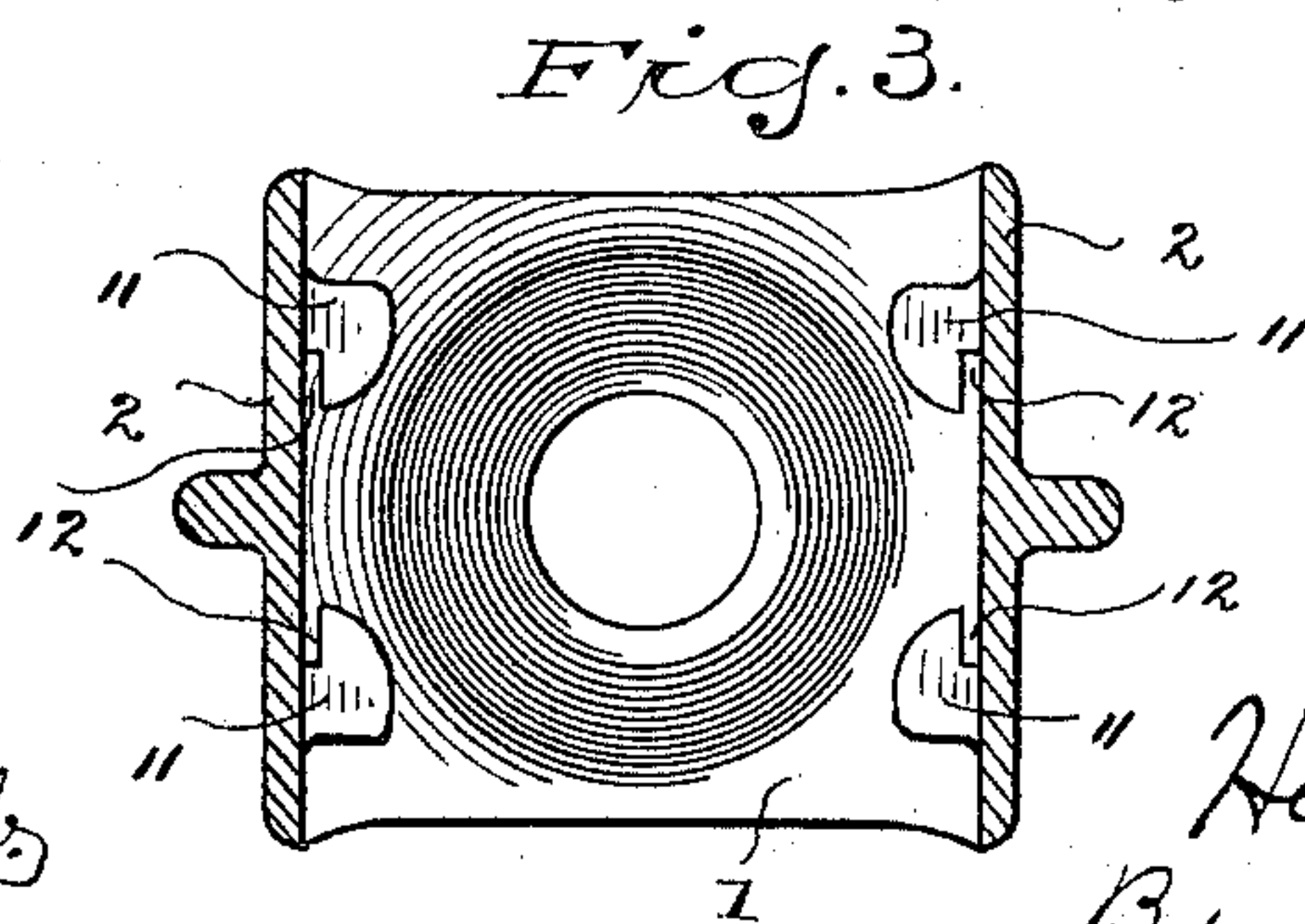
