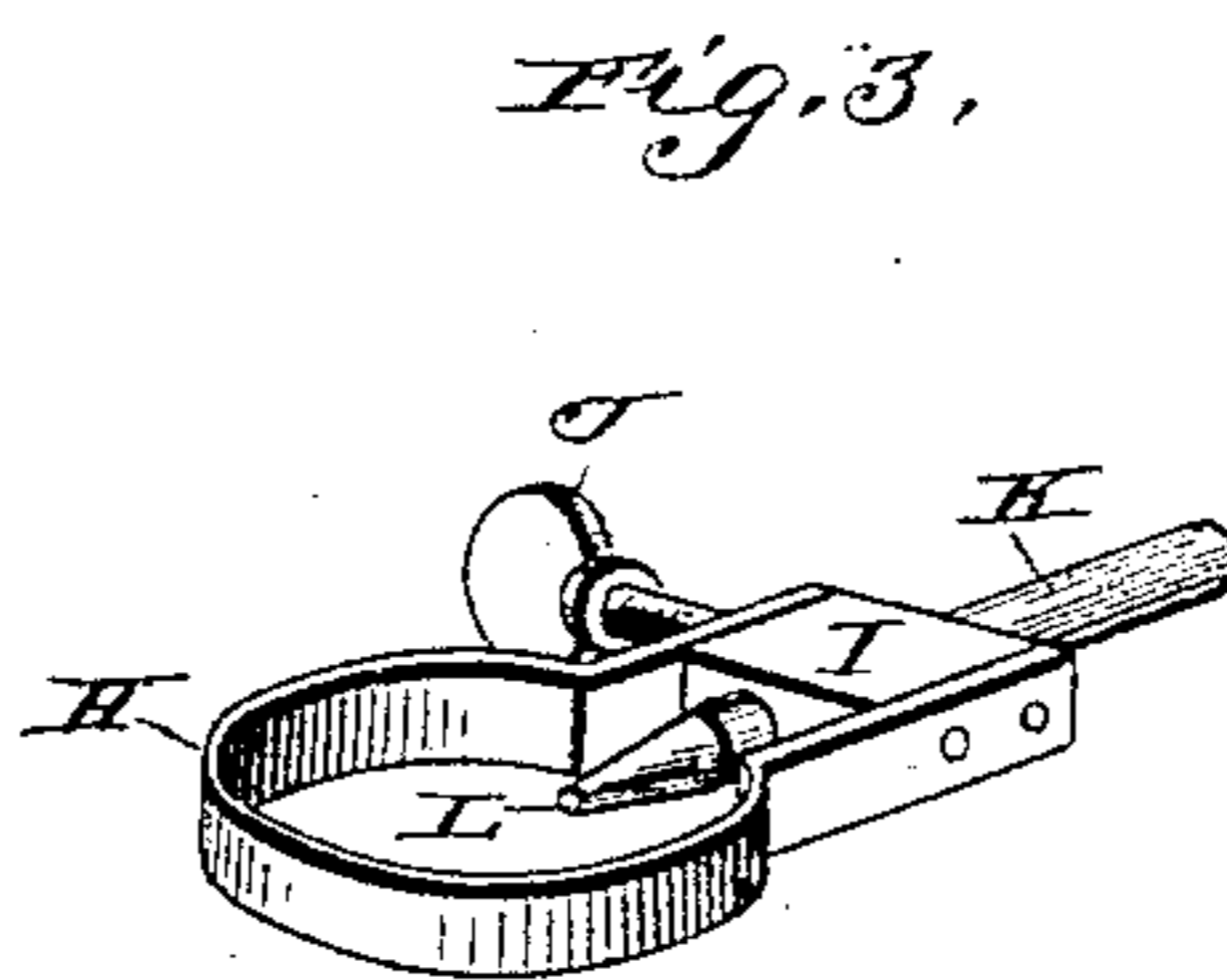
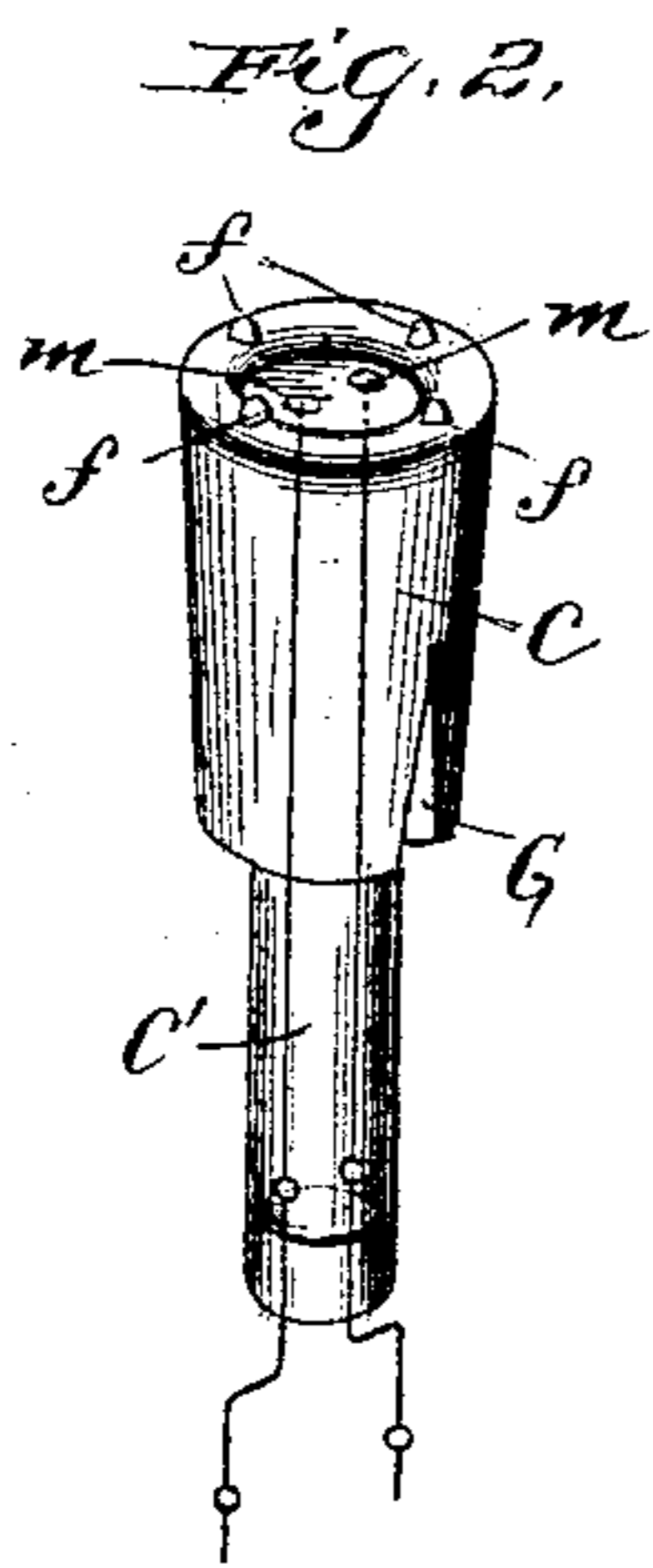
