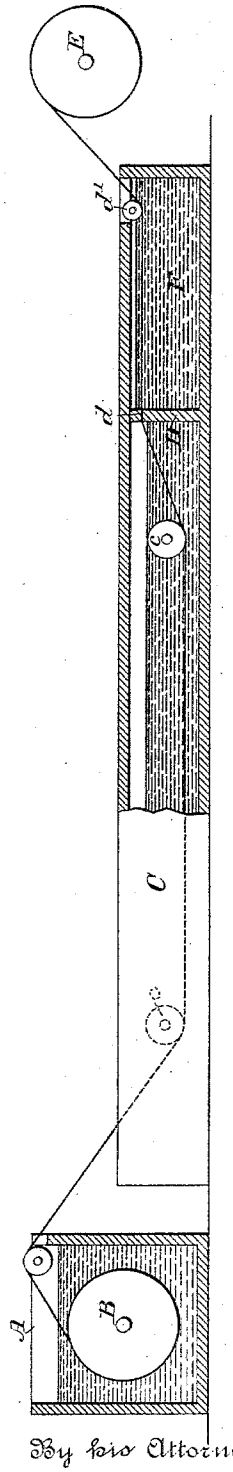
(No Model.)

E. P. THOMPSON.

PROCESS OF TREATING FILAMENTS FOR INCANDESCENT ELECTRIC LIGHTS.

No. 369,267. Patented Aug. 30, 1887.



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UNITED STATES PATENT OFFICE.

EDWARD P. THOMPSON, OF ELIZABETH, NEW JERSEY.

PROCESS OF TREATING FILAMENTS FOR INCANDESCENT ELECTRIC LIGHTS.

SPECIFICATION forming part of Letters Patent No. 369,267, dated August 30, 1887.

Application filed September 15, 1886. Serial No. 213,574. (No model.)

To all whom it may concern:

Be it known that I, EDWARD P. THOMPSON, a citizen of the United States, residing in Elizabeth, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in Process of Treating Filaments for Incandescent Electric Lights, of which the following is a specification.

The invention relates to the process of treating filaments with saccharine matter before they are carbonized. It has been found advantageous to soak the filaments in a saccharine solution before they are placed in the carbonizing crucible or kiln. There is more or less inconvenience experienced from the tendency of the filaments to stick to the carbon of the mold by reason of the moist condition of the filament.

My invention consists in coating the saturated filament with a film of wax, which effectually prevents the filaments from sticking to the mold.

In the accompanying drawing there is represented an apparatus adapted to carry out the invention.

Referring to the drawing, A represents a vat containing a reel, B, upon which the filament is wound. The vat contains an acidulated saccharine solution, and the filament thus becomes thoroughly soaked. As it is withdrawn from the reel it passes into and through a trough or tank, C, being held down by rollers *c c*. This trough or tank contains melted wax. The heat of the wax drives off the water which is brought over from the vat A, and a film of the wax is deposited upon the filament. A division-wall, D, is placed near the end of the tank C, at which the filament passes out to a reel, E. The filament passes through a hole or die, *d*, in this wall, and this hole is of such size as to remove the moisture from the filament and compress the fibers. Before leaving the tank, however, it passes through another bath of melted wax in the compartment F, beyond the wall D, and under a roller, *d'*, and a thin film of wax is thus left on the filament as it is wound upon the reel E. This film or coating of wax effectually prevents the filament from sticking to the mold during the process of carbonizing, and also binds the fibers closely against the filament, thus giving a more solid and firmer product. The die *d* assists in insuring a compactness upon the part of the filament. During the process of baking the wax vaporizes, and the vapor prevents the oxidation of the filament as it displaces the air.

The melted-wax bath may be advantageously used in treating filaments which have not been placed in a saccharine bath, as the wax serves to bind the fibers of the filament.

Other material than wax may sometimes be employed.

I claim as my invention—

1. The hereinbefore-described process of treating filaments for incandescent electric lights, which consists in subjecting the filament to a bath of saccharine matter, and subsequently passing it through a bath of melted wax.

2. The hereinbefore-described process of treating filaments for incandescent electric lights, which consists in treating the filament to a saccharine solution, subsequently passing it through a bath of melted wax, and passing it from the wax bath through a die, substantially as described.

3. The hereinbefore-described process of treating filaments for incandescent electric lights, which consists in treating the filament to a saccharine solution, subsequently passing it through a bath of melted wax, and passing it from the wax bath through a die, substantially as described.

In testimony whereof I have hereunto subscribed my name this 17th day of August, A. D. 1886.

EDWARD P. THOMPSON.

Witnesses:

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