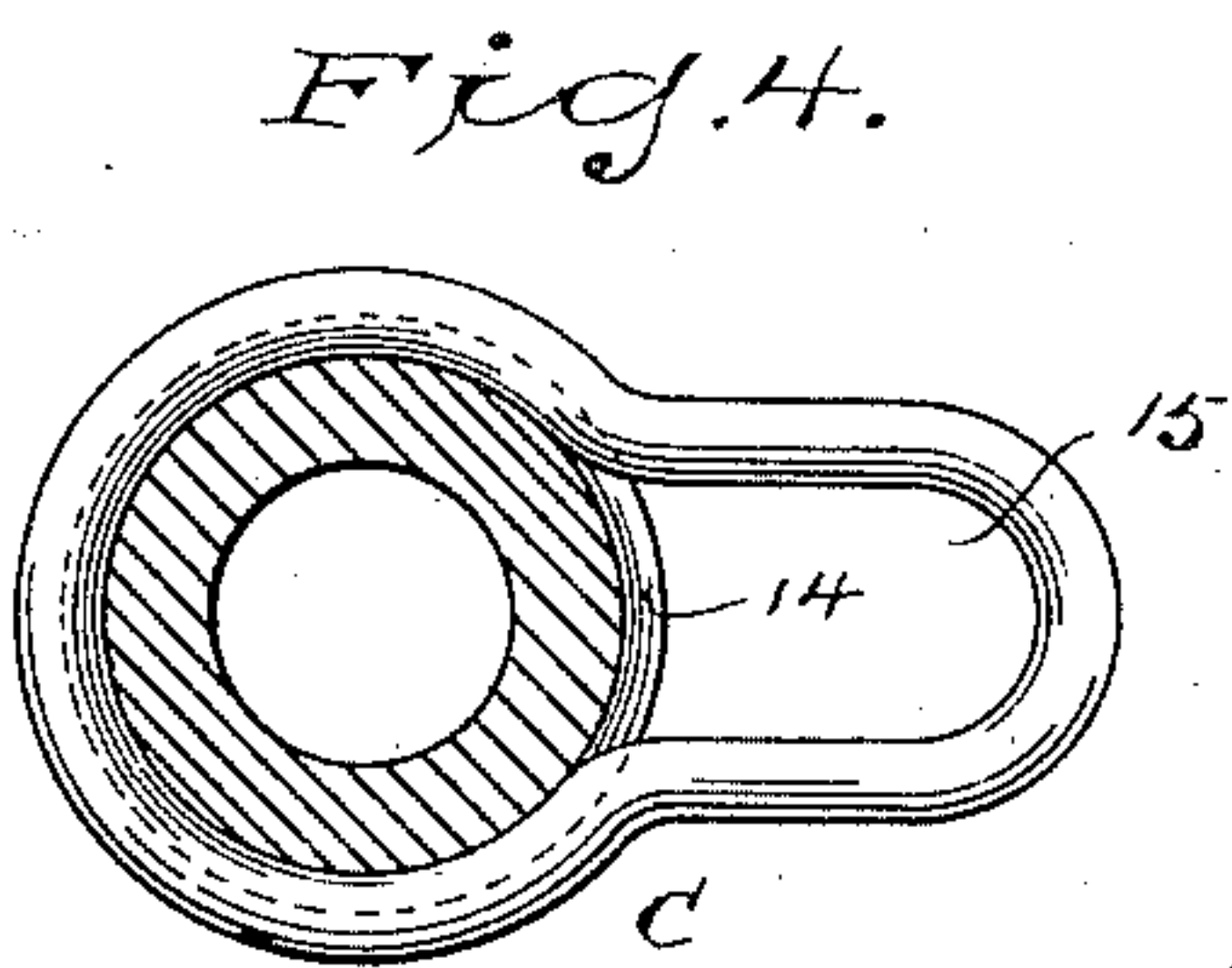
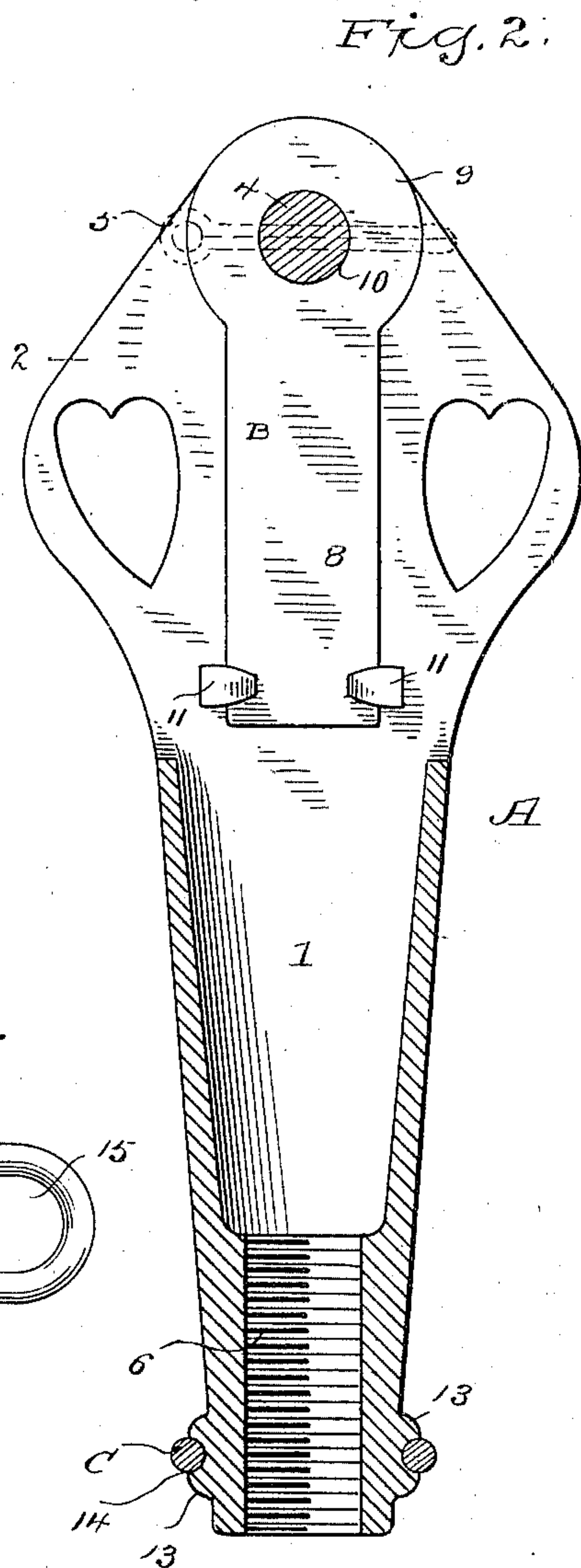
