UNITED STATES PATENT OFFICE.

FRANCIS HARRISON, OF LONDON, ENGLAND.

PROCESS OF REMOVING FILM FROM USED METALLIC-FILAMENT ELECTRIC LAMPS.

1,353,654. Specification of Letters Patent. Patented Sept. 21, 1920.

No Drawing. Application filed July 8, 1919. Serial No. 309,386.

To all whom it may concern:

Be it known that I, FRANCIS HARRISON, a subject of the King of England, residing at London, England, have invented certain new and useful Improvements in Processes of Removing Film from Used Metallic-Filament Electric Lamps, of which the following is a specification.

This invention is for improvements in or relating to the manufacture of incandescent electric lamps, and has particular reference to the renewing of old lamps, that is to say to a process in which lamps with broken filaments of tungsten and the like are furnished with new filaments.

It is well-known that metallic filament lamps after use frequently acquire a black film on the inner surface of the glass. This film is doubtless caused by the dissipation of material from the filament, which material adheres to the inner surface of the glass bulb, and, in many cases, causes a serious diminution of the illuminating power. Methods of renewing lamps are now in use, involving the breaking of the tip of the glass bulb to give access to the interior, and I have found it convenient to wash out the bulbs with a suitable liquid before renewing the filament.

According to this invention the liquid employed for removing the film from the interior of metallic filament lamps contains an oxidizing agent, such as hydrogen peroxid.

The following is a description by way of example of one method of carrying this invention into effect and renewing old metallic filament lamps in which a black film has been formed on the inside surface of the glass. The tip of the glass bulb is broken off and a small circular orifice is formed at the bottom of the lamp by glass blowing. Into the lamp is introduced a small quantity of commercial hydrogen peroxid, and the bulb is moved about so as to bring the hydrogen peroxid thoroughly into contact with all portions of the bulb bearing the film. This washing with hydrogen peroxid may be continued until the film is entirely removed, or alternatively the liquid may be run out (for further use), and the lamp with its inner surface thoroughly wetted, as described, is allowed to stand, say for quarter-of-an-hour, until the film has been detached from the glass.

In either case, the bulb is then washed out with clean water to remove the material which has been detached from the inner surface of the glass. Thereafter the inside of the bulb may be washed out with a liquid which assists the drying, such as alcohol (methylated spirit), ether, or the like.

The lamp is then suspended in a rack for, say, twenty-four hours, with the orifice downward, and is allowed to dry slowly so that no stains or marks are left on its inner surface.

When the lamp has been renewed as required, the bulb is exhausted and sealed up, and the renewed lamp is then ready for use free from any metallic film or other stain on its inner surface.

What I claim as my invention and desire to secure by Letters Patent is:—

1. The process of removing the film from used metallic filament electric lamps which consists in washing the inner surface of the bulb with hydrogen peroxid.

2. The process of removing the film from used metallic filament electric lamps which consists in forming an orifice in the bulb, washing out the interior with hydrogen peroxid to dislodge the film, removing the hydrogen peroxid, washing the interior of the bulb with water and slowly drying the bulb.

3. The process of removing the film from used metallic filament electric lamps which consists in forming an orifice in the bulb, washing out the interior with hydrogen peroxid to dislodge the film, removing the hydrogen peroxid, washing the interior of the bulb with water, draining the bulb, washing it out with a volatile liquid, and allowing the bulb to dry slowly.

In testimony whereof I affix my signature.

FRANCIS HARRISON.