H. T. CRANE.

INCANDESCENT ELECTRIC LAMP.

APPLICATION FILED JUNE 12, 1905.

990,709. Patented Apr. 25, 1911.

Fig. 1

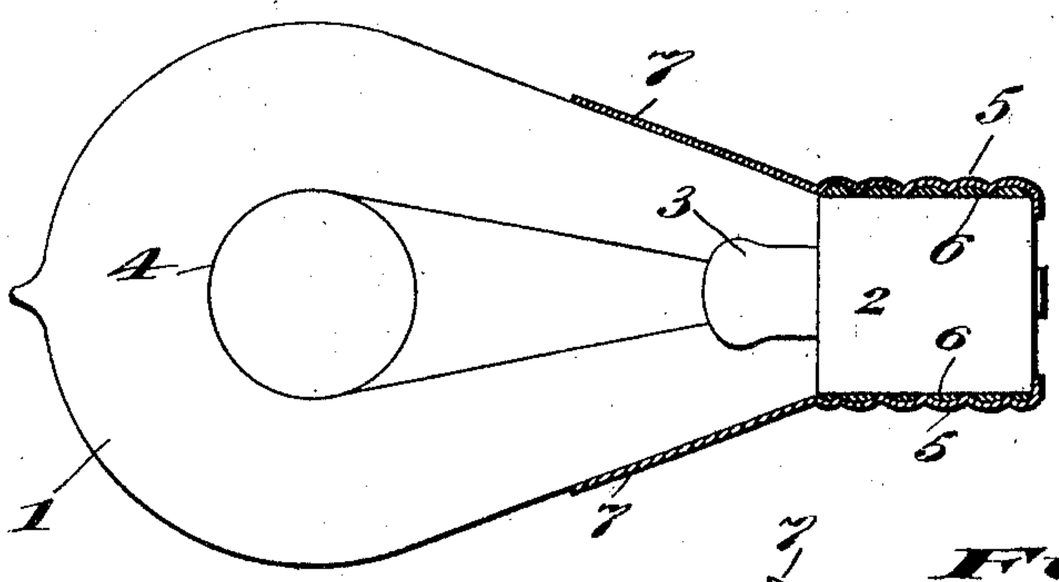


Fig. 2

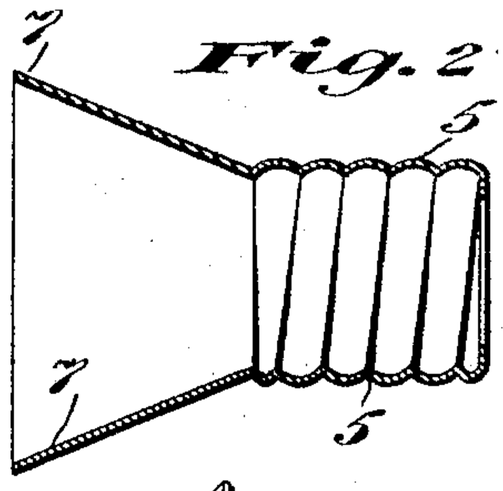


Fig. 3

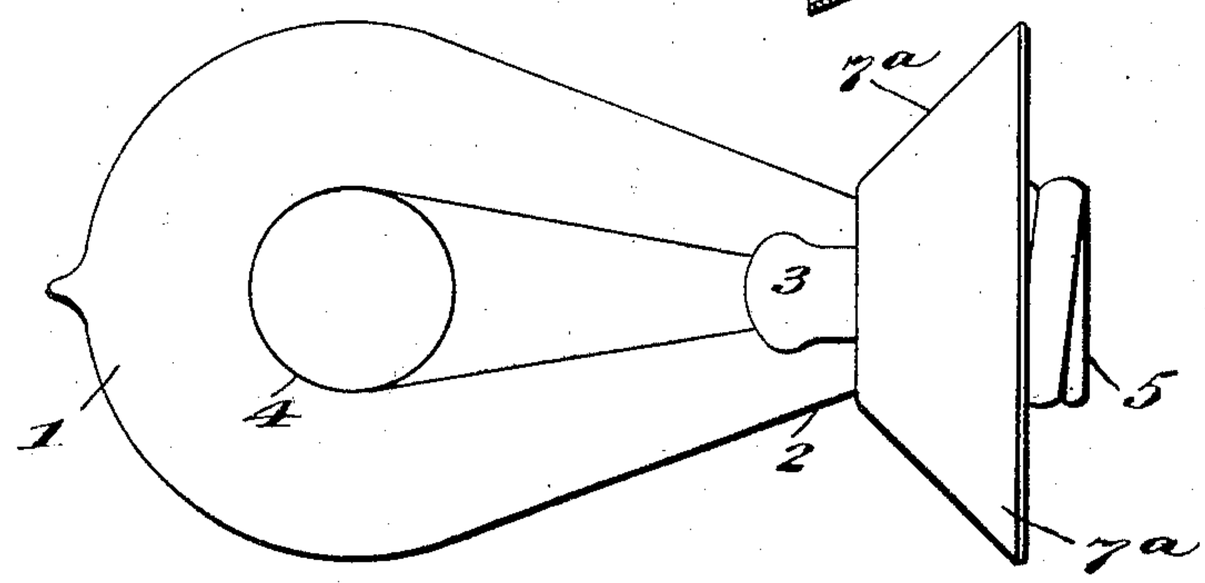
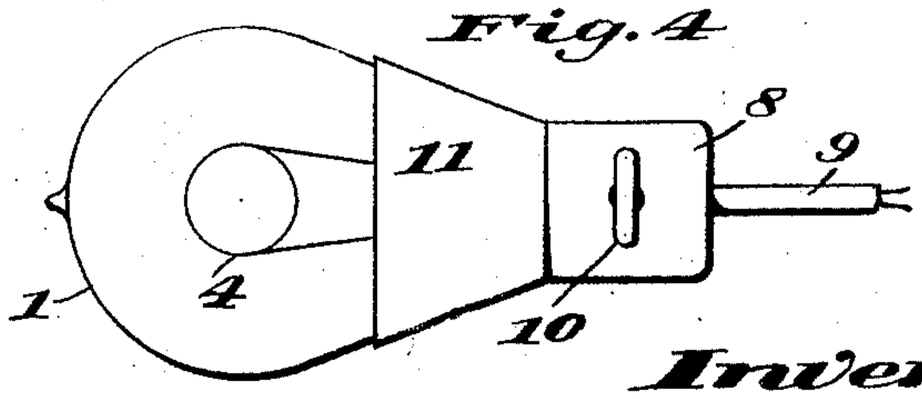


Fig. 4



Witnesses

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INCANDESCENT ELECTRIC LAMP.

990,709. Specification of Letters Patent. **Patented Apr. 25, 1911.**

Application filed June 12, 1905. Serial No. 264,796.

To all whom it may concern:

Be it known that I, HARRY T. CRANE, a citizen of the United States of America, and a resident of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Incandescent Electric Lamps, of which the following is a specification.

This invention relates to certain improvements in incandescent electric lamps which are commonly provided with metallic caps or fittings at the stem or shank portions of their glass bulbs for connection with terminal sockets or supports, and the object of the invention is to provide a lamp of this general character having an improved and simple construction of reflection-member whereby the capacity of the lamp for illumination is materially increased and without materially increasing the cost of the lamp or its fittings.

The invention consists in an incandescent electric lamp the glass bulb of which has a rear stem-member adapted for connection with a screw-threaded fitting-section for supporting the lamp, such fitting-section having an integral reflecting-surface arranged forwardly-adjacent to the shank or stem of the said lamp bulb for reflection forwardly of the light that is directed toward said fitting-section.

The novel features of the invention will be carefully defined in the following description and particularly pointed out in the claim.

In the accompanying sheet of drawings which serve to illustrate my invention—Figure 1 is a side elevation of an incandescent electric lamp constructed according to my invention, the screw-cap and the integral conical reflector forming my fitting-section complete being shown in axial section. Fig. 2 is an axial section showing the screw-cap and integral conical reflector comprising my complete fitting-section, with the lamp omitted. Fig. 3 is a view similar to Fig. 1, but showing in elevation a modified or reverse arrangement of the reflector-member of the fitting-section. Fig. 4 is a side elevation (drawn to a smaller scale), showing another modified form of my improvements wherein a conical reflector-member is integrally attached to and carried by the customary supporting lamp-socket.

