

No. 765,179.

PATENTED JULY 19, 1904.

R. J. A. D'HEUREUSE.
INCANDESCENT MANTLE.
APPLICATION FILED MAR. 19, 1903.

NO MODEL.

Fig. 1.

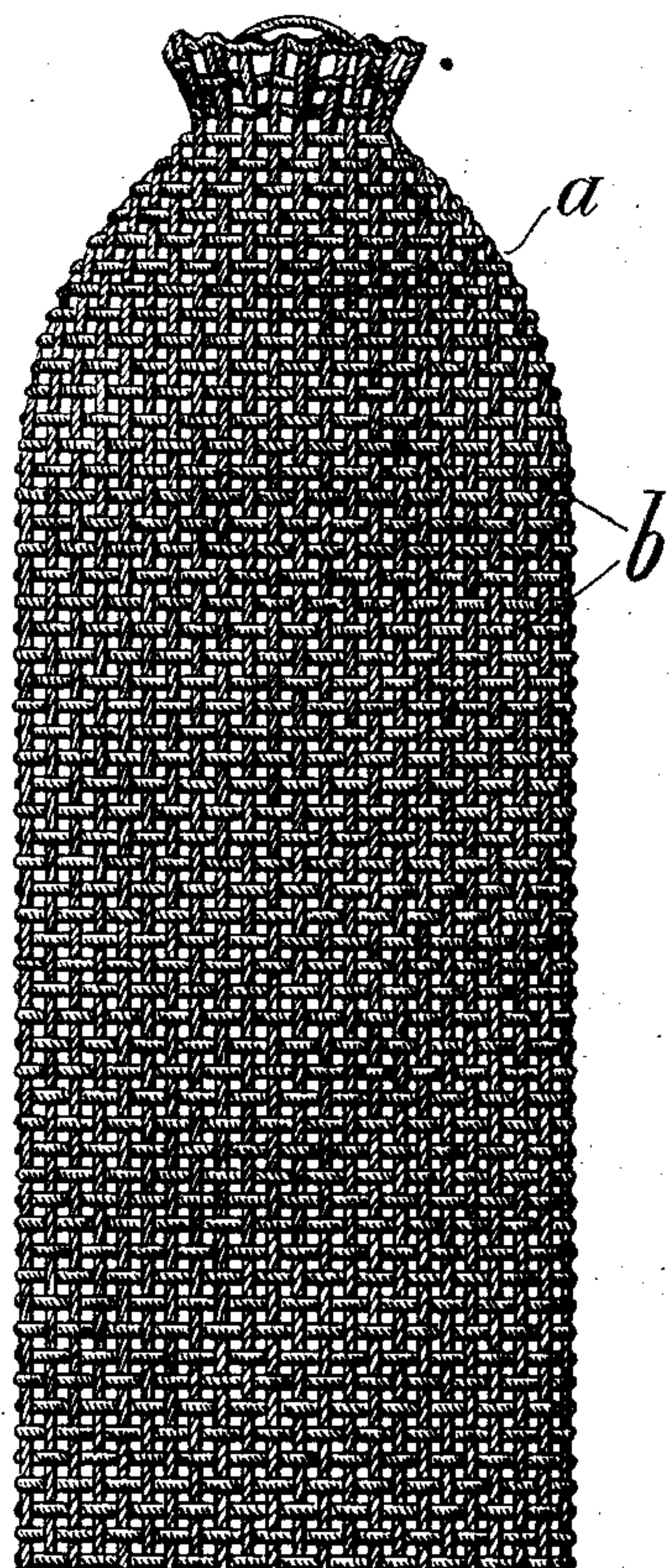
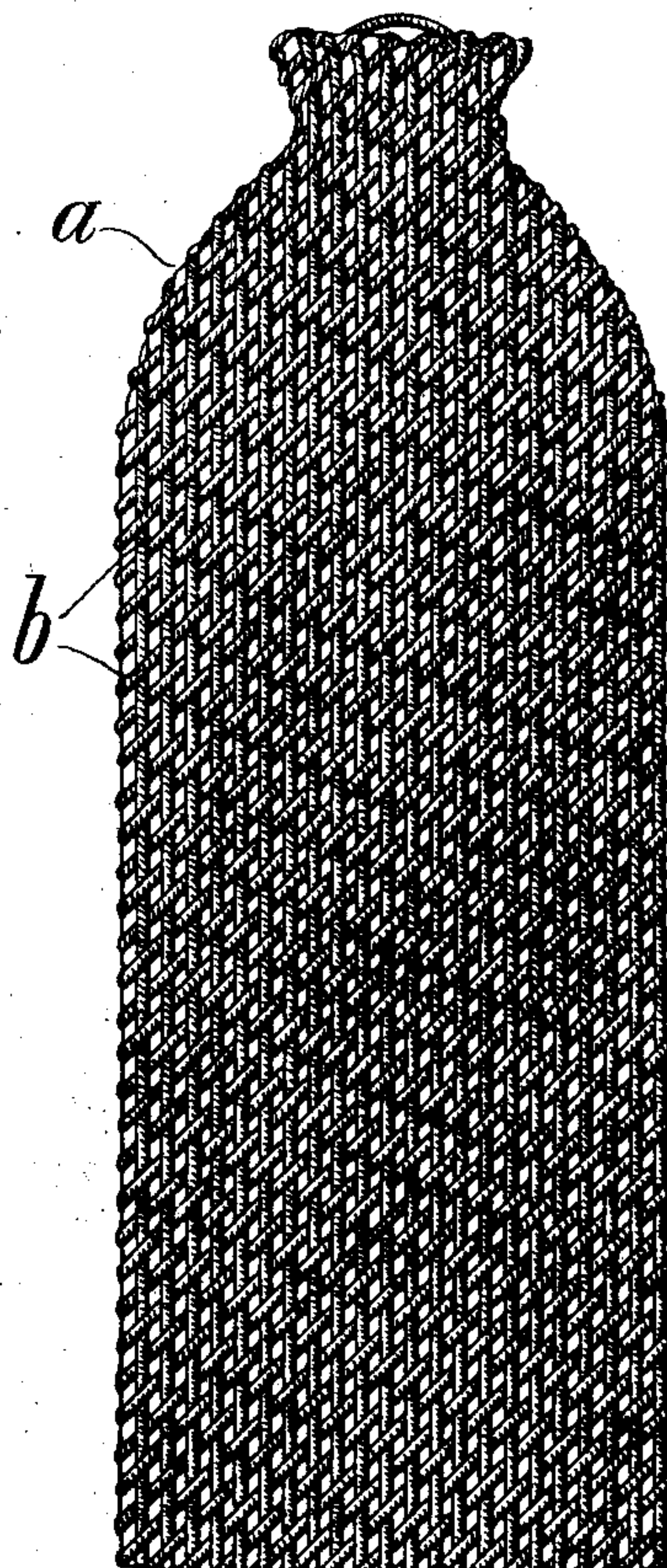


