide a suitable foot-piece or stock A, having its upper surface or contour shaped to corre-

spond to the bottom of the foot or shoe of the skater, and this foot-piece or stock is reinforced by a thin metal or steel wearing-plate A', secured or screwed thereon and conformed thereto, the screws or fastenings *a a* therefore passing or inserted therethrough from beneath.

B B' are two light castings or brackets pendant from the lower side of the stock or foot-piece A, near or at the toe and heel ends thereof, respectively, the same screws or fastenings *a* securing the wearing-plate A' to said foot-piece or stock, fastening said brackets to the latter. The brackets or castings B B' consist, preferably, each of a disk-like plate or top portion *b*, having a short upwardly-extending stout stud *b^x*, entering a corresponding recess or cavity in the under side of the stock A to aid in securing said bracket top plate in position upon the latter, said plate also having an elongation or extension *b'* toward the middle of the stock A, having a strengthening web or rib *b²* extending from its extremity and stopping at a point near a line which, if drawn, would intersect the maximum width of said elongation or extension. It (each bracket) also comprises two opposite parallel pendants or arms *b³*, having also between them an arched strengthening rib or web *b⁵*, cast integrally with said pendants or arms and the top plate or disk *b* thereof. The pendants or arms *b³* are provided or cast upon their inner opposite sides, near the lower ends, with substantially inverted-U-shaped lateral flanges or guards *b⁶*, flanking the axle-openings *b⁴* in said arms or pendants, their lower ends having opposite or alining openings *b⁸* therethrough for the reception of bolts *b⁹*, each spanning the intermediary space between the ends of the arms of each flange or guard to temporarily compass the axle, thus preventing the displacement or dropping of the wheel or cycle axle in case of the breaking of said axle, and thus provide against accident or the falling of the skater in such event, as is apparent.

C C are the wheels or cycles, one hung or journaled in each bracket and each consisting of a central or disk portion *c*, formed centrally or concentrically with a hub *c'*, extending laterally each way, and with a circumferentially broadened or flared portion *c²* and

preferably of a hard or solid rubber tire c^3 , flanked on one side with a circumferential lateral flange c^4 , integral with said broad portion c^2 , and on the opposite by a removable ring or annulus c^5 , connected with said flange c^4 by bolts c^6 , passing therethrough and through said tire.

D is the cycle or wheel axle, substantially J-shaped to provide for the ready assembling and disassembling thereof with adjunctive parts and to reduce to the minimum the use of nuts and screw-threads passed through the alining openings b^4 in the bracket-arms or pendants b^3 , with one end provided with an annular groove d outside of one of said arms or pendants, and into this groove is sprung a split ring e , while the opposite end of said axle, suitably screw-threaded, passes through an opening f in the opposite bracket-arm parallel with and above the axle-bearing opening therein and there held by a nut f' , fitted thereon upon the inside of said bracket-arm. It will be seen that the split ring e will serve to jam the nut f' tightly against the opposite bracket-arm and thus prevent its accidental displacement or jarring loose and effectively lock or secure the axle in place. This arrangement provides for the ready removal of the axle when it is required to renew the wheel or cycle or for other purpose and its ready replacement.

E is a sleeve adapted to be slipped on the axle D, inside the hub of each wheel C, and adapted to be held to said hub by a feather or key f^2 , fitted into coincident grooves or slots $f^3 f^4$, formed in said hub and sleeve, respectively. Said sleeve has an annular chamber or recess g to contain oil or other lubricant for lubricating the axle, said hub and sleeve having communicating openings or passages $g' g^2$, respectively, through which the lubricant is supplied to said chamber, the hub-passage g' being covered or closed by a pivoted cover g^3 to exclude dust and other foreign substances and prevent the escape of the lubricant while the skate is in use.

F F are washers or bearings of hardened metal or steel, adapted to permit the passage therethrough of and form extended bearings for the wheel-axes D and to fit against the ends of the wheel-hubs and having lateral flanges h to fit upon the hubs. Each washer or bearing also has an aperture h' through it to permit of the insertion of a screw h^2 , entering or engaging a suitable aperture in the inner side of the bracket-arms, thus providing for the ready removal of said washers or bearings when worn out or unsuitable for further use and replaced by others. Thus the bracket-arms are kept intact, being relieved of any appreciable amount of wear where the wheel-axes pass through them, otherwise, as heretofore made, forming the only bearings for said axles, rendering them more durable or lasting, as is obvious.

It will also be apparent that one of the brackets, with its wheel, would equally serve in the capacity of a furniture-caster, the same being readily applicable in such relations.

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

1. In a bicycle-skate, the bracket with its wheel, and the axle, bearing said wheel, having one end passing through one arm of said bracket and its opposite portion passed through the opposite bracket-arm, at two different points, with its ends suitably held therein, substantially as specified.

2. In a bicycle-skate, the bracket, with its wheel, and the substantially J-shaped wheel-axle, with one end secured in one arm of said bracket by a compassing split ring and its opposite end held in place by a nut, substantially as set forth.

3. In a bicycle-skate, the bracket, and wheel, with its axle, said bracket having arms provided upon the inside, around the openings therein receiving said axle, with integral arched guards, to prevent the displacement of the axle and wheels, in event of the breaking of the axle, substantially as specified.

4. In a bicycle-skate, the bracket and wheel, with its axle, said bracket having arms provided upon the inside, around the openings therein receiving said axle, with integral substantially U-shaped flanges or guards, said flanges or guards having bolts passing through the lower ends thereof, substantially as specified.

5. In a bicycle-skate, the wheel, with its axle, the annular chambered sleeve adapted to permit the passage therethrough of said axle and arranged within said hub, the bracket having arms also through which passes said axle, and the annular flanged bearing-washers attached to said arms and adapted to form bearings for said axle and having their annular flanges compassing the ends of said sleeve and abutting the ends of said hubs, substantially as set forth.

6. In a bicycle-skate, the bracket comprising the substantially disk top plate, with a ribbed elongation toward the middle of the skate, and pendent arms adapted to carry the wheel-axle, and having cast therewith, upon the inside, guards, compassing the openings in said arms receiving said wheel-axle, said guards having bolts passing through their lower ends, and said top plate also having an arched rib or web cast with it, upon its under side, and with said arms, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JOSEPH A. REECE.

Witnesses:

EDWIN D. JONES,
N. J. JONES.