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Patented Apr. 22, 1902.

L. H. AINSWORTH.

DEVICE FOR APPLYING AND REMOVING ELECTRIC LIGHT BULBS.

(Application filed Aug. 8, 1901.)

(No Model.)

Fig. 1.

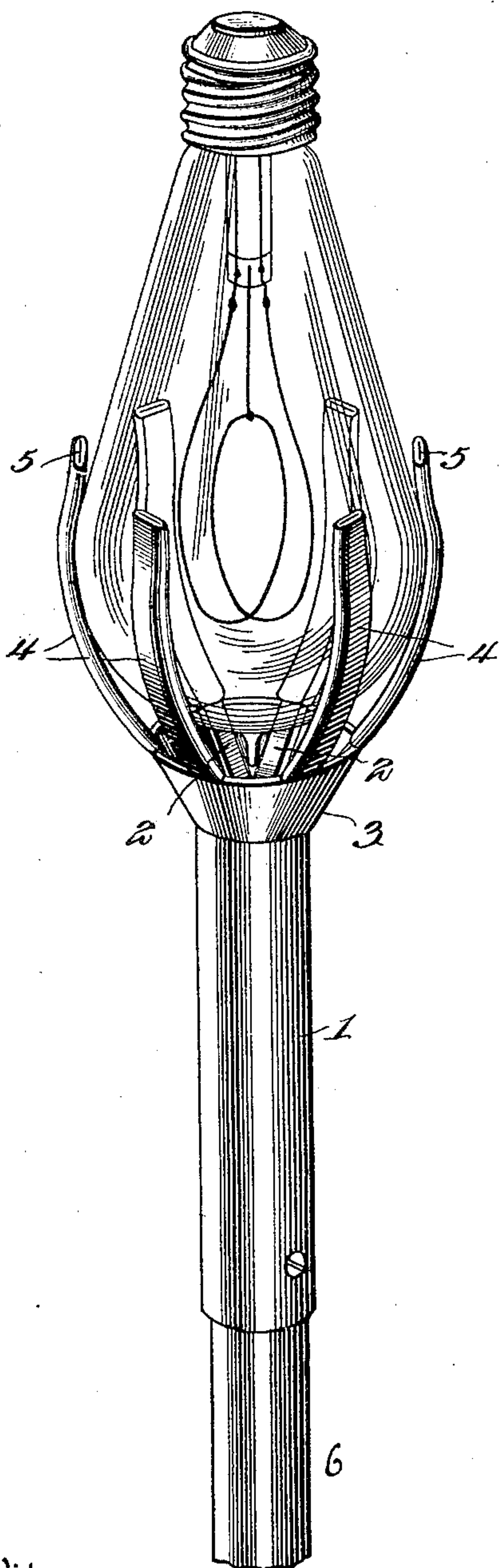


Fig. 2.

