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PATENT



SPECIFICATION

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COMPLETE SPECIFICATION.

Perforated Annealing Screen for Gaslight Mantles.

We, PIETER VAN MOUWERIK, and CORNELIS WILLEM BAL, Manufacturers, of Nobeldwaarsstraat 13, Utrecht, the Netherlands, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

5 This invention relates to an apparatus for annealing and collodioning gaslight mantles, especially those for inverted burners. The apparatus used hitherto for this purpose present many drawbacks; so that the products obtained are irregular and many mantles are wasted. Moreover the manipulation of the existing apparatus required much time and considerable dexterity so that it
10 was necessary to employ experienced workmen.

The apparatus according to the present invention allows of a greater number of gaslight mantles being annealed and collodioned in less time and with less experienced workmen than with the known apparatus of this kind, while the product obtained is always of the same regular quality; moreover breakage may
15 practically be avoided entirely.

The invention consists in that the perforated annealing screens, each made in a single piece, are provided, in order to prevent the displacement of the mantles during the annealing and collodioning process, with a U-shaped border and with transversal stamped slots with upright sides, so that the
20 annealing screens are prevented from becoming distorted or from collapsing by the heat of the narrow flame, while the annealing screens are provided with holes arranged at equal distances from each other and preferably provided with projecting extensions, for preventing the mantles from moving upward during the collodioning process.

25 The accompanying drawing represents a form of construction of an apparatus according to the invention.

Figure 1 is a plan view of a perforated annealing screen.

Figure 2 is a section on the line A—B of Figure 1.

Figure 3 is a section on the line C—D of Figure 1.

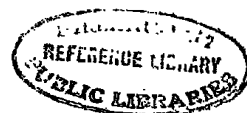
30 Figure 4 is a side view of a mantle, attached to a magnesia ring which itself is known.

Figure 5 is a plan view of Figure 4.

Figure 6 is a fragmentary view illustrating the means for supporting the mantle.

35 The perforated screen 1 is made of a single piece of metal or other material suitable for the purpose, for example by stamping. In the screen 1 ring holes 2 are arranged at equal distances from each other, the ring holes being provided with projections 3 comprising material not removed by the stamp.

[Price 6d.]



The projections, which are separated by slots 4, have projecting extensions 5 at their ends.

The magnesia rings 10 to which the mantles are affixed according to Figures 4 and 5 are provided in the usual way with claws 11 which are passed from underneath the screen 1 through the slots 4. By rotating the ring 10 about its axis after its introduction into the screen, it is supported by the claws on the projections 3 as shown in the fragmentary view, Figure 6. 5

The extensions 5 may be flat or bent downward, according to the kind of ring used. They are adapted to engage the mantle ring 10, Figure 6, with a small clearance between the underside of the extension 5 and the upper side of the mantle ring, this being of great importance for the following reason. 10
When the mantles, arranged in the screen, are dipped into the collodion, the mantles have a tendency to float and in most cases, consequently assume an oblique position and are damaged by contact with the screen edge. The breakage percentage due to this cause is very important with the apparatus used hitherto, as every expert knows by practice. 15

In order to prevent the mantles from moving with regard to the narrow flames during the annealing process, the screens, according to this invention, are provided at both sides with longitudinal U-shaped borders 6 and transversely with slots 7 and upright ribs 8. 20

The longitudinally arranged U-shaped borders 6 prevent the screen from bending downward during the annealing process of the mantles. As the deflection surpasses sometimes one centimetre with the usual apparatus, it will be clear that the mantles occupy different positions with regard to the narrow flames so that it is impossible to obtain a regular product. 25

The transversely arranged slots 7 allow the bottom, which is subject to the greatest heat, to expand freely so that it will not become distorted. The upright sides 8 of the slot 7 prevent the screen from bending in a transverse direction. 30

It is clear that this apparatus causes the mantles to occupy invariably the same position with regard to the narrow flames during the annealing process, perfectly regular annealing and consequently a uniform product being the result. 35

Moreover, the apparatus according to the invention is simple and easy in operation and saves a good deal of time. Whilst it is necessary with the usual annealing screens for the mantles to be arranged one by one in their places within the annealing screen under the narrow flames, it is only requisite with the apparatus according to the invention to control the two outer mantles. If the position of these with regard to the narrow flames is correct, then all the intermediate mantles are in correct position as they are situated at fixed and equal distances from one another. 40

By arranging the screen with its ends on fixed and correctly adjusted supports, the correct position of all mantles with regard to the narrow flames is automatically obtained without any further shifting of the mantles.