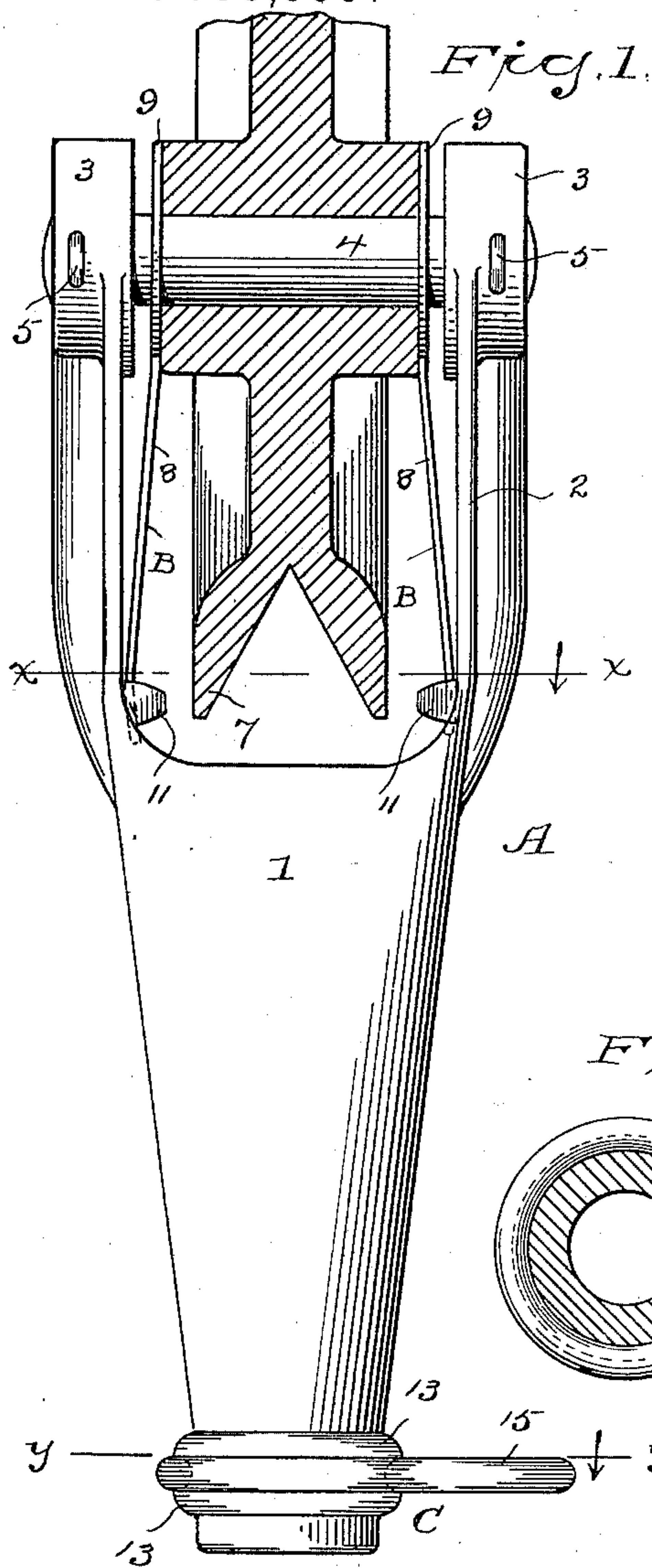


