

No. 660,590.

C. G. RICHARDSON.  
INCANDESCIBLE ELEMENT.  
(Application filed Mar. 17, 1900.)

Patented Oct. 30, 1900.

(No Model.)

Fig. 1.

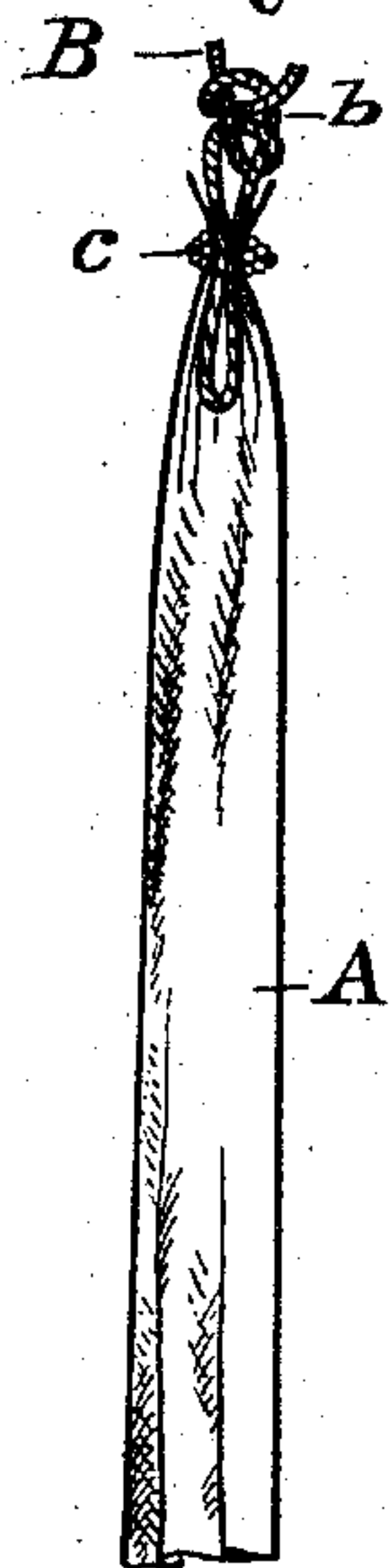


Fig. 2.

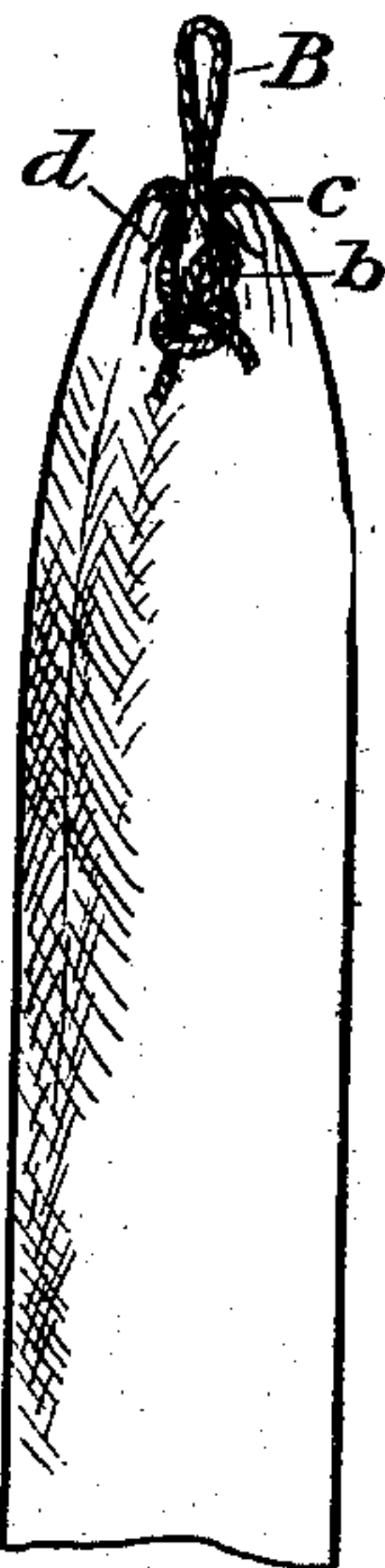
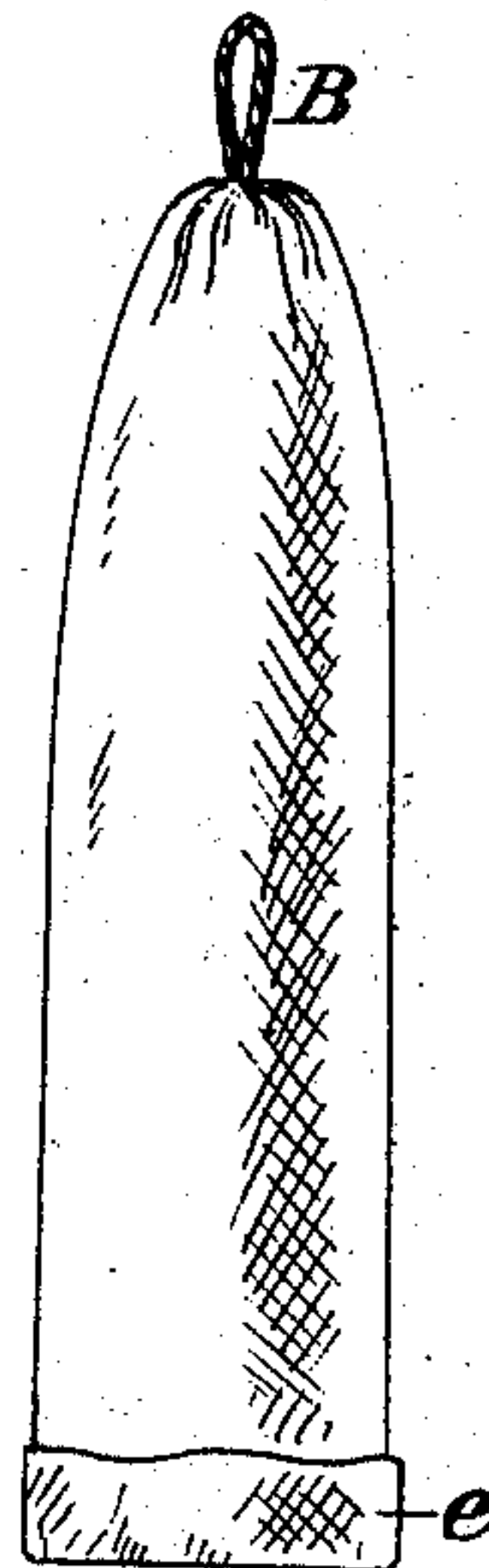