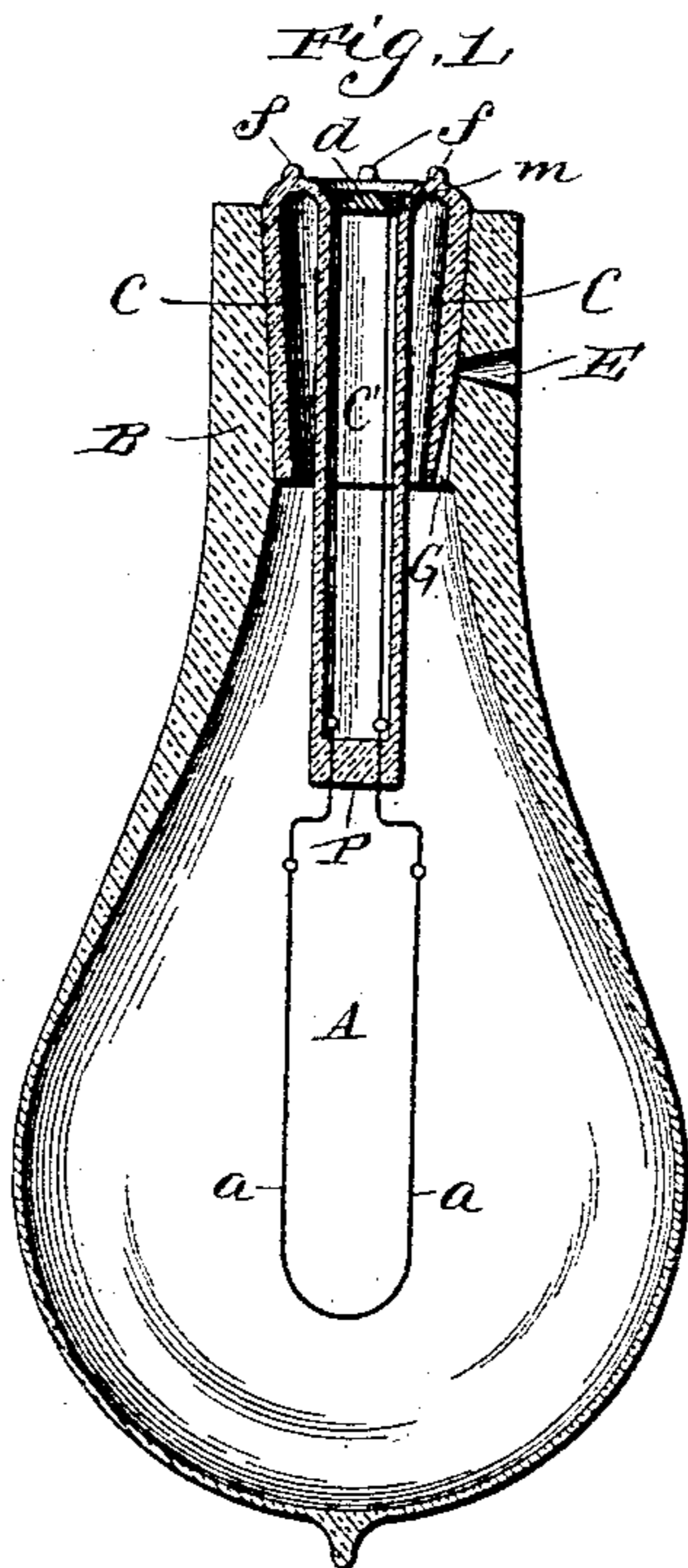


