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L. E. F. WACHTER.
PENDENT BOW.

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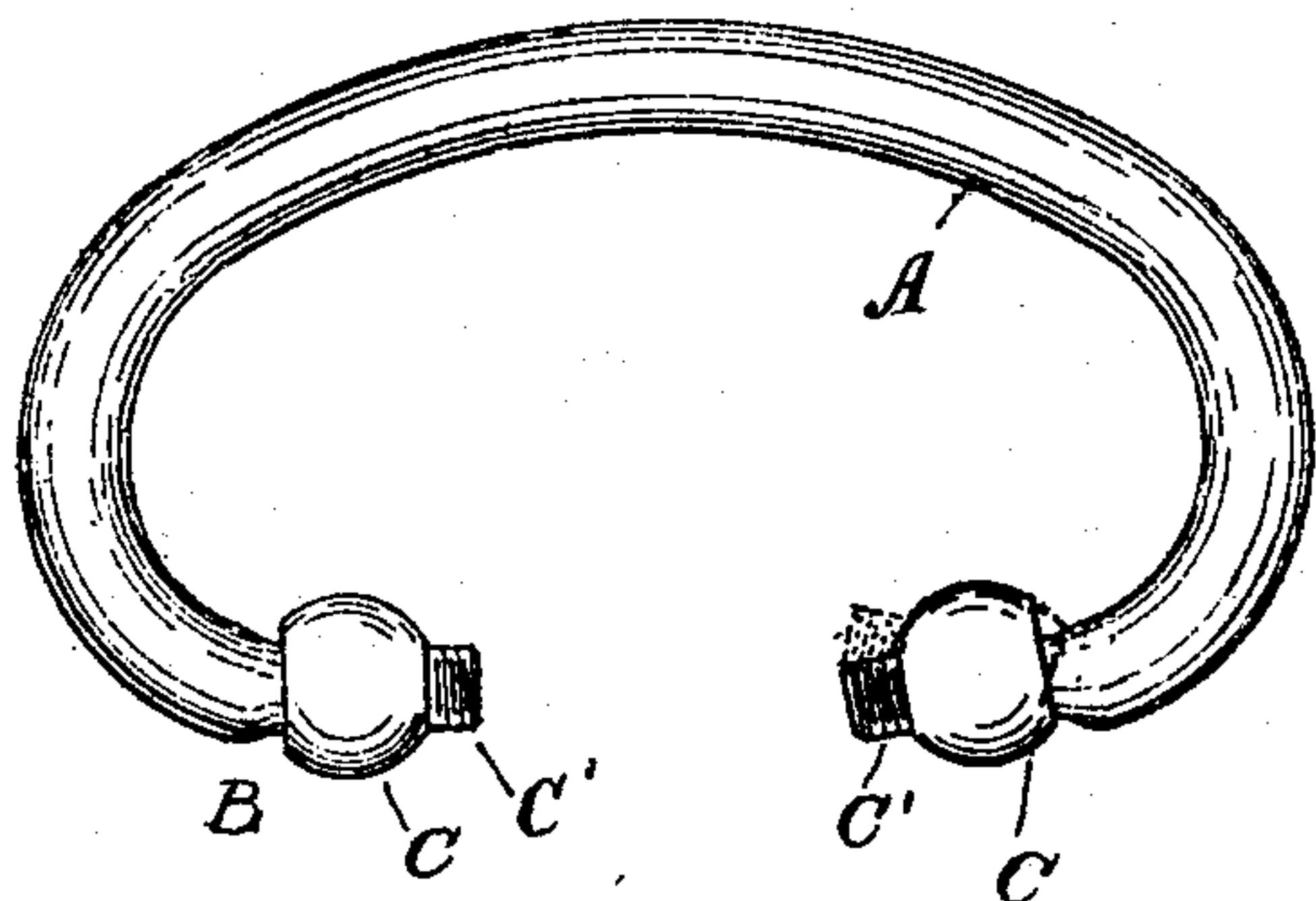


Fig. 1.

