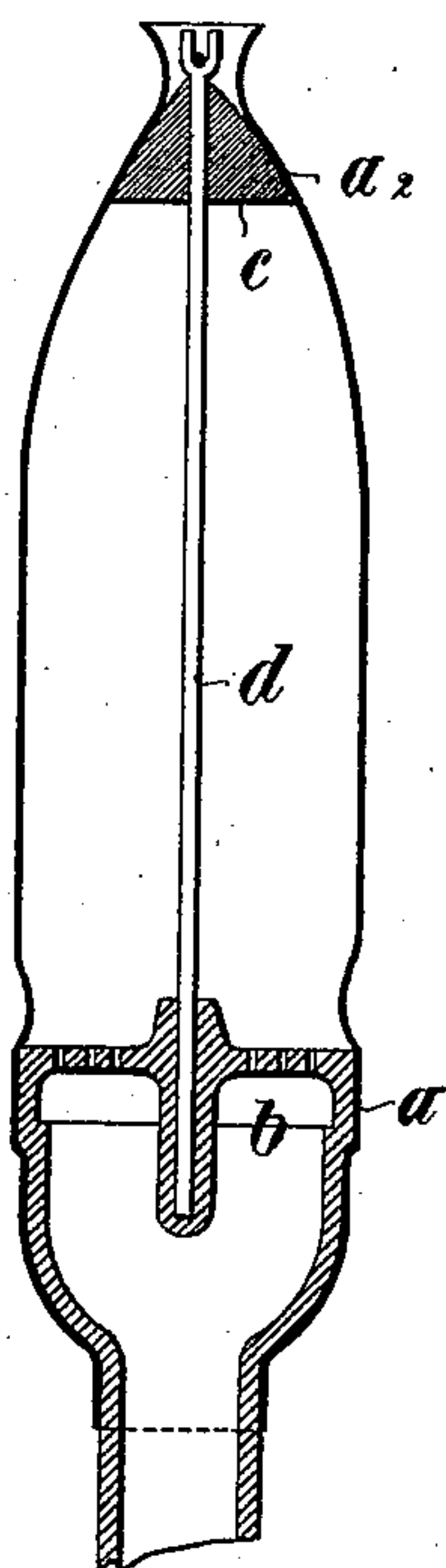


(No Model.)

W. H. A. SIEVERTS.
METHOD OF MOUNTING INCANDESCENT MANTLES ON GAS BURNERS.

No. 590,865.

Patented Sept. 28, 1897.



Witnesses:
Thos. A. Gunn
Robert Everett

Inventor:
Wilhelm H. A. Sieverts.
By *James L. Norris.*
Norris

UNITED STATES PATENT OFFICE.

WILHELM HEINRICH AUGUST SIEVERTS, OF HAMBURG, GERMANY.

METHOD OF MOUNTING INCANDESCENT MANTLES ON GAS-BURNERS.

SPECIFICATION forming part of Letters Patent No. 590,865, dated September 28, 1897.

Application filed October 17, 1896. Serial No. 609,234. (No model.)

To all whom it may concern:

Be it known that I, WILHELM HEINRICH AUGUST SIEVERTS, a subject of the Emperor of Germany, residing at Hamburg, in the Empire of Germany, have invented an Improved Method of Mounting Incandescent Mantles on Gas-Burners, of which the following is a specification, reference being had to the accompanying drawing.

10 This invention relates to a method of firmly fixing incandescent mantles to the burners of incandescent gas-lamps, the fixing being effected in such a manner that the lower part of each incandescent mantle is intimately connected with the head of the burner, and the top part of the mantle is likewise securely fixed to a suitable head on the frame supporting the incandescent body. This fixing is effected by exposing the incandescent mantle to the action of a jet-flame, acting from the exterior inward, at the burner and head, whereby these parts of the mantle are forced inward until they contract into intimate contact with the burner parts referred to. The incandescent mantle thus treated under certain conditions has a frilled appearance. This defect is due to the fact that the material used for making the incandescent mantles becomes soft and plastic when subjected to the action of a jet-flame.

30 A flame specially suitable for the purpose of fixing the mantle to the burner and head is the oxyhydrogen-gas flame under slight pressure from a blowpipe. The flame is either directed toward or against the glowing body while the latter is rotated or is guided around it. The rotary motion may be effected by hand; but the glowing body is preferably set on a rotating disk. The glowing body then 40 clings closely to the burner and the head, because the softened mantle is pressed by the force of the tangential or radial inward-flowing burning gases against the burner and head and folds up and is drawn closely on the head and burner and is colliquified.

45 For producing the oxyhydrogen-gas flame any of the well-known burners may be employed which allow of a separate supply of hydrogen and illuminating-gas and of oxy-

gen. Such a flame fanned by oxygen attains 50 an extraordinary high temperature, theoretically considered to be 4,000° centigrade. Even if this temperature is, as a matter of fact, not fully attained the temperature actually attainable is sufficient to melt platinum, quartz, as has been demonstrated, and also thorium. If the burner or the head is of suitable material, by means of this process a fusion thereof with the glowing body is effected. For this purpose also a special cement or pigment can be used—for example, 60 water-glass and zinc-white, which forms under the action of the oxyhydrogen-gas flame a vitreous substance.

The accompanying drawing represents an incandescent mantle applied to the burner by means of the above method.

The incandescent mantle, forced inward by a radially-directed jet-flame, contracts at its lower part *a* into intimate contact with the outer surface of the burner-head *b*, while its top part *a*² is contracted into intimate contact with a suitably-shaped (approximately conical or segment-shaped) solid or hollow head *c* on the frame *d* for supporting the incandescent body, which head may be of any suitable material. The jet-flame employed may be an annular flame, which in this case may simultaneously act upon the whole circumference of the mantle extremity.

80 This improved method also entirely obviates the laxity usually observed in incandescent mantles suspended above the burner, and this laxity being the cause of the mantle becoming rapidly worn and unfit for adjustment on the lamp or burner incandescent bodies applied to the burner according to this improved method will even stand rough handling without injury.

90 This improved method further insures that the incandescent mantle lies exactly in the peripheral surface of the flame arising from the burner, whereby the lighting power of the mantle is raised to its highest efficiency. The application of this improved method is of course not restricted in all cases to the foot *a*' as well as to the top *a*² of the incandescent mantle, but may, according to prac-

tical requirements, be sometimes applied to the foot of the mantle only and sometimes to the top only.

What I claim is—

- 5 The method herein described of fixing incandescing mantles to gas-burners, consisting in exposing the mantle while on the burner to the action of an oxyhydrogen-gas flame directed radially inward against the mantle,

whereby the mantle is contracted and fixed to on the burner, substantially as described.

In testimony whereof I have hereunto set my hand this 28th day of September, 1896.

WILHELM HEINRICH AUGUST SIEVERTS.

Witnesses:

CARL FAHL THEODOR SCHULZ.

CARL AUG. FRIEDRICH WILHELM MEYER.