Referring first to Figs. 1 and 2, 1 indicates the glass bulb of the incandescent electric lamp to which my invention is applied and 2 indicates the shank or stem of said bulb wherein is housed the filament-support 3 carrying the incandescent filament 4 in the interior of the lamp bulb 1. 5 represents a metallic cap-member of the fitting-section which is secured upon the reduced cylindrical portion or stem 2 of the neck or rear end of the lamp and is provided with screw-threads pressed or otherwise formed in it for engagement with a screw-socket in a well-known way. The fitting-section member 5 may be held upon the lamp-stem 2 in any approved way, but preferably by means of cement interposed as seen at 6 between the parts. At that end of the screw-threaded fitting-section member 5 which is adjacent to the rear end of the tapered portion of the lamp, a conical reflecting-member 7 is produced, such reflecting-member being, by preference, integrally formed upon the fitting-section member 5 and being made tapered or conical and in dimensions adapted to correspond to and fit snugly around the tapered portion of the lamp-neck, as shown in Fig. 1.

The fitting-section cap-members 5 in lamps, as ordinarily constructed, are produced from spun brass and, in carrying out my invention, the conical reflector-member 7, which snugly incloses the tapered lamp-neck, will be spun or otherwise formed integral with said cap-member 5 and will have a polished inner reflecting-surface which may, if desired, be plated so that the light which ordinarily is directed toward the lamp-stem and is there absorbed and lost will be reflected from such polished surface in such a way as to very materially increase the lighting capacity of the lamp. The reflector-member 7 should, of course, in this construction, fit sufficiently close to or contact with the glass wall of the lamp-neck so as to prevent the collection of dust or dirt between the parts that would otherwise affect the reflecting-surface. It will also be evident that various other formations of the reflector-member 7 may be employed in lieu of the form shown in Figs. 1 and 2. In Fig. 3, for example, I have illustrated a structure wherein the screw-threaded metallic cap or fitting-section member 5 on the lamp-stem is provided with a conical reflector-member 7^a encircling its end adjacent to the tapered part of the lamp-neck, the angularity or disposition of said conical reflector-member 7^a

being, however, reverse to that shown in Figs. 1 and 2, so that it is not adapted or intended to fit snugly upon or contiguous to the tapered part of the lamp-neck, but is merely adapted to project in annular form around the cap or fitting-section member 5 in such manner as to reflect the light which is ordinarily directed toward the lamp-stem without performing any materially useful function.

In Fig. 4, I have illustrated still another modified form of my improvements and, as seen in this view, the lamp has its ordinary threaded shank or stem held in a screw-socket 8 connected with a conductor 9 and which may be of the ordinary or any desired kind, being herein shown as provided with a key 10 for controlling the use of the lamp. The screw-socket or fitting-section member 8 in this construction has at its end adjacent to the tapered part of the lamp-neck a tapered or conical reflector-member 11, preferably made integral with said end of the screw socket or fitting-section member 8 and adapted, like the reflector-member 7, (shown in Figs. 1 and 2,) to fit snugly or contiguously around the tapered part of the lamp-neck to reflect the light which is commonly directed into the same and is lost by absorption. This reflector-member 11 will also be polished or plated upon its inner side to increase its efficiency. The shank or stem 2 of the lamp may be screw-threaded as customary in many types of lamps, and the screw-threaded fitting-section member 5 adapted to be engaged in place therein instead of using cement as hereinbefore noted, but the cement joint is deemed best when it is desired to snugly hold the reflector-member 7 in contact with the outer surface of the lamp bulb.

I claim:—

The combination of an incandescent electric lamp, a conical reflector embracing the rear tapered portion of the globe of said lamp, a thin shank or extended neck portion formed integral with said reflector and screw-threaded throughout its entire length and thereby adapted to embrace the threaded stem of the lamp, the said thin threaded reflector-shank being adapted to permit its insertion into the lamp-socket.

Signed at Cincinnati, Ohio, this 7th day of June, 1905.

HARRY THURSTON CRANE.

Witnesses:

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