After the mantles have been taken out, the screens are immediately ready for use again, contrary to the usual screens with which it is necessary to think each time of the loose plates and to arrange them one by one in the screen. For this work two boys or two girls were hitherto required for each workman charged with the annealing process. Apart from the important reduction in the number of workmen, attained by the new apparatus, it should be mentioned that the breakage of magnesia rings is greatly reduced, while the breakage of the mantles may be avoided entirely. 50

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is: 55

1. An apparatus for annealing and collodioning gaslight mantles, wherein

the perforated annealing screens are provided, at one or at both sides, with U-shaped borders and with transverse stamped slots with upright sides for preventing the screens from becoming distorted or from bending, and preventing the displacement of the mantles during the annealing process.

- 5 2. An apparatus according to Claim 1, wherein the annealing screens, made each from a single piece, are provided with holes arranged at fixed distances from one another and preferably provided with projecting extensions adapted to engage with the rings to which the gaslight mantles are affixed, a small clearance being allowed.
- 10 3. The improved apparatus for annealing and collodioning gaslight mantles, substantially as hereinbefore described and as illustrated in the accompanying drawings.

Dated this 11th day of December, 1916.

MARKS & CLERK.

[This Drawing is a reproduction of the Original on a reduced scale.]

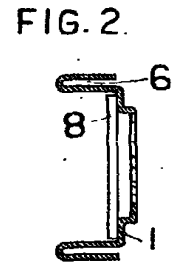
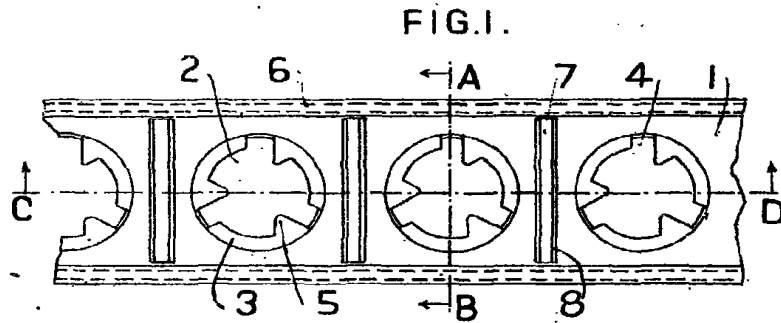


FIG. 3.

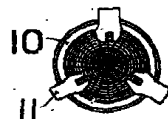
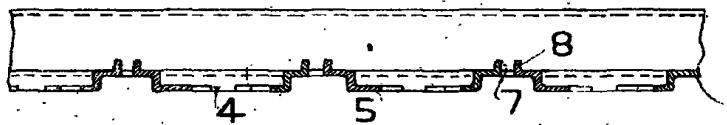


FIG. 5.

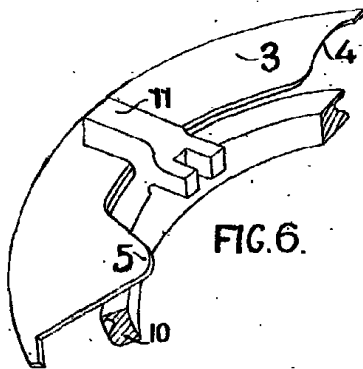


FIG. 6.

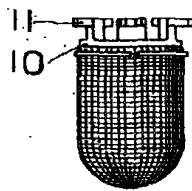


FIG. 4.

