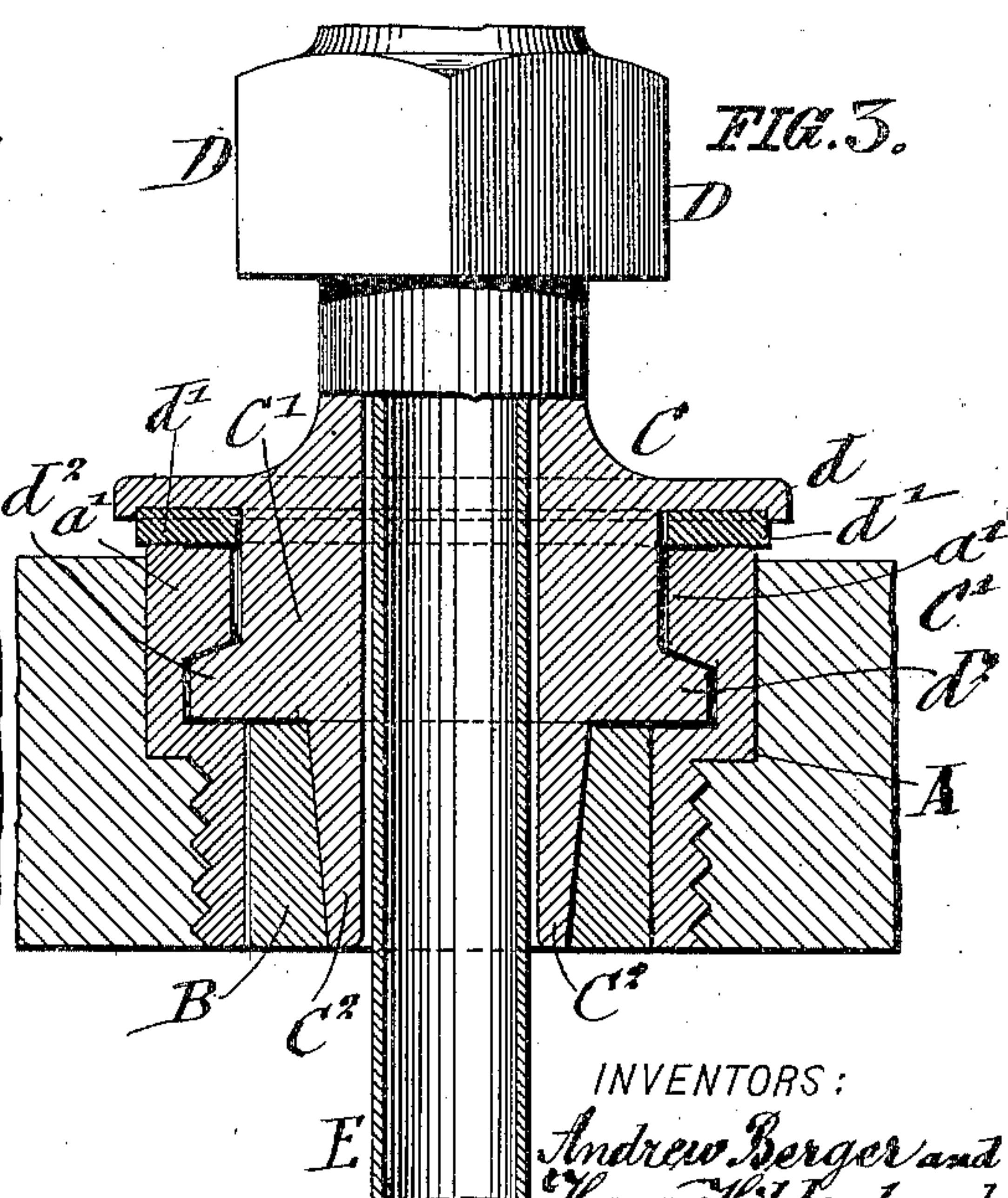