(No Model.)

H. W. SMITH.
TROLLEY HEAD.

No. 598,580.

Patented Feb. 8, 1898.



WITNESSES

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INVENTOR

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UNITED STATES PATENT OFFICE.

HERBERT W. SMITH, OF SOMERVILLE, MASSACHUSETTS, ASSIGNOR TO THE
F. L. GAYLORD COMPANY, OF ANSONIA, CONNECTICUT.

TROLLEY-HEAD.

SPECIFICATION forming part of Letters Patent No. 598,580, dated February 8, 1898.

Application filed June 10, 1897. Serial No. 640,125. (No model.)

To all whom it may concern:

Be it known that I, HERBERT W. SMITH, a citizen of the United States, residing at Somerville, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Trolley-Heads; and I do hereby 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.

My invention relates to trolley-heads for electrical railways, and has for its object to simplify and cheapen their construction and at the same time to generally improve their operation in use, an important feature of my improved construction being that the trolley-springs may be conveniently removed and replaced with slight loss of time and at no expense except the cost of the springs, and another important feature being an improved construction of swiveled ring to which the trolley-rope is attached in use.

In order to overcome objections found to various trolley-heads now upon the market, I have devised the simple and novel construction which I will now proceed to describe, and then specifically point out in the claim.

In the accompanying drawings, forming part of this specification, Figure 1 is an elevation of my novel trolley-head, the trolley being in section and partly broken away; Fig. 2, a section of the trolley-head on a plane at right angles to Fig. 1, the axle being in section and the trolley removed; Fig. 3, a section on the line $x x$ in Fig. 1, and Fig. 4 is a section on the line $y y$ in Fig. 1.

A denotes the trolley-head, which comprises a body 1 and arms 2, having hubs 3, in which the axle 4 is mounted, said axle being removably retained in the enlargements in any suitable manner, as by spring-pins 5. The trolley-pole (not shown) may be attached to the body in any suitable manner, as by a thread engaging a thread 6 in the body.

7 denotes the trolley, which turns freely on the axle. The trolley is retained in a central position between the arms and out of contact with either arm by means of springs B, each spring comprising a shank 8 and a head 9, having an opening 10, through which the axle passes. These springs are removably retained in position by means of lugs 11, formed upon or attached to the inner side of the head, said lugs being provided with undercut re-

cesses 12, each pair of lugs receiving the edges of the shank of one of the springs and holding it firmly, as clearly shown in Fig. 2. The advantage of this construction is its simplicity and cheapness and more especially that it permits the springs to be readily removed and new ones placed in position should they break or become worn. In order to change either or both of the springs, it is simply necessary to remove the spring-pins, which permits the axle and the trolley to be removed from the head. The operator then simply withdraws the springs from the lugs, places new ones in position, replaces the trolley and then the axle, and locks the latter in position by means of the spring-pins. Owing to the lugs extending toward each other and being on the inner side of the arms 2 the springs may be readily slipped between said lugs and retained thereby in positions protected by said arms.

C denotes a swiveled ring to which the trolley-cord (not shown) may be attached. The difficulties heretofore found in the attachment and operation of this ring I have wholly overcome by providing an annular enlargement 13 at the lower end of the body in which is an annular groove 14. The ring is endless—i. e., not a divided ring—and is made of a diameter to just turn freely in the groove and is retained in place by closing the ring into the groove, so that the ring will lie closely about the body more than half the circumference of the groove. For example, the ring may lie in contact with the groove from two-thirds to three-fourths of the circumference of the groove, the remainder of the ring being bent outward to form an eye 15, to which the trolley-cord (not shown) may be attached.

Having thus described my invention, I claim—

The combination with a trolley-head having an annular enlargement and a groove 14 in said enlargement, of an endless ring closed into said groove so as to inclose the head more than half of the circumference thereof, the remainder of said ring being bent outward to form an eye for the attachment of a trolley-rope.

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

HERBERT W. SMITH.

Witnesses:

HENRY AUSTIN,

WILLIAM P. MEEHAN.