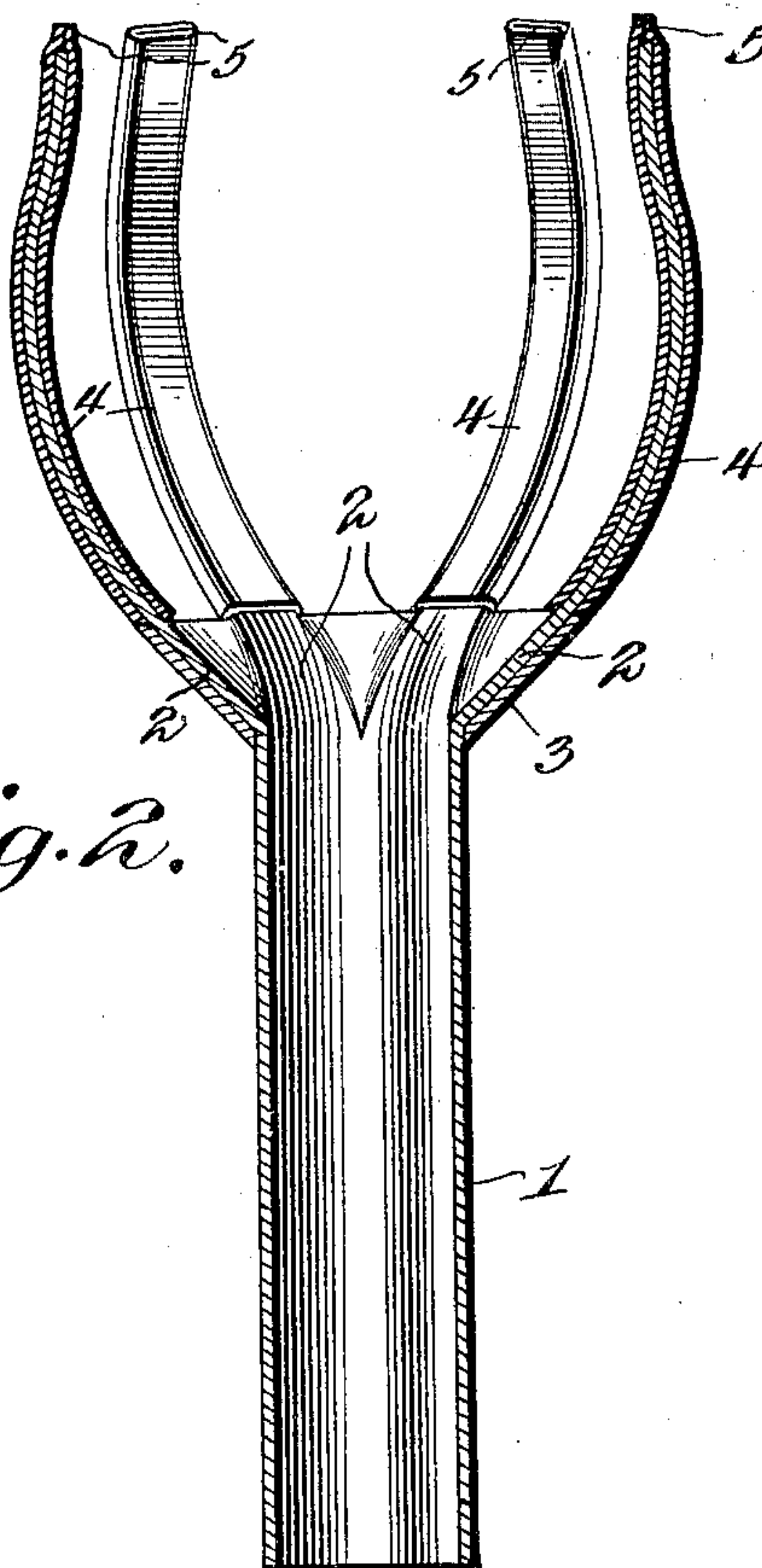
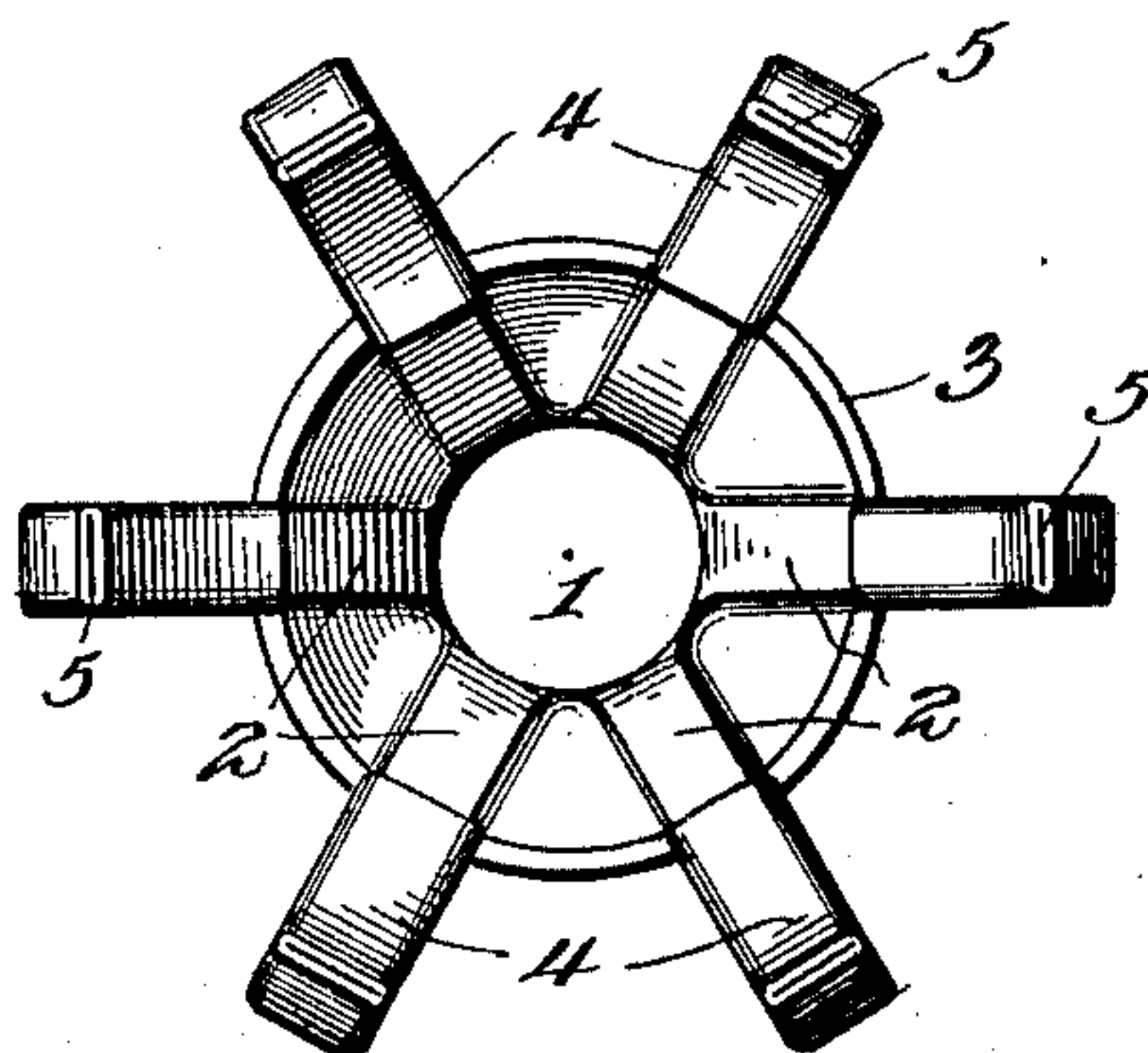


