

UNITED STATES PATENT OFFICE.

ALFRED HENRY WILLIAMS, OF HYDE PARK, SOUTH AUSTRALIA, AUSTRALIA.

MANUFACTURE OF INCANDESCENT MANTLES FOR GAS-LIGHTING.

1,057,312.

Specification of Letters Patent.

Patented Mar. 25, 1913.

No Drawing.

Application filed May 11, 1910. Serial No. 560,607.

To all whom it may concern:

Be it known that I, ALFRED HENRY WILLIAMS, a subject of the King of Great Britain and Ireland, residing at King William Road, Hyde Park, State of South Australia, Commonwealth of Australia, have invented certain new and useful Improvements in the Manufacture of Incandescent Mantles for Gas-Lighting, of which the following is a specification.

This invention relates to improvements in the manufacture of incandescent mantles, whereby they are rendered elastic and tough and practically immune from breakage either in transit or after being lighted upon the burner for the first time. It also increases the candle power of the light to an appreciable extent.

My treatment is applied to the impregnated tube, net or fabric of any approved pattern or mesh commonly known as the "stocking," that is, the stocking impregnated with the salts of suitable rare earths (preferably the nitrates of such earths) and after being burned off.

According to my invention the impregnated stocking after being prepared as heretofore including the burning off is treated as follows: It is first dipped for 2 minutes in a bath of petrol and then dried for 3 minutes in a suitable oven or drying chamber maintained at a temperature of about 80° Fahr. It is then dipped for 5 seconds in a mixture of collodion, alcohol or rectified spirit, olive oil and spirits of camphor in about the following proportions: Collodion 5 ounces, alcohol $1\frac{1}{2}$ ounces, olive oil $\frac{1}{2}$ ounce, spirits of camphor $\frac{1}{8}$ ounce, and again dried for 10 minutes in an oven or drying chamber at about 80° Fahr. It is then dipped for 5 seconds in a solution of gelatin in the proportion of $\frac{1}{4}$ ounce gelatin to 11 ounces of water, and again dried for about 10 minutes or until thoroughly dried in an oven or drying chamber at about 80° Fahr. The gelatin solution after preparation must be cooled down to and maintained at a temperature of 105° Fahr. It is then packed, preferably in a cardboard box, and is ready for sale.

It is well known that the dipping of the impregnated and burned-off stocking into the stiffening solution of collodion, etc., reduces the candle power of the mantle, but the preliminary dipping of the stocking into petrol according to my invention protects the stocking and renders it immune from the harmful effects of the collodionizing solution.

The quantities, times and temperatures mentioned herein are approximate only, since they will require to be varied according to the quality and mesh of the fabric or stocking under treatment, but any person accustomed to the dipping and drying of mantles will readily judge the quantities, times and temperatures giving the best results for mantles of various meshes.

Having now fully described and ascertained my said invention and the manner in which it is to be performed I declare that what I claim is—

1. In the manufacture of incandescent mantles, the method of treating an impregnated and burned-off stocking, consisting in dipping the stocking in petrol, then drying it, then dipping it in a bath consisting of a mixture of collodion, alcohol, olive oil and spirits of camphor, then drying it, then dipping it in a solution of gelatin, and finally drying it.

2. In the manufacture of incandescent mantles, the method of treating an impregnated and burned-off stocking, consisting in dipping the stocking in petrol, drying it, collodionizing the stocking, and finally coating it with gelatin.

3. The herein described steps in the method of manufacturing incandescent mantles, consisting in treating an impregnated and burned off stocking with petrol, and then collodionizing the stocking.

In testimony that I claim the foregoing as my invention I have signed my name in the presence of two subscribing witnesses this 31st day of March 1910.

ALFRED HENRY WILLIAMS.

Witnesses:

ARTHUR GORE COLLISON,
GLADYS CLARE WILLIAMS.