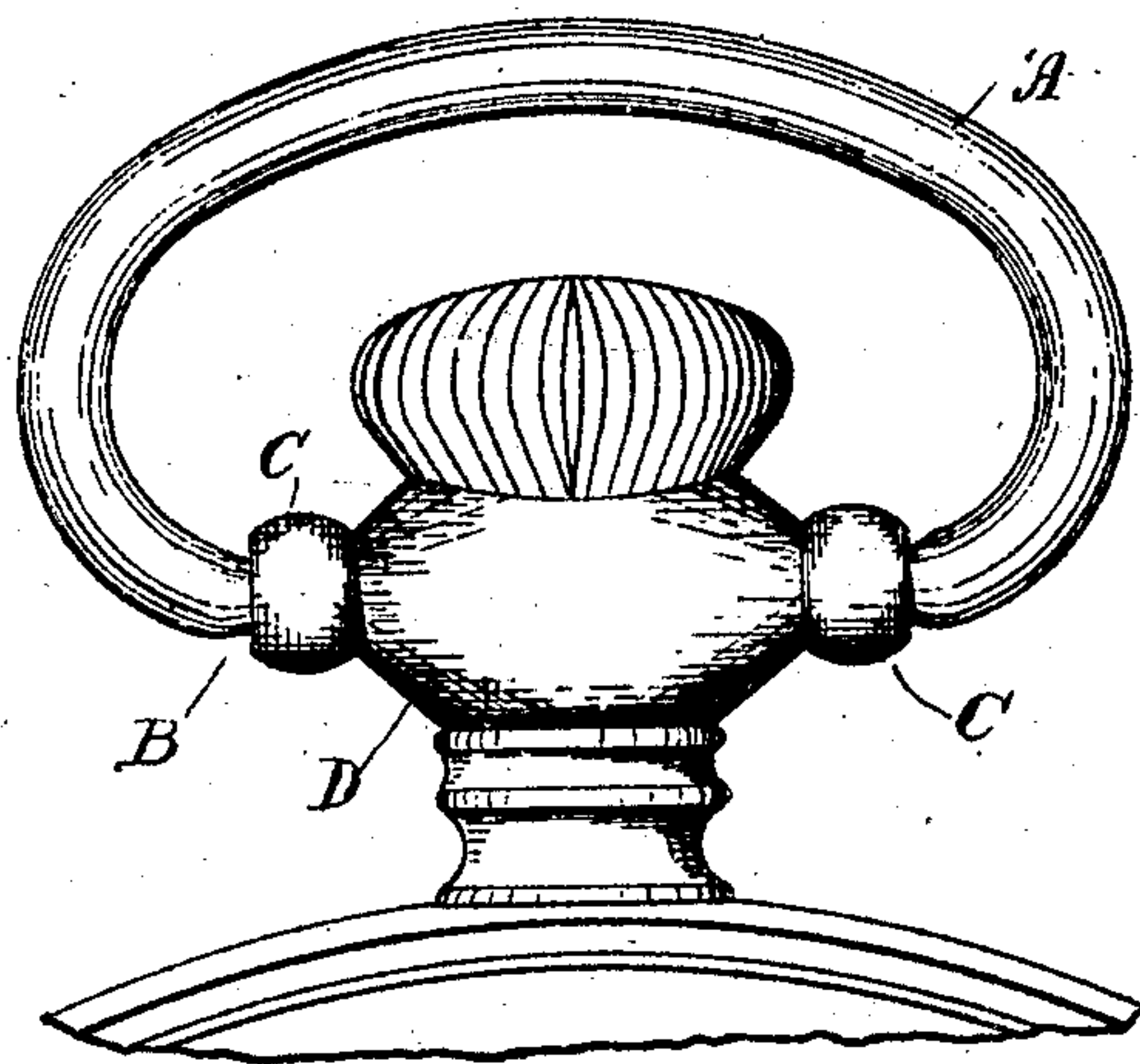


Fig. 2.

