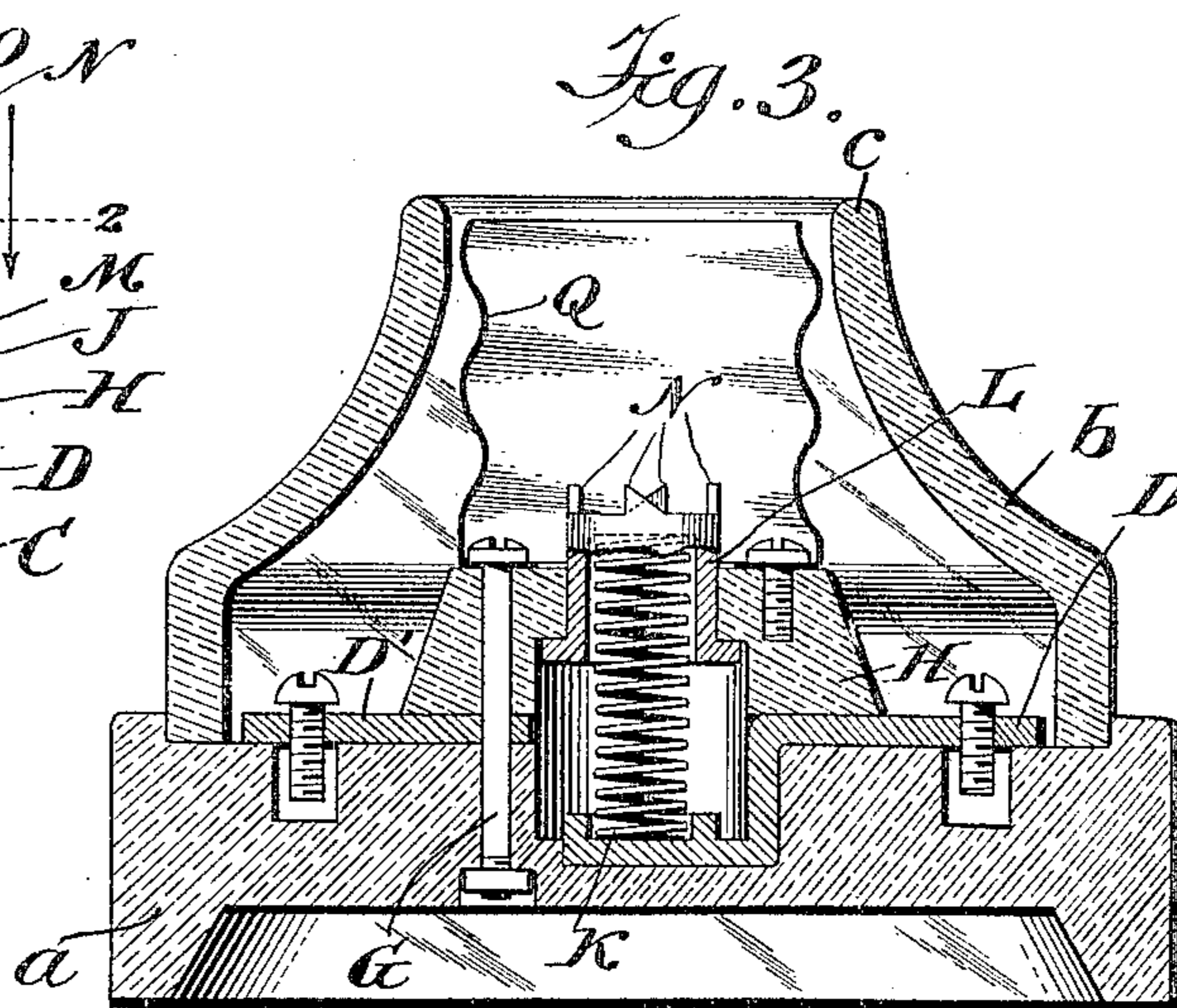
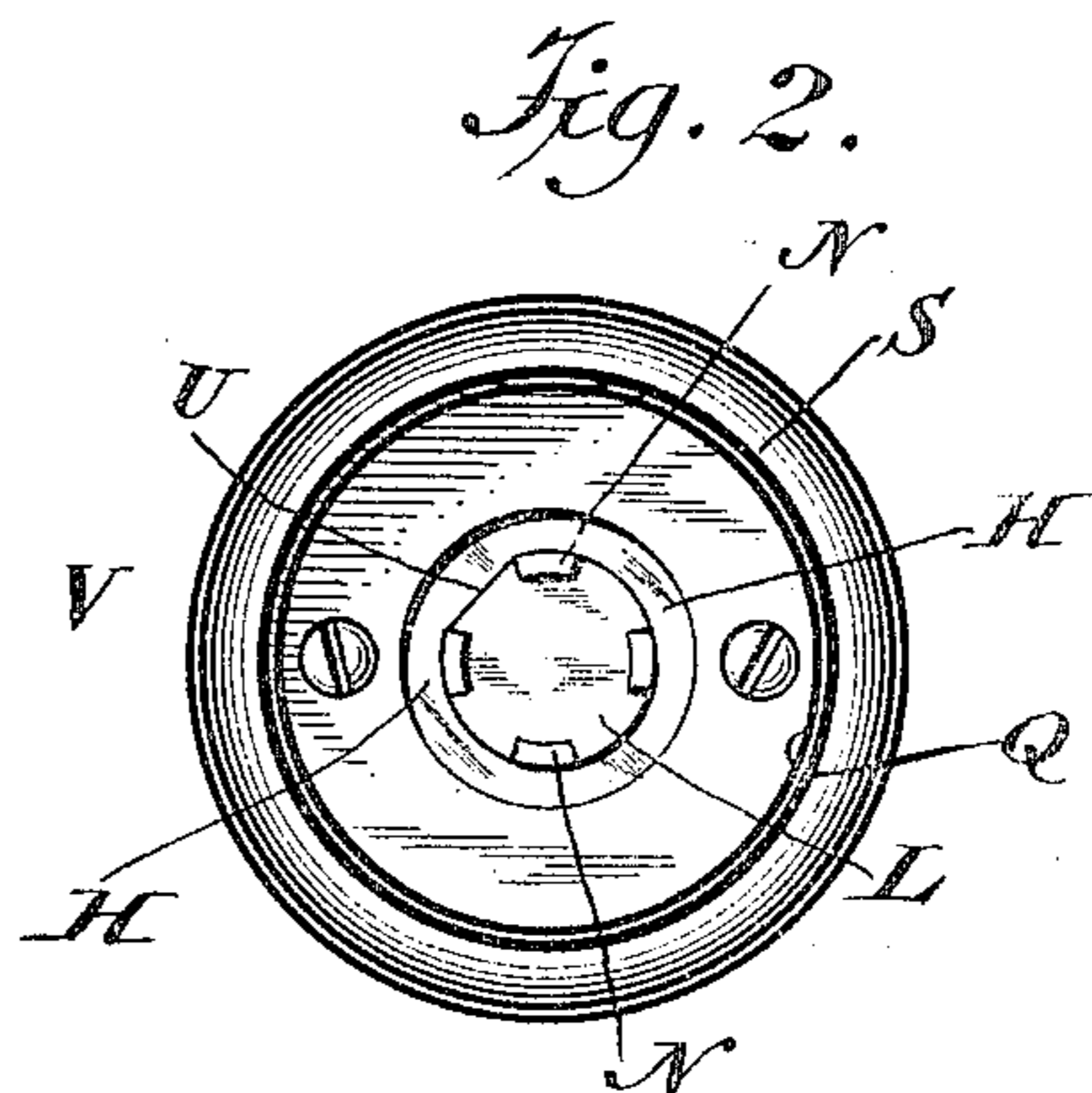