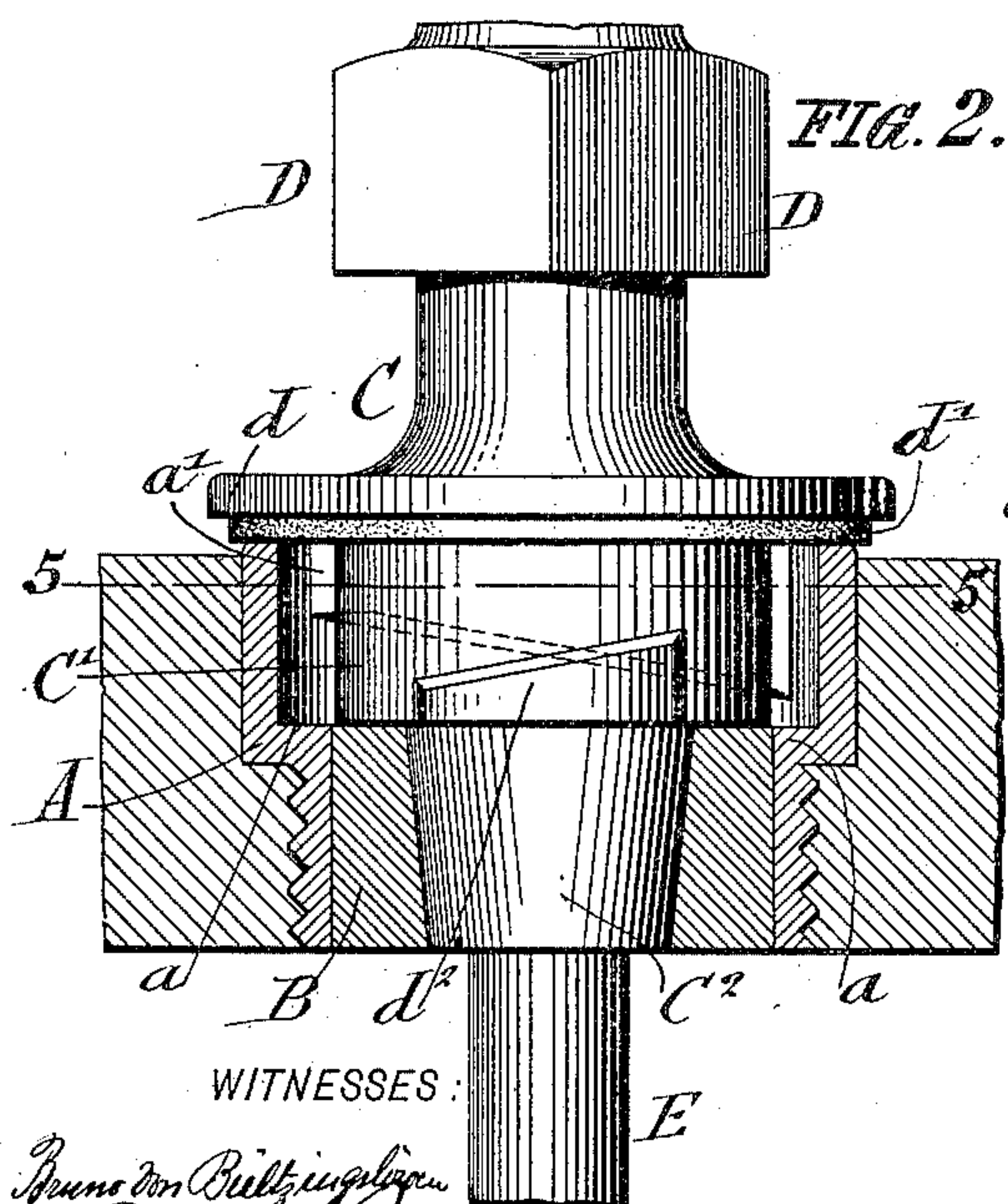
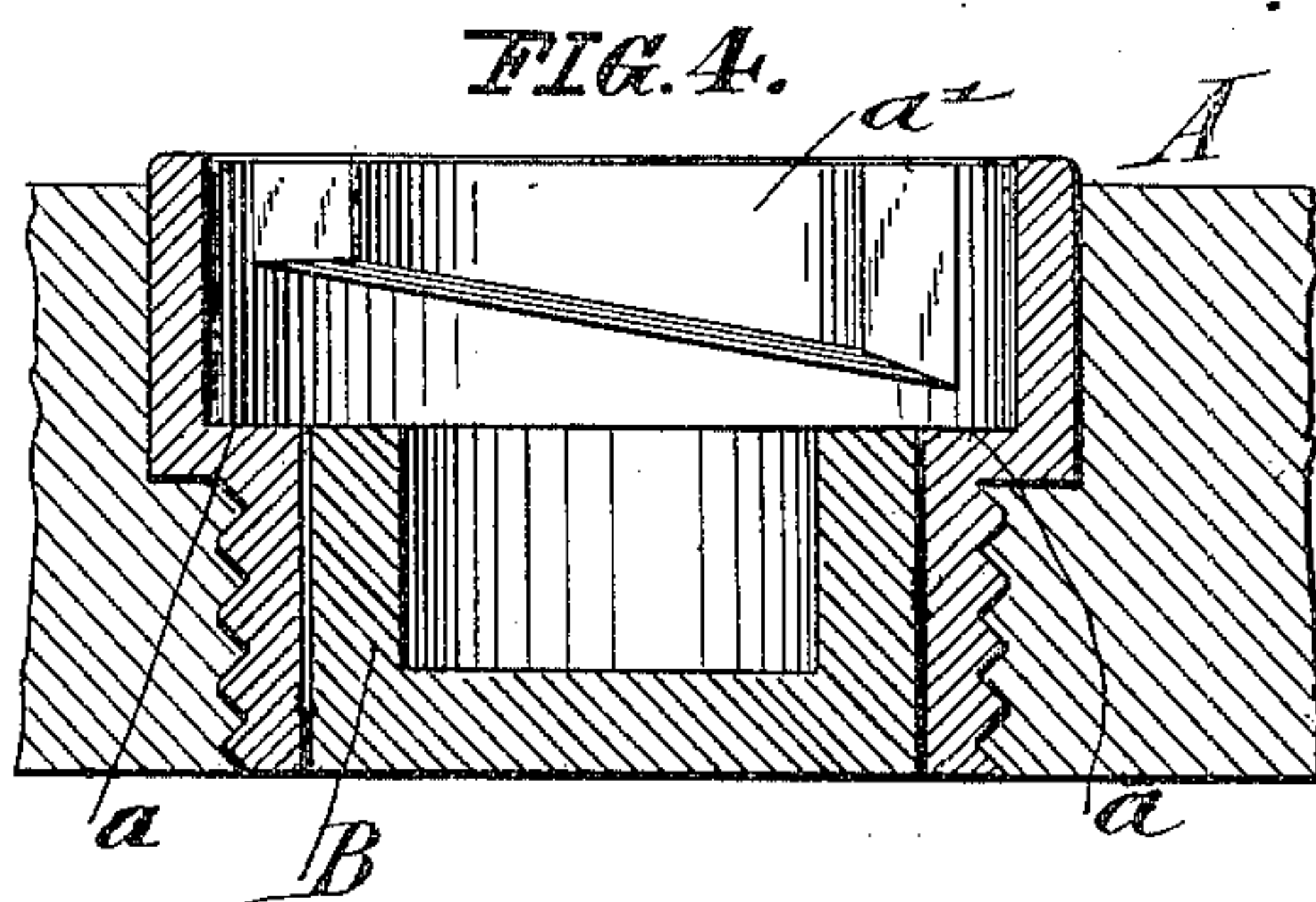
