

# UNITED STATES PATENT OFFICE.

THOMAS DUGAN, OF GREENVILLE, NEW HAMPSHIRE.

## TREATING LAMP-WICKS.

SPECIFICATION forming part of Letters Patent No. 412,607, dated October 8, 1889.

Application filed March 7, 1889. Serial No. 302,330. (No specimens.)

*To all whom it may concern:*

Be it known that I, THOMAS DUGAN, a citizen of the United States of America, residing at Greenville, in the county of Hillsborough and State of New Hampshire, have invented certain new and useful Improvements in Treating Lamp-Wicks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to certain new and useful improvements in lamp-wicks, the object thereof being to provide a lamp-wick which will be practically incombustible, and in which the capillary attraction for the fluid will not be destroyed by reason of its treatment to render it incombustible.

In carrying out my invention I employ a wick made of vegetable fiber woven together in the usual manner, and such a wick is first treated by saturating the same in a strong vinegar or acetic acid. This treatment of the wick prevents the same from shrinking, removes or kills the vegetable oils contained in the fabric of the wick, and better prepares the same for subsequent treatment. After the wick has been thoroughly saturated with acetic acid it is dried, after which it is immersed and saturated in a solution of chloride of zinc, which will enter into and surround the vegetable fiber better and to a greater extent than it would had the wick not been previously treated. After the wick has been thoroughly saturated with chloride of zinc it is again dried and ready for use. The wick will remain permanently incombustible even after a lapse of some time, and to all casual appearances is the same as the ordinary wick of commerce.

When the wick is in use, it will be found

that the chloride of zinc will have rendered the same incombustible, and in burning a thin crust will be formed upon the same, which will render trimming unnecessary.

If desirable to render the wick more attractive, it may be dyed; but this forms no feature of my invention and may be omitted.

I am aware that prior to my invention it has been proposed to treat lamp-wicks made up of animal and vegetable fiber with certain chemicals to render them incombustible and produce clearer light than is produced by the ordinary lamp-wick.

The first step in the treatment of my improved wick when made of vegetable fiber will prevent the wick expanding when ignited, while the second step renders it incombustible, and provides, when the wick is ignited, a crust upon its upper end, which is porous, and will permit the oil to pass through the same.

I am also aware that prior to my invention it has been proposed to treat wicks with acids and with mixtures of zinc and other fireproofing compounds, and I do not, therefore, claim such, broadly; but

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

The method of treating lamp-wicks composed of vegetable fiber, the same consisting in first saturating said wicks with a solution of vinegar and after drying further saturating and impregnating with chloride of zinc, substantially as set forth.

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

THOMAS DUGAN.

Witnesses:

H. J. TAFT,

A. WHITTAKER.