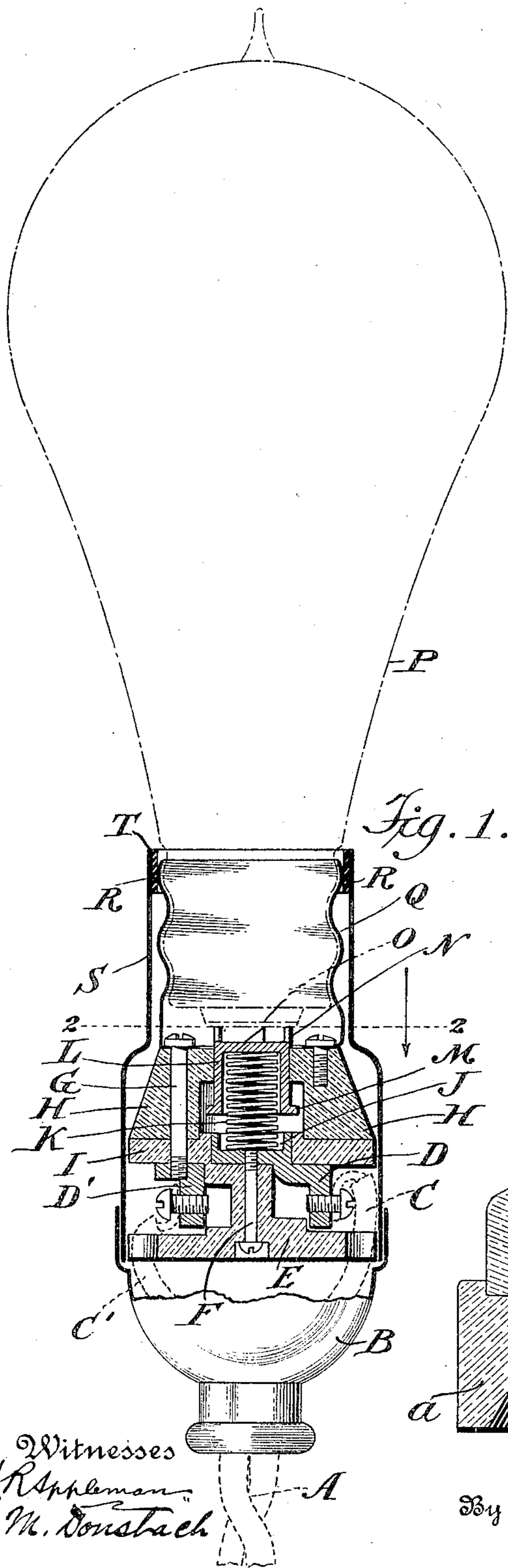