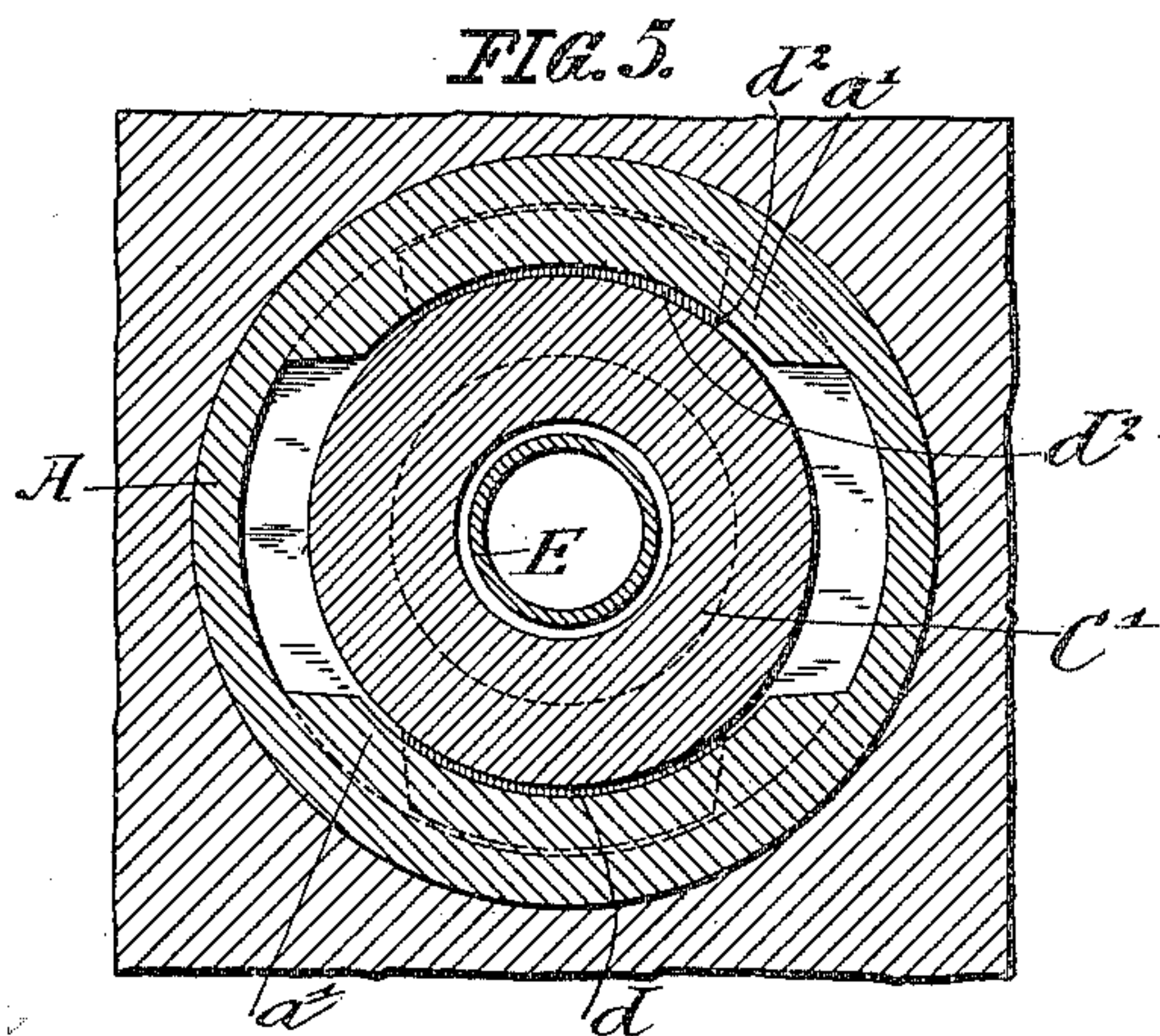
