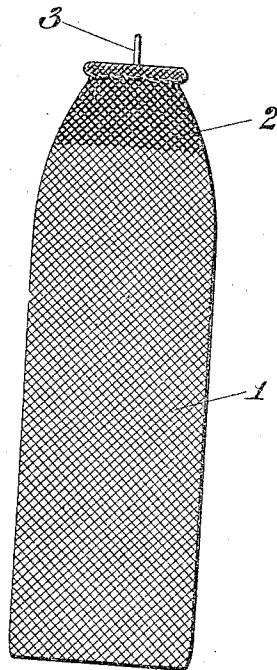


E. D. GLEASON.
METHOD OF REINFORCING MANTLES OF REFRACTORY INCANDESCING EARTHS.
APPLICATION FILED JAN. 14, 1909.
931,920.
Patented Aug. 24, 1909.



WITNESSES:

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METHOD OF REINFORCING MANTLES OF REFRACTORY INCANDESCING EARTHS.

931,920.

Specification of Letters Patent. Patented Aug. 24, 1909.

Application filed January 14, 1909. Serial No. 472,289.

To all whom it may concern:

Be it known that I, EDWARD D. GLEASON, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in the Method of Reinforcing Mantles of Refractory Incandescing Earths, of which the following is a specification.

My invention relates to the construction of mantles of refractory incandescing earths and consists primarily in strengthening and reinforcing that portion of an incandescent mantle which is gathered together at the top by means of a wire or cord and provided with a loop designed for attaching the mantle to its support.

In a gas-lighting system of the Welsbach type a mantle or basket composed of refractory earth is suspended over a gas and air mixing burner by means of a wire or cord in the upper end of the mantle which is connected to the upper end of a supporting rod.

As is well known in the art of mantle making a cotton fabric is saturated with a solution of the salts of refractory earths capable of giving light by incandescence the textile fibers being subsequently burned away, so that the mantle when ready for use consists of a net work of earthy substance, which is quite fragile, and liable to be easily torn or broken, particularly at the point where it is gathered together at the top by means of the wire or cord by which it is adapted to be suspended. I have found in practice that this difficulty can be obviated by dipping the mantle in a thin solution of collodion or other like adhesive substance and then applying to the upper end of the mantle a strengthening or reinforcing solution composed of a silicate preferably the silicate of soda, which will greatly strengthen and reinforce that portion of the mantle to which the wire or cord is attached.

The accompanying drawing shows a front elevation of a mantle treated according to my invention the portion reinforced or strengthened being indicated by heavy lines.

In carrying out my invention the fabric

is saturated with a solution of the salts of refractory earths and then placed over a Bunsen burner to burn away the textile fibers, leaving a net work of earthy substance exceedingly delicate and fragile. This fragile structure is then carefully dipped in a solution of gun-cotton in ether and alcohol (collodion) and placed upon a holder to dry. I then dip or paint the upper end of the mantle containing the dry coating of collodion with a solution of a silicate of soda and allow the mantle to dry thoroughly after which it is ready for use.

By repeated experiments I have found that a silicate of soda will not combine evenly with the earthy substance of the mantle but will cause the same to curl and crack making it unfit for use. The coating of collodion, however, permits the silicate of soda to slowly vitrify and aids it in combining with the earthy substance to form a smooth and unbroken surface of considerable tenacity.

In the accompanying drawing, 1 designates the mantle; 2 the reinforced upper end which has been strengthened by the application of the compound heretofore mentioned, and 3 denotes the wire or cord by which means the mantle is supported.

Having described my invention what I claim and desire to secure by Letters Patent is:

The method of strengthening or reinforcing mantles or baskets of refractory incandescent material at a point where it is gathered together at the top and provided with a suspending means, which consists in first applying to the mantle a coating of collodion and then upon the collodion at the point designed to be strengthened a solution of a silicate of soda substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

EDWARD D. GLEASON.

Witnesses:

ARNOLD KATZ,

DAVID S. WILLIAMS.