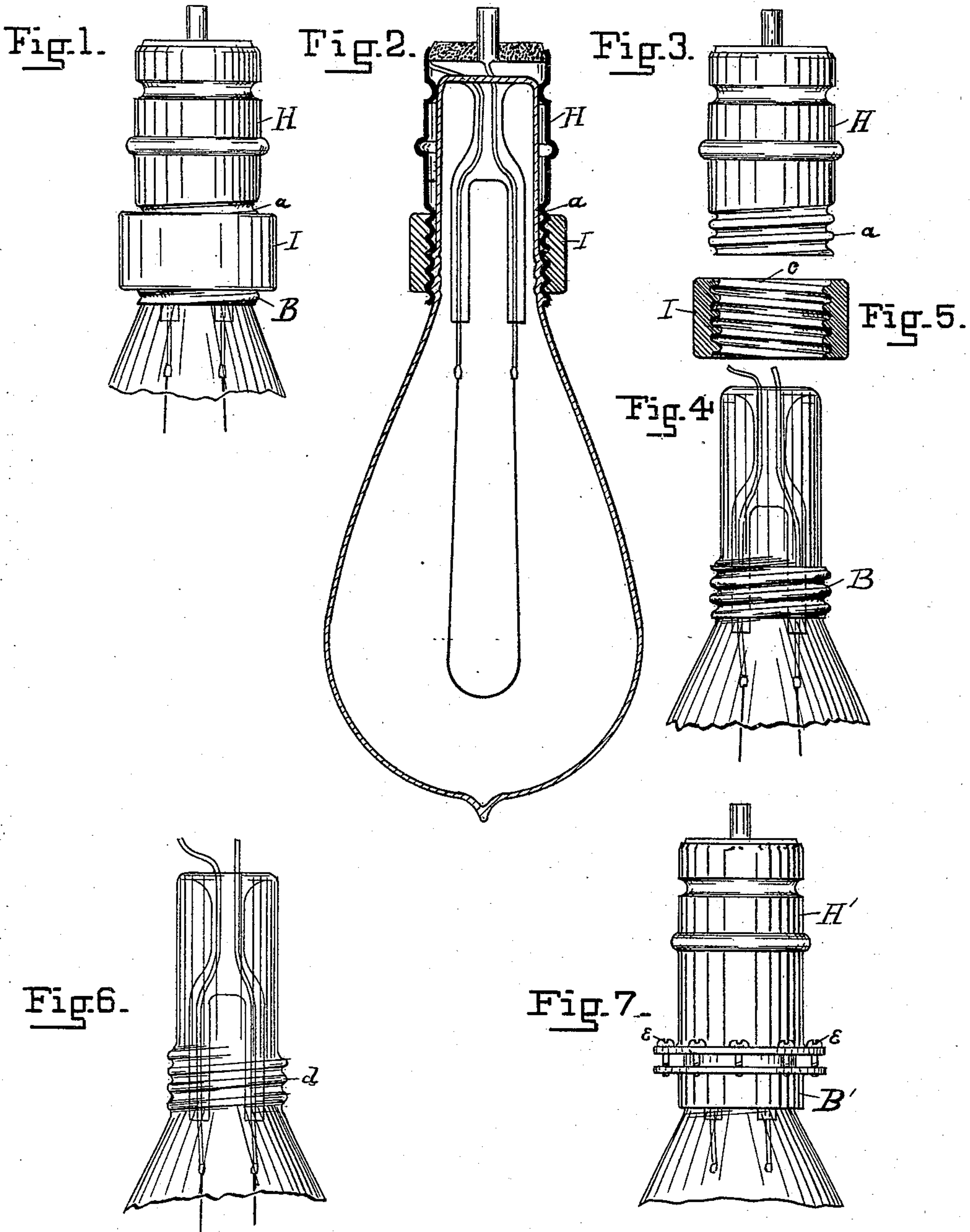


(No Model.)

F. H. PRENTISS.
INCANDESCENT LAMP.

No. 488,636.

Patented Dec. 27, 1892.



Witnesses:
S. W. Balch.
Henry P. Kette.

Inventor,
Frederick H. Prentiss.
by *W. J. Townsend*
Attorney.

UNITED STATES PATENT OFFICE.

FREDERICK H. PRENTISS, OF NEW YORK, N. Y.

INCANDESCENT LAMP.

SPECIFICATION forming part of Letters Patent No. 488,636, dated December 27, 1892.

Application filed April 27, 1892. Serial No. 430,860. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK H. PRENTISS, a citizen of the United States, and a resident of the city of New York, in the county of New York and State of New York, have invented certain new and useful Improved Electric Incandescent Lamps with Removable Caps, of which the following is a specification.

My invention relates to a new and improved incandescent lamp for electric lighting, and has for its object an incandescent lamp with an easily removable cap.

On the 4th day of April, 1892, I filed an application (Serial No. 427,779) for a patent on a process of repairing incandescent lamps for substituting a new filament in the place of a broken or burned out filament, one feature of which provided for a separation of the glass bulb into two parts on a line covered by the cap.

My present invention is of an improved lamp provided with a removable and replaceable cap which will permit of the separation referred to.