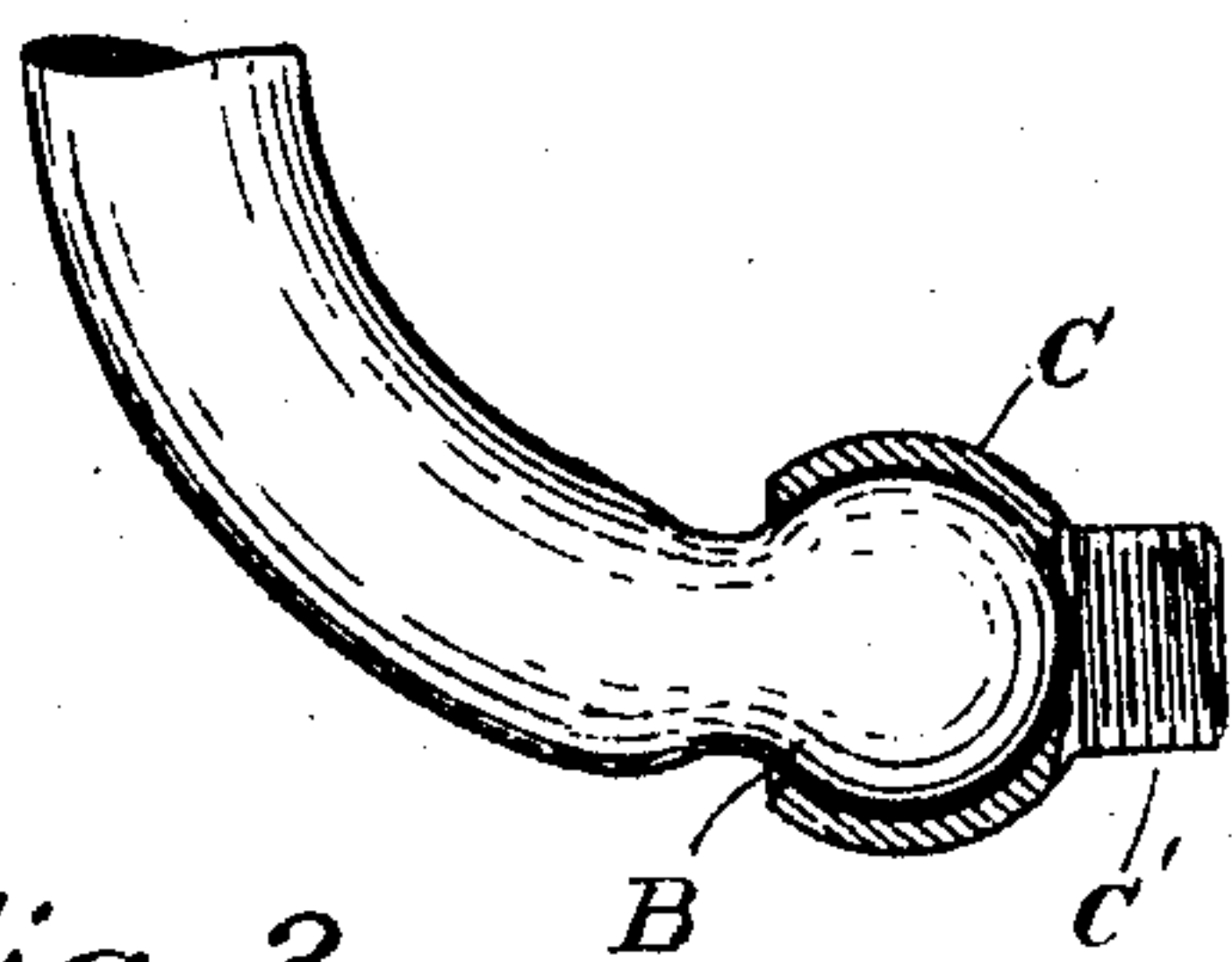


Fig. 3.