Fig. 3.



Witnesses:

*E. A. Canan*  
*Henry N. Brown*

*Charles Gordon Richardson* Inventor  
By his Attorney  
*Walter Brown*

# UNITED STATES PATENT OFFICE.

CHARLES GORDON RICHARDSON, OF NEW YORK, N. Y., ASSIGNOR TO  
JOSEPH BLASCO DE LERY, OF SAME PLACE.

## INCANDESCIBLE ELEMENT.

SPECIFICATION forming part of Letters Patent No. 660,590, dated October 30, 1900.

Application filed March 17, 1900. Serial No. 9,025. (No specimens.)

*To all whom it may concern:*

Be it known that I, CHARLES GORDON RICHARDSON, a subject of the Queen of Great Britain and Ireland, and a resident of the borough of Manhattan, in the city of New York and State of New York, have invented certain new and useful Improvements in Incandescible Elements and Methods of Making the Same, of which the following is a specification.

10 This invention relates to improvements in incandescible elements and methods of making the same.

The purpose of the invention is to provide an incandescible element, as a mantle, which is closed at the top and is equipped with an easily-supplied and securely-fastened hanger or loop of incombustible material for suspending the element above a suitable burner, and the folded or creased fabric of the mantle is fastened directly upon said hanger or loop and without any open ring or frame in the top of the mantle.

A mantle constructed according to this invention has the top, which is the part which usually first gives out, so strengthened as to be much more durable and less likely to collapse than is the top of the ordinary open mantle, and the mantle becomes more intensely incandescent by the confining of the intensely-heated gases in its interior more effectually than they are confined in the open-top mantle, for the mantle becomes incandescent to a greater height and superior light is produced for a given gas consumption. My method of construction also greatly cheapens the cost of making the mantles, for the construction of the top of the mantle is such that the mantle is very readily shaped by the user on the burner without requiring any particular skill, and therefore the mantles can be sent out from the factory without being first burned out and coated with protective coatings, as is now necessary.

Referring to the drawings which accompany the specification to aid the description, Figure 1 is a vertical section of a stocking turned inside out and with a loop fastened

therein. Fig. 2 is a vertical section of the stocking reversed to its original position with the right side out and distended as it would be in use. Fig. 3 is an elevation of the finished mantle.

A piece A of tubing of suitable combustible fabric, known as a "stocking," having been first saturated in the ordinary manner with solutions of incandescible mineral oxids and dried, is turned inside out. A piece of asbestos cord B, or of any other suitable incombustible material, is then knotted at *b* to form a loop or hanger, as shown. The loop is then inserted into the end of the stocking so that said knot *b* is just outside the stocking, and the end of the stocking is then gathered into folds and firmly bound to the loop by winding it, preferably, with thread *c*, which has been saturated with solutions of the mineral oxids. The ends of the winding-thread can be secured by tying or merely by twisting them together. The stocking is now reversed, bringing the right side out and the knot *b* within the stocking and just below the winding-thread *c*, Fig. 2, while a portion *d* of the upper end of the stocking now turns down inward, where it is secured to the loop B. Thus the knot *b* provides against the loop slipping out of the stocking or "mantle," as the finished article is termed, and the winding-thread forms a flange or shoulder, which gives shape and strength to the upper end of the mantle and also closes it.

I prefer to turn up the lower end of the mantle, as at *e*, Fig. 3, as this also aids in readily burning out and shaping the mantle, although such turning up is not necessary.

Now, having described my improvements, I claim as my invention—

1. The combination in an incandescible element, of a stocking of combustible fabric saturated with a solution of incandescible mineral, a loop of incombustible material provided with a knot which is within said stocking, and a filament of incombustible material binding said stocking on said loop above said knot, substantially as described.



2. The combination in an incandescible  
element, of a stocking of combustible fabric  
saturated with a solution of incandescible  
mineral, and having one end turned in, a  
5 loop of incombustible material provided with  
a knot which is within the turned-in end of  
said stocking, and a filament of incombusti-  
ble material binding said turned-in end of

the stocking on said loop above said knot,  
substantially as described. 10

Signed at New York, N. Y., this 14th day of  
March, 1900.

CHARLES GORDON RICHARDSON.

Witnesses:

BERNARD J. ISECKE,

DAVID WALTER BROWN.