C. P. PARNELL.
ELECTRIC LAMP SOCKET.
APPLICATION FILED MAY 18, 1904.



Witnesses
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UNITED STATES PATENT OFFICE.

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ELECTRIC-LAMP SOCKET.

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To all whom it may concern:

Be it known that I, CHARLES P. PARNELL, a citizen of the United States, and a resident of New Brighton, Staten Island, borough and county of Richmond, city and State of New York, have invented a new and useful Improvement in Electric-Lamp Sockets, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 illustrates a vertical sectional view, certain parts being shown in elevation. Fig. 2 illustrates a plan view on the line 2 2 of Fig. 1, the outer metallic shell being removed. Fig. 3 illustrates a sectional view of a fixed or so-called "wall-socket" embodying the invention.

My invention is applicable to electric-lamp sockets generally; but certain phases of it have special reference to so-called "marine" lamp-sockets—in other words, those used in places or under circumstances where they are subjected to considerable jar or vibration, whereby the lamp is apt to become loose and to turn back in the socket—as, for example, aboard ship, on railroad-cars, in factories where rapid-running machinery is employed, on automobiles, and the like.

In the drawings, A represents the conducting-wires of a movable socket B as they appear on the exterior thereof. C is one of these conductors within the socket. It connects with the terminal D, as shown. C' is the other conductor within the socket, and it connects with the terminal D', as shown.

E is a porcelain base-piece through which a screw F may extend to hold the upper end of the terminal D in place, and G is a similar screw, which passes through a porcelain piece H, whereby the terminal D' is held in position.

I is an interposed porcelain or other insulating-plate.

One end of the terminal D is provided with a cup-shaped receptacle J, in which a spring K is seated, the upper end of which spring engages with a hollow movable thimble L, provided, preferably, with a circular shoulder M at its lower end and with teeth N on its upper end and adapted to slide through an opening made in the insulating-piece H. This thimble is of metallic construction and serves as the central conductor.

O is the usual metallic contact-piece for the lamp P, which threads into a threaded sleeve

Q, suitably held in place by binding-screws, as shown.

R is a rubber or other insulating-ring, which encircles the inside of the metallic casing S, which metallic casing and ring project upwardly, as shown at T, somewhat beyond the upper end of the threaded metallic part C.

One side of the sliding thimble L is flattened, as at U, Fig. 2, which flat surface engages with the corresponding surface on the insulating piece or block H, as shown at V, whereby the turning or rotation of the thimble on its axis is prevented.

In Fig. 3 I show substantially the same interior construction, and therefore the parts are lettered with the same reference-letters as before. Fig. 3, however, illustrates a wall-fixture or similar immovable structure, which may be provided with the usual base *a* and protector *b*, which may be made of suitable insulating material, such as rubber or porcelain, and it will be observed that the upper edge *c* of this protector extends beyond the upper edge of the threaded metallic conductor Q the same as the edge T of the casing S does in Fig. 1.