(No Model.)

H. GREEN.  
INCANDESCENT LAMP.

No. 495,467.

Patented Apr. 11, 1893.



Witnesses:  
James C. Bray  
W. Russell Munson

Inventor:  
Henry Green

# UNITED STATES PATENT OFFICE.

HENRY GREEN, OF HARTFORD, CONNECTICUT, ASSIGNOR OF ONE-HALF TO  
GEO. S. MILLER, OF SAME PLACE.

## INCANDESCENT LAMP.

SPECIFICATION forming part of Letters Patent No. 495,467, dated April 11, 1893.

Application filed October 16, 1891. Serial No. 408,924. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY GREEN, a citizen of the United States, and a resident of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Incandescent Electric Lamps, of which the following is a specification.

This invention has relation to an improvement in incandescent electric lamps, and it has for its object to so construct a lamp that a vacuum may be formed in the "globe" repeatedly thereby rendering such a lamp inexpensive, inasmuch as the consumer might use the same globe or bulb indefinitely by having the vacuum recreated as it becomes lost by use.

A further object of the invention is to render the globe capable of being cleaned on the inside.

Another object of the invention is to supply a cheap and reliable method of forming the exterior terminals of the leading in wires, by means of attaching to a disk, formed partly of insulation, and partly of metal, at the head of the stopper.

Other objects and advantages will appear from the following description, and claims when taken in connection with the annexed drawings, in which:—

(Figure 1) is a side view of an incandescent lamp in section. (Fig. 2.) is a side view of the stopper. (Fig. 3.) is a perspective view of the wrench.

Referring to said drawings by letters, (A) indicates the globe which may be of any ordinary form, and (a. a.) the filament.

(B) indicates the neck which is made thicker at its top for the purpose of allowing sufficient space for the insertion of the point (L. Fig. 3).

(C) indicates the stopper which is also made of glass and ground in, having a longitudinal groove (G) on the lower part of its outer surface preferably brought to a needle point at its upper end, and which registers in and out with the funnel shaped aperture (E) for the purpose of opening and closing communication with the interior of the globe, a passage

being had between the contact surfaces of the stopper and globe.

f. f. f. Fig. 2. are four little balls or projections of glass set at right angles with each other to facilitate the use of a wrench or other similar device when turning the stopper in and out of registration with the aperture in the globe.

(H. Fig. 3.) indicates a band or clip designed to encircle the outer neck of the globe for the purpose of securing the point (L) in its position in the funnel shaped aperture (E) while exhausting the lamp.

(d) indicates a disk of insulating material which is secured at the head of the opening in the stopper (C) through which the wires pass and are secured at the outer side to two disks or plates of metal (m. m. Fig. 2.) and at which said wires terminate.

(I Fig. 3.) is a block forming part of the clip (H) through which the tube (K) passes and is held firmly in the aperture (E) by the thumb screw (j).

I am aware that incandescent lamps with stoppers having perforations and air tubes therein as in Fox and Bohm's patent No. 248,156, of October 11, 1891, have heretofore been made. I am also aware that such lamps have been made with permanently attached exhaust tubes and that disks of insulation have been used, but I am not aware that a combination as described in the foregoing specification has been used. I do not therefore claim a stopper lamp broadly but only such stopper lamps which contain any or all of my improvements as herein specified.

Having thus described my invention, what I claim is—

1. In an incandescent electric lamp, the combination with the bulb or vacuum chamber, formed with a heavy neck having a funnel shaped aperture (E) in its side, of a stopper with a longitudinal groove traversing the lower half of the exterior thereof, opening and closing a passage between the stopper and the neck, and the disk of insulation (d) with smaller disks of metal (m, m,) on its upper or outer surface at which point the extreme outer ends of the leading in wires terminate, and

the outer portion of the stopper provided with means whereby a wrench or its equivalent may be used to overcome the resistance when rotating said stopper within the neck of said vacuum chamber—substantially as shown, and described.

2. In an incandescent electric lamp, having the bulb (A) the heavy neck (B) the stopper (C) in combination with the disk of insulation (d) with smaller disks of metal (*m. m.*) on its exterior surface, or running through it to

which the leading in wires are attached and terminated, to form the finished lamp terminal—substantially as herein described.

Signed at Hartford, in the county of Hartford and State of Connecticut, this 16th day of September, A. D. 1891.

HENRY GREEN.

Witnesses:

F. S. FRENCH,  
F. H. ANNIS.