Fig. 3.



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UNITED STATES PATENT OFFICE.

LOT H. AINSWORTH, OF PHILADELPHIA, PENNSYLVANIA.

DEVICE FOR APPLYING AND REMOVING ELECTRIC-LIGHT BULBS.

SPECIFICATION forming part of Letters Patent No. 697,961, dated April 22, 1902.

Application filed August 8, 1901. Serial No. 71,375. (No model.)

To all whom it may concern:

Be it known that I, LOT H. AINSWORTH, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and useful Device for Applying and Removing Electric-Light Bulbs, of which the following is a specification.

This invention relates to means for applying and removing electric-light bulbs which are located upon the ceiling or other ordinarily inaccessible place.

The object of the present invention is to provide improved means of this character which is arranged for convenient manipulation and also constructed to snugly fit the bulbs, in order that they may be screwed into and out of the ordinary sockets therefor. It is furthermore designed to arrange for protecting the glass bulbs against contact with hard portions of the device, thereby to obviate damage to the bulbs.

A further object resides in arranging for adjusting the device to fit different shapes of bulbs.

A final object resides in a strong and durable structure of the bulb-engaging members of the device, so as to obviate breaking of the same at their connection with the body portion of the device and to permit of the bending of said members whenever it becomes necessary to fit the same to bulbs of different shapes and sizes.

With these and other objects in view the present invention consists in the combination and arrangement of parts, as will be hereinafter more fully described, shown in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that changes in the form, proportion, size, and minor details may be made within the scope of the claims without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a perspective view of a device for applying and removing lamp-bulbs embodying the present invention. Fig. 2 is a longitudinal sectional view thereof. Fig. 3 is an end view.

Like characters of reference designate cor-

responding parts in all of the figures of the drawings.