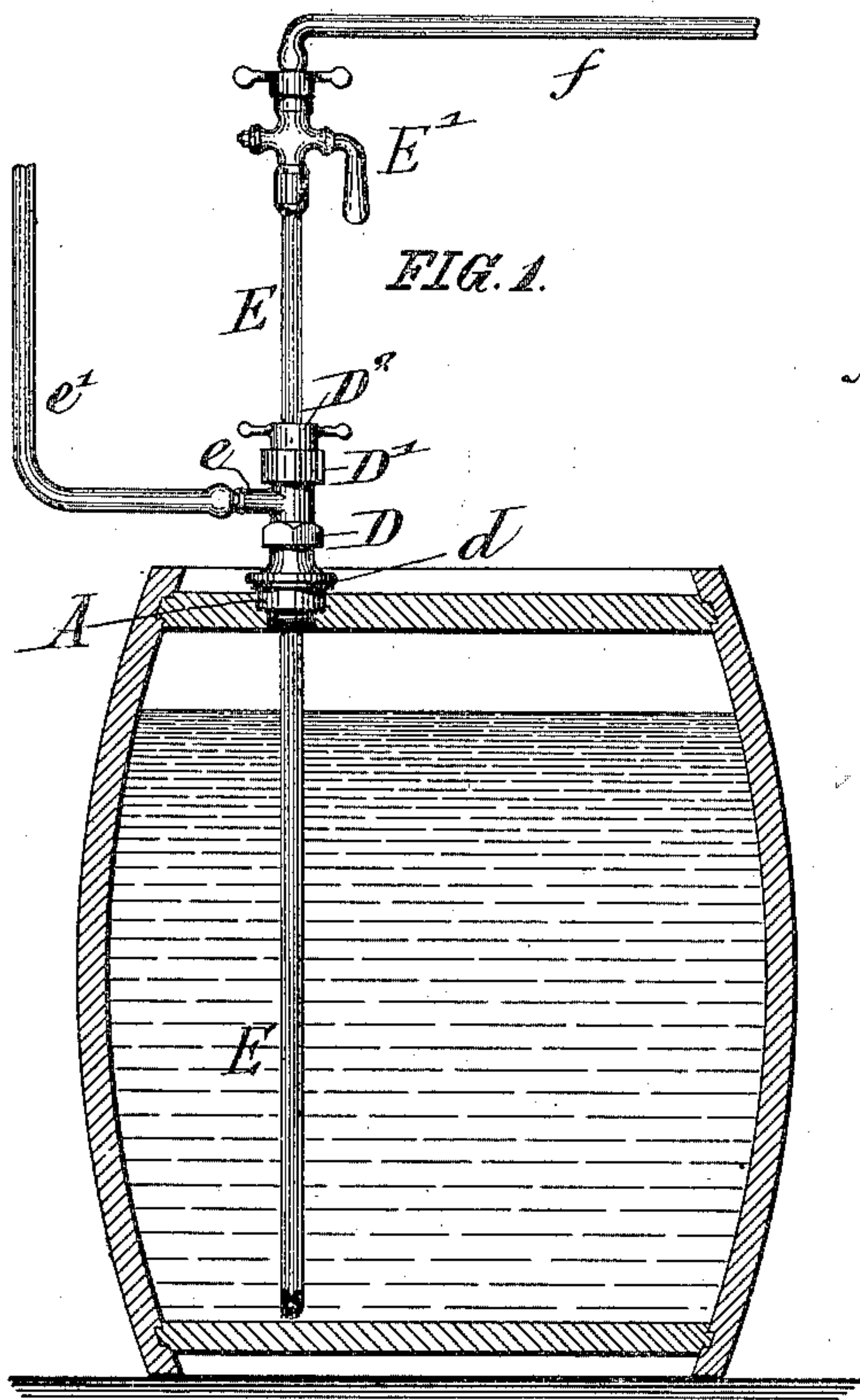