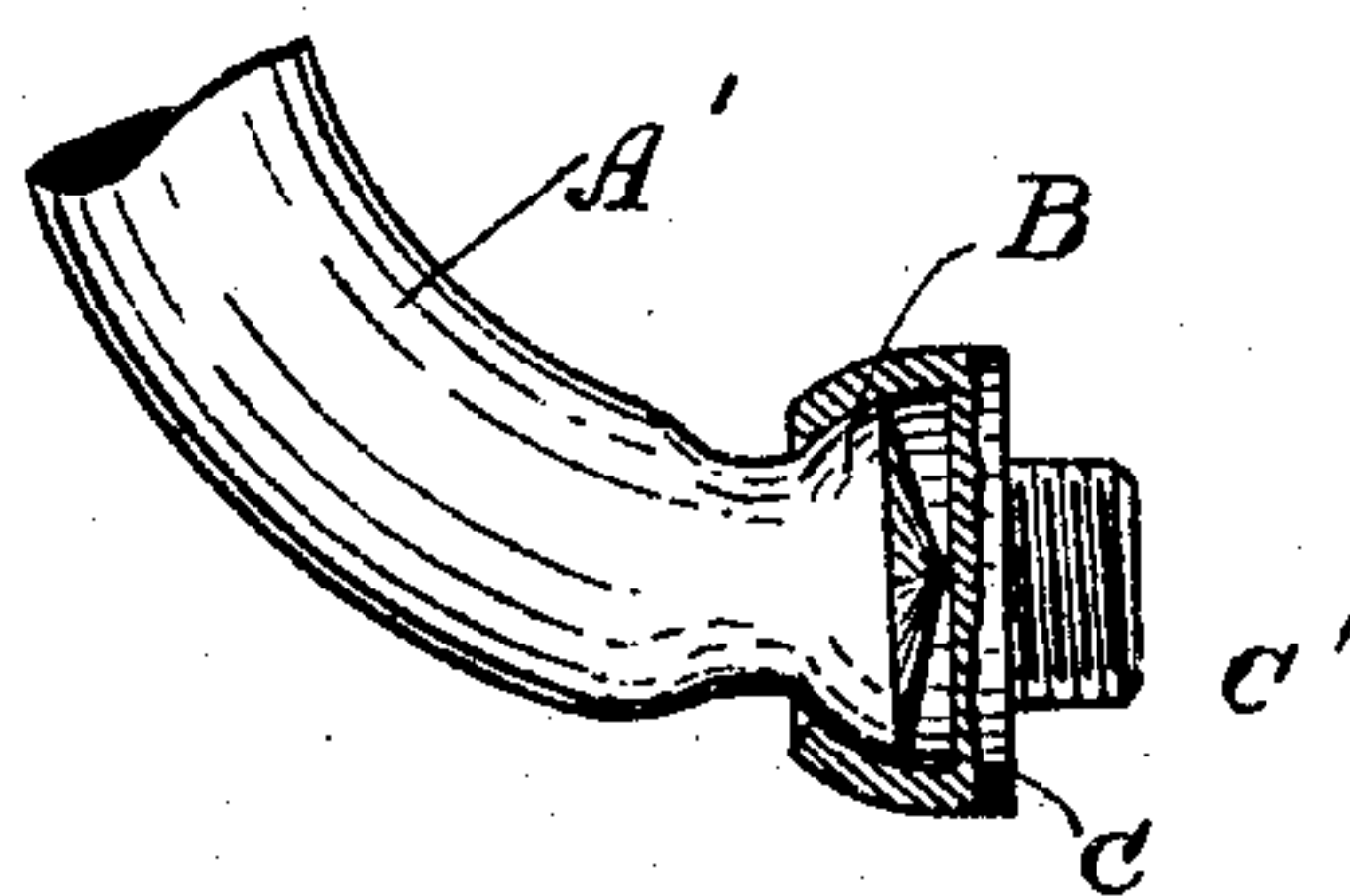


Fig. 4.

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UNITED STATES PATENT OFFICE.

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PENDENT BOW.

No. 795,665.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, LOUIS E. F. WACHTER, a subject of the King of Bavaria, and a resident of Hartford, in the county of Hartford, State of Connecticut, have invented certain new and useful Improvements in Pendant-Bows, of which the following is a specification, reference being had to the drawings forming a part hereof.

This invention pertains to pendant-bows, such as the rings for watches, and has more particular reference to means for attaching the same to the watch-pendant or such other member as is desired to securely hold the bow to the attached part, while at the same time permitting the necessary freedom of movement. At the same time I intend the most general use for my invention to be the attachment of rings to watches having the so-called "antique" pendants, the construction of which permits a most satisfactory adaptation of my invention.

A further object is also to produce as an article of manufacture a bow which can be very readily attached, as to a watch-pendant, and at the same time minimize the wear on the permanent parts of the watch, necessitating at the same time practically no change in ordinary construction and being susceptible of use by such as are even only slightly skilled in the repair of articles of this class.

The antique pendants referred to are, as commercially now well known, those pendants which terminate in a transversely-elongated head, which is supported from or connected with the watchcase proper by a substantially cylindrical or fanciful stem. Such elongated head leaves considerable metal on either side of the stem end, and, furthermore, the elongated shape, substantially as shown in the drawings, tapers to the lateral extremities, terminating, as seen from the sides, in a circular configuration, all of which admirably adapts itself to my form of attaching means. It will furthermore be seen that such antique-pendant end, in conjunction with my attaching-sockets or other construction, can be made to harmonize in design, as well as offering a neat mechanical juncture of the parts, also strong and not liable to derangement.

