UNITED STATES PATENT OFFICE.

WILLIAM MAHLER, OF NEW YORK, N. Y.

INCANDESCENT-LIGHTING SUBSTANCE.

SPECIFICATION forming part of Letters Patent No. 606,726, dated July 5, 1898.

Application filed July 31, 1897. Serial No. 646,704. (No specimens.)

To all whom it may concern:

Be it known that I, WILLIAM MAHLER, a citizen of the United States, residing in the city, county, and State of New York, have invented a new and useful Improvement in Incandescent-Lighting Substances, of which the following is a specification.

My invention relates to improvements in the manufacture of incandescent-lighting devices, such as are used for the well-known incandescent gas-light, in which is used a hood, frame, or mantle made up, primarily, of a fabric of cotton threads or the like and impregnated with a solution of the salts of infusible earthy oxids. This prepared fabric is then subjected to heat, which consumes the foundation or primary fabric and leaves a skeleton body consisting of the infusible earthy oxids resulting from the decomposition of the salts employed in impregnating the fabric.

My invention consists in an improved compound for impregnating the hood, frame, or mantle before described; and the object of my invention is to produce an intensely brilliant light of an orange color.

It has been found that the combination of thorium oxid with a small percentage of cerium oxid, a combination known in the art, results in a light of great brilliancy of almost pure white. There are many reasons why a very white light is not desirable. In the first place, it is very hard on the eyes. In the second place, it produces a very ghastly effect on the human countenance. I have discovered that the addition of a very small percentage of neodymium oxid to the above-described compound has the effect of producing a light of intense brilliancy, but of an orange-yellow color. This color is a desirable one, and the light produced, though intensely brilliant, is very soft. I find that the proportions as follows give good results, though I of course do not wish to be limited to these exact proportions: 98.5 per cent. of thorium oxid; one per cent. of cerium oxid; .5 per cent. of neodymium oxid, the essence of my invention being the addition of such small percentage of neodymium oxid to a combination of thorium and cerium oxids as shall result in the production, when burned to incandescence, of a soft orange-yellow light the color of which will not deteriorate and the brilliancy of which will not be decreased.

What I claim is—

1. A mantle or hood for incandescent lighting, composed of a large percentage of thorium oxid, a small percentage of cerium oxid and a percentage of neodymium oxid considerably smaller than the percentage of cerium oxid, substantially as specified.

2. A mantle or hood for incandescent lighting, composed of about ninety-eight and one-half per cent. ($98\frac{1}{2}\%$) of thorium oxid, about one per cent. (1%) of cerium oxid and about one-half of one per cent. ($\frac{1}{2}$ of 1%) of neodymium oxid, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM MAHLER.

Witnesses:

RAYLAND MOMAUD,

JNO. S. PARKER.