(No Model.)

A. BERGER & H. HILDENBRAND.  
TAPPING APPARATUS.

No. 604,596.

Patented May 24, 1898.



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# UNITED STATES PATENT OFFICE.

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## TAPPING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 604,596, dated May 24, 1898.

Application filed October 7, 1897. Serial No. 654,463. (No model.)

*To all whom it may concern:*

Be it known that we, ANDREW BERGER, a citizen of the United States, and HENRY HILDENBRAND, a citizen of Germany, and residents of the city, county, and State of New York, have invented certain new and useful Improvements in Tapping Apparatus, of which the following is a specification.

This invention relates to certain improvements in tapping apparatus by which beer or other liquor can be withdrawn from a barrel or other receptacle with great facility under pressure of air or carbonic-acid gas. It is very simple in construction and is applied with great facility into the faucet-hole of the barrel whenever the same is to be tapped; and the invention consists of a tapping apparatus for barrels which comprises a shouldered bushing provided in its outer enlarged portion with inner projections or lugs inclined on the under sides and in its smaller portion with a wooden plug, a flanged faucet-piece provided with a cylindrical portion fitting into the outer larger portion of the bushing and provided with cams having inclined faces engaging the inclined faces of the projections of the bushing and a lower conical portion below the cylindrical portion, said conical portion fitting into the opening of the closing-plug of the bushing, a gasket between the outer edge of the bushing and the circumferential flange of the faucet portion, a square head on the faucet portion above the flange, an air-supply pipe above said head, a discharge-pipe of smaller diameter than the bore of the faucet-piece, and a stuffing-box applied to the upper end of the faucet-piece, so as to secure the same tightly to the discharge-pipe, all as will be fully described hereinafter and finally pointed out in the claims.