It is well known that practically all watches are secured to a chain or fob by means of a metal ring which enters the pendant of the watch and is held solely by the spring of the metal, whereby slight lateral strain very frequently detaches the pendant, causing the con-

stant accidents and very frequent losses. It has heretofore been suggested to secure the ends of bows in various manners, none of which, however, are feasible, there being objections in each construction which has heretofore been suggested, such as the necessity of specially constructing the pendant, the misfitting of bow and pendant when not of precise predetermined relative sizes, or the use of minute or an objectionable number of parts. My invention is intended to avoid all these defects.

In the drawings forming a part hereof I have shown in Figure 1 one form of my pendant-bow as it would appear as an article of manufacture. Fig. 2 is a watch-pendant with one form of my construction of bow attached. Fig. 3 is one end of a pendant-bow with attaching-socket. Fig. 4 is a modified form of attaching-socket and bow end.

A is the bow proper, consisting of a bent wire in any usual form, the ends B of which in the form shown in Figs. 1, 2, and 3 are spherical, being shaped by swaging, spinning, or turning on the end of the main portion. Encircling the ends is the socket C, integral with which is the threaded portion C'. The socket C, it will be seen, encircles the ball end B, reaching close to the neck of the main portion A, but leaving sufficient room for the socket to turn slightly. The socket, however, is bent, spun, or swaged onto the ball, so as to securely hold it, while the shape of these interengaging parts is such as to permit a perfect bearing irrespective of the relative position of the threaded portion axially of the main body portion, the importance of which will appear in view of the following:

In order to attach my pendant-bow, it is spread by pliers or in other desired manner, and the spherically-mounted sockets can be twisted so that the threaded portions will perfectly engage the threaded recesses in the sides of the watchcase-pendant. These sockets are then screwed into the pendant-recesses, which is possible owing to the swiveling on the pendant-bow proper, which permits their perfect meshing with the threads in the pendant without jamming. Irrespective of the width of the pendant the operation just recited will be possible in view of the yielding of the sockets on the pendant proper. When attached to a watch, the form of the socket and ring end, it will be seen, is such as to eliminate any chance of straining the threaded parts, while the spring action, even if

slight, in the pendant proper will avoid any chance of the unscrewing of the sockets.

In the modified form shown in Fig. 4 the end B' of the ring A' is less than a hemisphere, presenting a more compact and for some purposes more convenient and neater construction. The part-spherical bearing on the outer side of the pendant-bow end and the overspun socket is such, however, it will be seen, as to permit the slight twisting of the socket, which is absolutely essential for the attachment of the ring without injuring the thread, without which, in fact, the thread would invariably be ruined to such an extent as to prohibit a secure engagement of the attaching-sockets with the pendant. In the form shown in Fig. 4 the screw portion C' terminates in a shoulder *c* for engagement with the flat end of the pendant, which when screwed home gives additional frictional contact to prevent unscrewing. This may also be slightly undercut, so as to constitute, in effect, a lock-nut. In this it will be noticed that the end of B' is slightly beveled, so that the center of the spherical bearing-surface is in contact with the interior of the socket to prevent looseness of the end in the socket while still permitting the necessary movement.

Considering, for instance, the parts constituting my invention as used in a gold watch, the gold of the pendant is, as a rule, of softer quality than the ring. This is due to the necessity of having some elasticity in the bow or ring. In the ordinary means for attachment it will be seen, therefore, the relatively softer pendant is worn by the friction due to the constant movement of the ring ends, which gradually loosens the pendant-bow. In my construction even if the socket is of harder metal than the pendant it is simply screwed home therein and not subject to any movement which would wear the pendant. In this way all the wear due to the hinging of the ring is brought either on the ends of the ring or on the interior of the sockets, both of which parts can be very readily replaced in case excessive wear should take place, while on the other hand they can be made of such size as to prevent objectionable wear for a great time. The pendant proper, which relatively is far more expensive than the parts of the ring, is thus entirely preserved against wear or injury from the interengaging ring.