Fig. 2.



WITNESSES

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INCANDESCENT MANTLE.

SPECIFICATION forming part of Letters Patent No. 765,179, dated July 19, 1904.

Application filed March 19, 1903. Serial No. 148,616. (No model.)

To all whom it may concern:

Be it known that I, RICHARD JULIUS ALBERT D'HEUREUSE, a resident of the city of Berlin, Kingdom of Prussia, in the Empire of Ger-
many, have invented new and useful Improve-
ments in Mantles for Incandescent Lamps, of
which the following is a full, clear, and exact
specification.

This invention relates to improvements in
incandescent mantles. It has been the prac-
tice heretofore to make these mantles of
meshed or looped fabric--the product of a
knitting-machine--in order to provide elas-
ticity of mesh, it being supposed that this
was necessary to allow for expansion and con-
traction consequent upon the heating and
cooling of the same, and thus prevent rupture
of the threads. I have discovered, however,
that this type of fabric is seriously objection-
able in that its very elasticity causes it to
shrink and lose the dome shape so necessary
to perfect candescence, thus lessening its
illuminating quality, and that the contraction
of the meshes, which increases with the pe-
riod of combustion, has the effect of shutting
off a period of the mantle fabric from the ac-
tion of the flame, with the result that their
illuminating effect is more and more affected
and finally destroyed. To overcome these
objections is the object of my invention, and
I accomplish it by producing a practically in-
elastic and unshrinkable mantle, for I have
found that the elasticity heretofore deemed
essential is not only not necessary, but an
absolute detriment, and in the formation of
my improved mantle I compose it bodily of
threads or fibers running vertically, bound
together by threads or fibers running circu-
larly and at right angles to the line of the lon-
gitudinal threads and binding them together.
It will be understood that this is for the pur-
pose of preventing the stretching of the man-
tle, and for this reason the longitudinal threads
must be vertically of the length of the mantle
and the binding-threads horizontally of this
line, so that there can be no movement of the

threads to cause the mantle to be distended
longitudinally and to be reduced correspond-
ingly in diameter, the aim of the present in-
vention being to support and sustain the man-
tle in its proper shape, so as to give the
greatest amount of illumination with the maxi-
mum durability.

In the present invention every part of the
fiber of the mantle is thoroughly exposed and
the maximum illumination secured therefrom,
due to the fact that there is no shrinkage, and
by the simple arrangement of the crossing
threads or fibers practically the whole of the
fabric is made effective as an illuminant.

In place of the meshed or knitted goods
with multiple threads and loops a hood-
shaped mantle is produced by the present in-
vention having a body wholly consisting of
a fabric in which the groups of fibers are
simply interwoven, one series or group run-
ning lengthwise of the mantle and the other
at right angles thereto, thus preventing the
longitudinal stretching and lateral shrinkage
found to be so objectionable in practice and
maintaining the mantle in the desired shape.

In the accompanying drawings, Figure 1
shows in elevation an incandescent mantle
having a body constructed with threads or
groups of fibers intercrossing at right angles.
Fig. 2 is a view of a modification.

a indicates an incandescent mantle of the
ordinary shape, while *b* indicates the separate
threads extending lengthwise in one group
or series with other threads interwoven at
right angles or as shown in Fig. 2.

By the arrangement of the threads as shown
a multiplicity of free passages or openings are
formed allowing for the ready escape of the
gases of combustion and a more perfect burn-
ing off of the mantle.

In addition to the advantages enumerated
the internal support given the longitudinal
threads by the crossing fibers materially as-
sists in increasing the ability of the mantle
to resist jars or vibration and adds to its
durability in cases where such mantles are re-

quired to withstand an increased pressure, such as is necessary, for instance, in the case of strong-light and high-pressure gas.

I claim—

- 5 A hood-shaped mantle having its body composed of a plurality of threads, fibers or filaments of incandescible oxids extending vertically the length of the mantle and bound together by continuous filaments of oxids extending circularly at an angle thereto and interwoven therewith, whereby the mantle is
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made substantially inelastic and unshrinkable maintaining in use its proper shape, substantially as described.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses. 15

RICHARD JULIUS ALBERT D'HEUREUSE.

Witnesses:

WOLDEMAR HAUPT,
HENRY HASPER.