Referring to the accompanying drawings, 1 designates an open-ended metallic tubular socket which has one end split or provided with a plurality of longitudinal incisions, thereby producing a plurality of longitudinal spring fingers or members 2, which are bent outwardly so as to form a cage or seat, each member being arcuate in form, so as to produce a contracted mouth or entrance into the cage. An inverted frusto-conical band or collar 3 is slipped upon the socket from what is ordinarily its lower end, until the collar snugly embraces the inner end portions of the fingers or cage members and the adjacent end of the socket, said collar being soldered or otherwise snugly secured to the tube and the fingers, thereby bracing the latter at the point where they are bent from the tube, which is the weakest portion of said members. By this arrangement the fingers are materially strengthened, and the material thereof is such as to give elasticity to the fingers and also somewhat pliable, so as to permit of the fingers being bent to contract or enlarge the cage in order that the latter may snugly fit lamp-bulbs of different sizes and shapes.

Each finger is covered with a rubber tube or casing 4, which snugly embraces the member and is projected slightly beyond the upper end thereof, the side portions of the projected end of the tube being cemented or otherwise connected, as indicated at 5, thereby forming a yieldable buffer or the like covering the extremity of the metal finger, so as to obviate damage to the glass bulbs.

It will be of course understood that it is designed to insert any ordinary wooden stick or handle 6 into the lower end of the tubular body or socket in order that the cage portion may be conveniently applied to lamp-bulbs at any height.

In using the present device it is manipulated by means of the handle, so as to thrust the cage or fingers endwise upon the outer end of a lamp-bulb, as indicated in Fig. 1 of the drawings, whereby the fingers spring out to receive the bulb and the latter becomes snugly seated in the cage, after which the

handle is rotated so as to screw or unscrew the lamp with respect to the ordinary socket therefor, whereby the lamp may be conveniently applied and removed. It will here be noted that the rubber coverings or casings, besides forming protecting means, also insure a snug frictional engagement with the smooth bulb in order that the latter may not turn within the cage. By having the casings projected beyond the outer ends of the fingers it is impossible for the metallic fingers to come in contact with the outer end of the bulb when the device is applied thereto, and thus there is no danger of cracking the bulb. The rubber coverings or casings also form cleaning devices, as the cage may be forcibly rotated upon the bulb after the latter has been screwed in place, so as to remove dust, &c., from the exterior of the bulb, while the construction of the fingers will permit them to be inserted into globes or shanks to place or remove the lamps.

What I claim is—

1. A device of the character described, comprising an open-ended tubular socket having a plurality of longitudinal incisions formed in one end thereof and dividing said end into integral spring-fingers which are bowed outwardly to form a cage or basket, a collar or band snugly embracing the base of the fingers on the outside of the socket and the adjacent portion of the socket, and a handle fitted into the other end of the socket.

2. A device of the character described, embodying a plurality of spring-fingers arranged to form a cage or basket, and protective casings embracing the respective fingers and projected beyond the outer ends thereof.

3. A device of the character described, embodying a plurality of spring-fingers arranged to form a cage or basket, and rubber tubular casings snugly fitting the respective fingers

and projected beyond the outer ends thereof, each of said projected ends having its sides connected to form a projected buffer.

4. A device of the character described, embodying an open-ended tubular metallic socket, the lower end of which is constructed for engagement with a handle, and the upper end being provided with a plurality of longitudinal incisions to form fingers, which are bowed outwardly and are of arcuate shape to form a cage or basket, an inverted frusto-conical band or collar applied externally to the socket from the lower end thereof and snugly embracing the bases of the fingers and the adjacent end portion of the socket, and soldered thereto, and rubber tubular casings snugly embracing the fingers and having their outer ends projected beyond the outer ends of said fingers, the projected end of each casing having its opposite sides mutually connected.

5. A device for applying and removing electric-light bulbs, comprising a handle having one end provided with a plurality of longitudinal outwardly-bowed flat spring-fingers disposed in a circular series to form a cage or basket of substantially the shape of an electric-light bulb, and rubber tubular casings snugly embracing the fingers and having their outer ends projected beyond the free ends of the fingers, the projected end of each casing having its opposite sides mutually connected to cover the outer end of the finger, for the purpose described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

LOT H. AINSWORTH.

Witnesses:

VOLNEY C. CHASE,
WM. H. BROOKS.