In the accompanying drawings, Figure 1 represents a side elevation of our improved tapping apparatus shown as placed in position in the faucet-hole of a barrel and ready for drawing the liquor from the same. Figs. 2 and 3 are respectively side elevations and vertical sections of the tapping apparatus, showing the faucet-piece drawn on a larger scale and in position in the bushing of the faucet-holder. Fig. 4 is a vertical transverse section through the bushing and its closing-plug before the tapping apparatus is introduced

into the same; and Fig. 5 is a horizontal section on line 5 5, Fig. 2.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents a bushing, which is preferably inserted into the faucet-hole located in one of the heads of the barrel or other liquor-containing receptacle.

The bushing A is provided with an inwardly-projecting shoulder *a*, which forms an outer enlarged portion and an inner smaller portion. The outer surface of the inner portion of the bushing A is screw-threaded and screwed into the head of the barrel at a point where the faucet-hole is located. The outer circumference of the enlarged cylindrical portion of the bushing A is made smooth and fits snugly in the enlarged outer portion of the faucet-hole, as shown clearly in Fig. 4.

The enlarged outer portion of the bushing A is provided at diametrically opposite points with inner projections or cams *a'*, the upper surface of which is flush with the outer edge of the bushing and the lower surface of which is inclined so as to form tapering cams. Into the innermost portion of the bushing is inserted a wooden plug B, which is provided with a web at the bottom and an aperture above said web. The webbed plug B is of the form as generally used in beer and other kegs for closing the bushing of the faucet-holder. The shouldered bushing, with its cam-shaped projections and webbed plug, forms a stationary part of the barrel with which our improved tapping apparatus is to be used, the bushing being permanently inserted into the head of the barrel, while the webbed plug is driven into the bushing before the barrel is filled and bunged preparatory to shipment. The inner diameter of the shouldered lower portion of the bushing must be somewhat less than the distance between the mid-lengths of the cam-shaped projections *a'*, so that the webbed plug can be driven into the bushing without difficulty.

The faucet-piece C, by which the barrel or other liquid-retaining receptacle is tapped, is provided with an exterior flange *d*, which is recessed at that side facing the bushing, so as to receive an elastic washer or gasket *d'*, and adjacent to the washer is arranged a cylindrical portion C', which fits into the outer en-



larged portion of the bushing, said cylindrical portion being provided at diametrically opposite points with cam-shaped projections  $d^2$ , which are straight at their inner sides and inclined at their outer surfaces, said cylindrical portion being equal in depth to the height of the outer enlarged portion of the bushing, so that the cam-shaped projections  $d^2$ , after being inserted into the outer enlarged portion of the bushing in the open spaces arranged between the cam-shaped projections  $a'$ , can then be turned and moved along the inclined under surfaces of the projections  $a'$ , so that the faucet-piece C is gradually drawn into the bushing until it is tightly secured therein. Adjacent to the cylindrical portion of the faucet-piece is arranged a conically-tapering portion  $C^2$ , the size of which corresponds to the size of the opening in the webbed plug.

The faucet-piece C is provided at the opposite side of the flange  $d$  with a square head D for receiving a wrench when the faucet-piece is inserted into the bushing. Above the head D the faucet-piece is provided with a cylindrical portion  $D'$ , which is connected by a short tubular portion  $e$  and a pipe or hose  $e'$  with the pump or other apparatus by which air or carbonic-acid gas under pressure is supplied to the interior of the barrel. Above the short tubular portion  $e$  the faucet-piece is provided with a stuffing-box  $D^2$ , having a screw-gland by which the faucet-piece C is tightly applied to the discharge-pipe E, which is of somewhat less diameter than the interior bore of the faucet-piece, so as to permit air or carbonated acid gas under pressure to pass into the annular space between the discharge-pipe and the interior bore of the faucet-piece to the interior of the barrel. The discharge-pipe E is provided with openings at its lower end and is made of sufficient length to be pushed through the faucet-piece to the opposite head of the barrel, as shown in Fig. 1. The discharge-pipe is provided at its upper end with a faucet  $E'$  and stuffing-box and is connected by a pipe or hose  $f$  with the discharge-faucet arranged on the counter or bar where the liquor is to be drawn off.