While the above advantages are most important, it will of course be seen that the construction entirely prevents the accidental spreading of the ring and consequent detachment of the bow from the pendant. It is well recognized that the loss of watches or the damage occasioned by the detaching of the watch-bow by spreading is enormous, in view of which many attempts have been made to produce a construction of ring and pendant and attaching means which would eliminate these dangers or at least lessen them, but

without success. In the practice of my invention the additional advantage presents itself of not being bound to use a ring with elasticity or at least one the securing of which depends upon its elasticity, which consequently increases the range of qualities of metals which can be used for the purpose. Furthermore, my construction of ring is attachable to practically all pendants now in use without the necessity of any changes in the pendant part and without the necessity of the manufacture of special rings for each special design and size of pendant. It is only necessary to tap the holes already existing on either side of the pendants and screw in the standard size of socket-ring. My construction is peculiarly adapted to attachment to watch-pendants the recesses in which have already been considerably worn.

The sockets I make of various sizes and shape, and can be specially made to match the pendant-body to which they are attached—as, for instance, to form a continuous taper or any other desired configuration. I prefer to make them of such an external shape as to permit their being held securely for screwing into the pendant, and for this purpose I have devised special-shaped pliers to suit my standard forms.

I do not desire to limit myself to the precise details of construction shown and described herein, as various modifications of design are of course possible, while still embodying the essential and novel features of my invention; but

What I claim, and desire to secure by Letters Patent, is—

1. As an article of manufacture, a pendant-bow comprising the ring proper, single-piece attaching means, including sockets and screw-threads beyond said sockets, flexibly attached to the ends of said ring proper, substantially as shown and described.

2. As an article of manufacture, a pendant-bow comprising a ring portion, spherical ends on said ring, spherical sockets conforming to said ends with an aperture of greater size than the neck of the engaging-ring end, whereby relative flexibility is secured.

3. As an article of manufacture, a pendant-bow comprising a ring portion, spherical ends on said ring, spherical sockets on said ends with an aperture of greater size than the neck of the engaging-ring end, whereby relative flexibility is secured, and a screw-tang on said sockets.

4. In a watch, a pendant proper, threaded recesses, a pendant-bow, and one-piece flexible attaching-sockets on the end of said bow and threaded tangs on said sockets engaging with the threaded recesses in the pendant.

5. In a watch, a pendant proper, having elongated head and recesses on opposite sides in the extremities thereof, a pendant-bow, integral knobbed ends having spherical or round-

ed outer bearing-surfaces, a socket on either end of said pendant-bow, the outer extremities of said sockets being bent or spun over the rounded outer surface of said knobbed ends, and closely conforming thereto, and an attaching-tang on each of said sockets permanently engaging the recesses on the pendant.

6. In combination in a watch, an antique pendant-head, a pendant-bow with integral part-spherical ends, the curved surface of said ends facing outwardly, sockets inclosing said integral pendant-bow ends and reduced after insertion of the pendant end to permanently attach the same, the aperture in said socket being of slightly greater diameter than the neck of the pendant-bow end, a threaded tang on each of said sockets, whereby the same are permanently secured to the extremities of the antique pendant-head, substantially as and for the purpose described.

7. In a watch, a pendant proper, threaded portions on either side of said pendant, a bow having knobs thereon, attaching-sockets, the portion of said sockets engaged by said knobs being of greater diameter than the threaded portion of the pendant.

8. In combination in a pendant, a pendant-head, a bow, a connecting means for each end of said bow including severally a threaded portion and a socket-recess, each of said

threaded portions adapted to engage said pendant-head, and each of said socket-recesses being entirely beyond said threaded portions and engaging the bow.

9. In combination in a pendant, an antique head, threaded recesses in the extremity of said antique head in the transverse axis of said head, a pendant-ring, attaching means for said ring, each of said means including a threaded portion for engagement with said threaded recesses in said antique head and a socket-recess entirely beyond said antique head engaging said ring, substantially as shown and described.

10. In a watch, an antique pendant end, recesses in the ends thereof, a pendant-ring, attaching devices between said head extremities and said ring, including relatively small securing portion and a socket portion larger than said securing portion, said devices engaging said antique end and the portion larger than the securing portion coöperating with the adjacent end of said ring to form a flexible joint.

This specification signed and witnessed this 14th day of August, A. D. 1902.

LOUIS E. F. WACHTER.

In presence of—

DR. MOLDENHAUER,

GREGORY STENTZSCH PRITTAG.