Before describing the operation of the apparatus I will briefly refer to some of the advantages which flow from the invention which are availed of in part in lamp-sockets generally and in part more particularly in sockets liable to jar, vibration, or shock. Among the advantages pertaining to lamp-sockets generally are the following: It frequently happens that an unskilled or careless person undertakes to connect a lamp with a socket and in so doing is very apt to screw up the lamp until its contact-piece O brings up against the interior terminal conductor, and instead of exercising caution at this point a further twist is given to the lamp, which results either in its fracture or in distortion of the contact-piece. Sometimes, also, if the connection is not very good, because the contact-surfaces are not bright or clean or for some other reason, the person ignorantly assumes that it is because the lamp is not screwed in far enough, and consequently applies additional force which results in fracture or distortion, as above stated. Under the present invention the interior contact-terminal L instead of being a rigid, practically immovable device is supported upon the spring K, as shown, and is adapted to slide through the porcelain piece or block H as pressure is

applied upon its upper end by the incoming contact-surface O of the lamp, the spring gradually exerting more and more resistance to its compression, thus giving continually-increasing notice to the person introducing the lamp that the contact-surfaces have met and that he should desist from further inscrewing of the lamp. The spring serves likewise as a conductor for the current between the terminal D and the sliding thimble or contact-piece L. Thus, if the lamp be inserted by an unskilled or careless person he will have to be ignorant or careless in the extreme in order to injure the lamp or distort any of the parts by excessive inscrewing, because the spring-supported contact-piece L will with gradually-increasing emphasis as the inscrewing of the lamp gradually compresses the spring notify him that he is doing what he should not do. Also a dim light, owing to the uncleanly condition of the contact-surface, is impossible under my invention, because the teeth N, which bear against the surface of the central lamp-conductor O will, during the revolution of the lamp, rub clean the contact-surfaces, effectually removing any obstruction to the free passage of the current. Again, owing to the fact that I extend the exterior metallic shell S considerably above the upper end of the exterior contact-surface Q of the socket, as shown at T in Fig. 1 and at c in Fig. 3, the hands or person or appliances of the user are prevented from coming in contact with the conductor Q, and this result, in the construction shown in Fig. 1, is aided and made perfect by the interposition of the insulating-ring R.

The above-stated advantages, which are availed of in sockets generally, are supplemented in the case of sockets and lamps which are subjected to jar or vibration by the fact that the teeth N on the sliding thimble or contact-piece L, under the pressure of the spring K, act to retain the lamp in position and to prevent its backward turning, because, being set as shown, they, under the stress of the spring, make hard rubbing or frictional contact with the terminal O of the lamp, acting somewhat after the manner of a pawl or detent, so as to effectually prevent backward turning of the lamp, and this operation of the parts may be regulated, as the necessities of the case shall require, by increasing or decreasing the stress or stiffness of the spring K.

It will be obvious to those who are familiar with this art that my invention may be adapted to sockets provided with the ordinary key or with the form known as the "receptacle-sockets" and also to lamp bases or fixtures, stationary or movable, of whatever construction they may be made, there being a great variety of such devices now known. I call attention, however, to the fact that no key is necessary in order to turn off the current before removing or inserting the lamp so far as safety to the user is concerned, because owing to the construction of the sockets, as above explained, the live parts are protected.

Many changes may be made in the details of the invention, as above described and illustrated, without departing from the essentials thereof. I therefore do not limit myself to them.

I claim—

1. A lamp-socket embodying a block of insulating material provided with a centrally-located opening, a hollow thimble adapted to slide through the opening in the insulating material and having a flange on its inner end which cannot pass through said opening, whereby the movement of the thimble in one direction will be arrested, terminals for the socket, a spring partly inclosed in the hollow of the thimble, whereby it is yieldingly supported, the other end of the spring resting in a cavity in the appropriate terminal.

2. A lamp-socket embodying a block of insulating material provided with a centrally-located opening, a hollow thimble adapted to slide through the opening in the insulating material and having at one end a flange which will not pass through the said opening and on the outer edge of the exposed surface of its other end a series of teeth adapted to engage with the contact-surface of the lamp, terminals for the socket, and a spring, partly inclosed in the hollow of the thimble, whereby it is yieldingly supported, the other end of the spring resting in a recess in the appropriate terminal.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES P. PARNELL.

Witnesses:

SAMUEL INGBER,
F. M. DOUSBACH.