When the barrel is to be tapped, the discharge-pipe E is drawn outwardly until its inner end is within the bore of the faucet-piece C. The faucet-piece is then inserted into the bushing until the end of its conical portion  $C^2$  rests in the web of the plug. The faucet-piece is then turned on its axis by applying a wrench to the head D, which turning action is slowly continued, whereby the cam-shaped projections of the faucet-piece engage with and move along the cam-shaped projections of the bushing and gradually force the conical end of the faucet-piece against the web of the wooden plug. By continuing the turning of the faucet-piece the inner conical portion of the faucet-piece is forced with such pressure against the web of the wooden plug that the same is forced into the barrel. As soon as this is accomplished the discharge-

pipe E is pushed inwardly through the bore of the faucet-piece until it abuts against the opposite head of the barrel. The pipe connection of the faucet-piece with the pump is then established and likewise the connection of the upper end of the discharge-pipe with the connecting-hose that leads to the bar or counter. The stop-cock  $E'$  is then opened, after which the tapping apparatus is ready for drawing off the liquor from the barrel in connection with the pressure exerted on the liquor by the air or carbonic-acid gas conducted to the interior of the barrel.

When the barrel is emptied, the faucet-piece is removed from the bushing by releasing the cam-shaped projections on the faucet-piece from the projections on the bushing. The faucet-piece, with the discharge-pipe, is then withdrawn from the bushing and the barrel returned to the brewer for being filled again for shipment.

Our improved tapping apparatus has the advantage of being of great simplicity of construction, by which not only the tapping of the barrel is easily and quickly accomplished, but also the very tight fitting of the faucet-piece to the bushing obtained—first, by the tight fitting of the conical end of the faucet-piece into the aperture of the wooden plug B, and, secondly, by the pressure exerted on the elastic washer or gasket which is interposed between the outer edge of the bushing and the circumferential flange on the faucet-piece. This prevents any escape of liquid or air from the barrel and secures a reliable functioning of the tapping apparatus.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. The combination with a shouldered bushing screwed in the head of the barrel and provided with cam-shaped projections in its outer enlarged portion, a webbed wooden plug driven into the inner smaller part of the bushing, a faucet-piece provided with a circumferential flange, a cylindrical portion adjacent thereto, provided with cam-shaped projections adapted to engage the projections in the bushing, a tapering portion adjacent to said cylindrical portion and an enlarged head at the outer end of the faucet-piece, an elastic washer or gasket interposed between the outer edge of the bushing and the circumferential flange of the faucet-piece, a stuffing-box at the outer end of the faucet-piece, and a discharge-pipe guided in said stuffing-box and provided with a stop-cock, substantially as set forth.

2. The combination with a bushing located in the head of the barrel, said bushing being provided with a shoulder so as to form an outer larger and inner smaller portion, cam-shaped projections in the outer larger portion, a webbed wooden plug driven into the inner portion of the bushing, a faucet-piece provided with a circumferential flange, a cylindrical portion adjacent to said flange pro-



vided with cam-shaped projections corresponding in size to the space between the cam-shaped projections in the bushing, a conically-tapering portion adjacent to the cylindrical portion of the faucet-piece, and a head at the outer end of the faucet-piece, a stuffing-box at the outer end of the faucet-piece, a gasket interposed between the outer edge of the bushing and the circumferential flange on the faucet-piece, a short tubular portion on the outer end of the faucet-piece for connection with the air-pump, and a discharge-pipe passing through the bore of the faucet-piece and provided with a stop-cock at its

outer end, said discharge-pipe being of slightly less diameter than the interior bore of the faucet-piece so as to provide an annular space for the ingress of air to the interior of the barrel, substantially as set forth. 15

In testimony that we claim the foregoing as our invention we have signed our names in presence of two subscribing witnesses. 20

ANDREW BERGER.  
HENRY HILDENBRAND.

Witnesses:

PAUL GOEPEL,  
GEO. W. JAEKEL.