Referring to the accompanying drawings, Figure 1 is a plan view of the stem of the lamp with cap in place. Fig. 2 is a longitudinal sectional view of the lamp and its cap. Fig. 3 shows the cap. Fig. 4 shows the stem of the lamp with cap removed, and provided with a threaded collar or band to engage with the cap or with a connecting sleeve. Fig. 5 is a sectional view of the connecting sleeve. Fig. 6 shows the upper part of a modification wherein the thread is formed directly upon the glass bulb, so that the collar may be dispensed with. Fig. 7 is a view of the stem of a modification wherein the removable and fastened parts of the cap are joined by screws passing through flanges on each.

The principal feature of my invention consists in an easily removable cap, or a cap in two parts, one of which parts is easily removable so as to give ready access to the neck of the glass bulb covered by the cap. The modifications cover the various means of fastening the cap or the removable part thereof to the lamp.

Fig. 3 shows a cap provided with screw thread a upon its lower outer surface.

In Fig. 4 B is a band or collar fastened to the neck of the glass bulb. The band or col-

lar B is shown with screw thread upon its outer surface. Such threads are necessary when the union of the two parts of the cap is made by means of the threaded sleeve I as in Fig. 1; when the union is made by other means as described the construction of the collar must be adapted to such method. This collar may be fastened to the glass bulb in a variety of ways; for example, by the use of plaster of paris, or cement. The process adopted and preferred by me, and which I make the subject of a separate application, is to provide the collar B upon its inner surface with corrugations or indentations. I then place it upon the neck of the bulb while the glass is in a plastic condition, and by means of an air pressure through the tube at the lower end of the bulb, force the glass into the corrugations or indentations of the collar, whereby, as the glass cools, the collar becomes firmly fastened to the bulb.

Fig. 5 shows a connecting sleeve (I Figs. 1 and 2) with screw threads c upon its inner surface. This sleeve is first engaged with the cap H and screwed thereon until its lower edge is flush with the lower edge of the cap. The cap is then placed over the neck of the bulb and in contact with the collar B. The sleeve I is screwed down until it firmly engages with the collar B when the cap becomes securely fastened to the lamp.

The collar B may be of any suitable material preferably of thin sheet metal. The sleeve I may be of metal, hard rubber, vulcanized fiber or other suitable material. In practice and to avoid danger of loosening the sleeve in handling, it may be found desirable to use vulcanized fiber or some similar material and to aid the union of the parts by treating the inner surface of the sleeve with a slight coating of cement or other adhesive material, in which case the sleeve may be removed, in the process of removing the cap, by cutting, and substituting a new sleeve in the repaired lamp. I do not, however, confine myself to the above described collar and sleeve, as a connecting or fastening device. The cap H may be fastened to the bulb by any mechanical means, some of which I show and claim in combination with the removable cap.

Fig. 6 shows the glass bulb with a screw

thread *d* of the same material pressed or blown thereon, against which the cap H will rest when placed in position. In this form of construction the sleeve I will engage with the thread upon the bulb instead of with the collar B.

Fig. 7 shows a form of construction whereby the sleeve I is omitted and the cap H' and collar B' are provided with flanges and the cap H is then held in position by screws *e e* passing through the flanges. The cap H may also be fastened by means of one or more springs placed therein or thereon, which springs engage with the collar B or with lugs or projections thereon or on the glass bulb, or by a readily fusible solder or soft glass which will cement the cap H to the collar B or to the glass bulb without the interposition of the collar in which case the solder or equivalent material may be fused by a gas flame or hot tool applied to the outer surface of the cap and thereby the cap loosened and removed. The drawings show the lower part of the cap H, the sleeve I and the collar B to be threaded. The cap may, however, be held in position by the friction of the sleeve against the cap and collar, or by shrinking the sleeve on to increase the friction, or by placing sockets or indentations in the cap H and pressing it over corresponding lugs or projections on the collar B or on the glass bulb, without the interposition of the collar, in which case the screw threads will be unnecessary.

From the foregoing description it will be seen that the principal feature of my invention is a cap for an incandescent lamp constructed in two parts H and B, one of which parts, B, shall be securely fastened to the glass of the bulb, and the other part, H, attached

or fastened thereto in such manner that it may be easily removed, for the purpose of uncovering the neck of the glass bulb in the process of separating the bulb into two parts, and so as to be readily reattached and refastened, after the lamp shall have been repaired by the substitution of a new filament.

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

1. In an incandescent lamp for electric lighting, a cap composed of two parts, one of which parts is permanently fastened to the glass bulb; said two parts being easily attachable and detachable to and from each other, in combination with the glass bulb, electrical conductors and filament, substantially as and for the purposes described.

2. In an incandescent lamp for electric lighting, a cap composed of two parts, one of which parts is permanently fastened to the glass bulb, the removable part being held in position by a threaded sleeve connecting the two parts in combination with the glass bulb, electrical conductors and filament, substantially as and for the purposes described.

3. In an incandescent lamp for electric lighting, a cap composed of two parts, one of which parts is permanently fastened to the glass bulb, said two parts being connected by one or more screws in combination with the glass bulb, electrical conductors and the filament, substantially as and for the purposes described.

Signed at the city of New York, in the county of New York and State of New York, this 26th day of April, A. D. 1892.

FREDK. H. PRENTISS.

Witnesses:

LOUIS F. MURRAY,
HENRY P. VELTE.