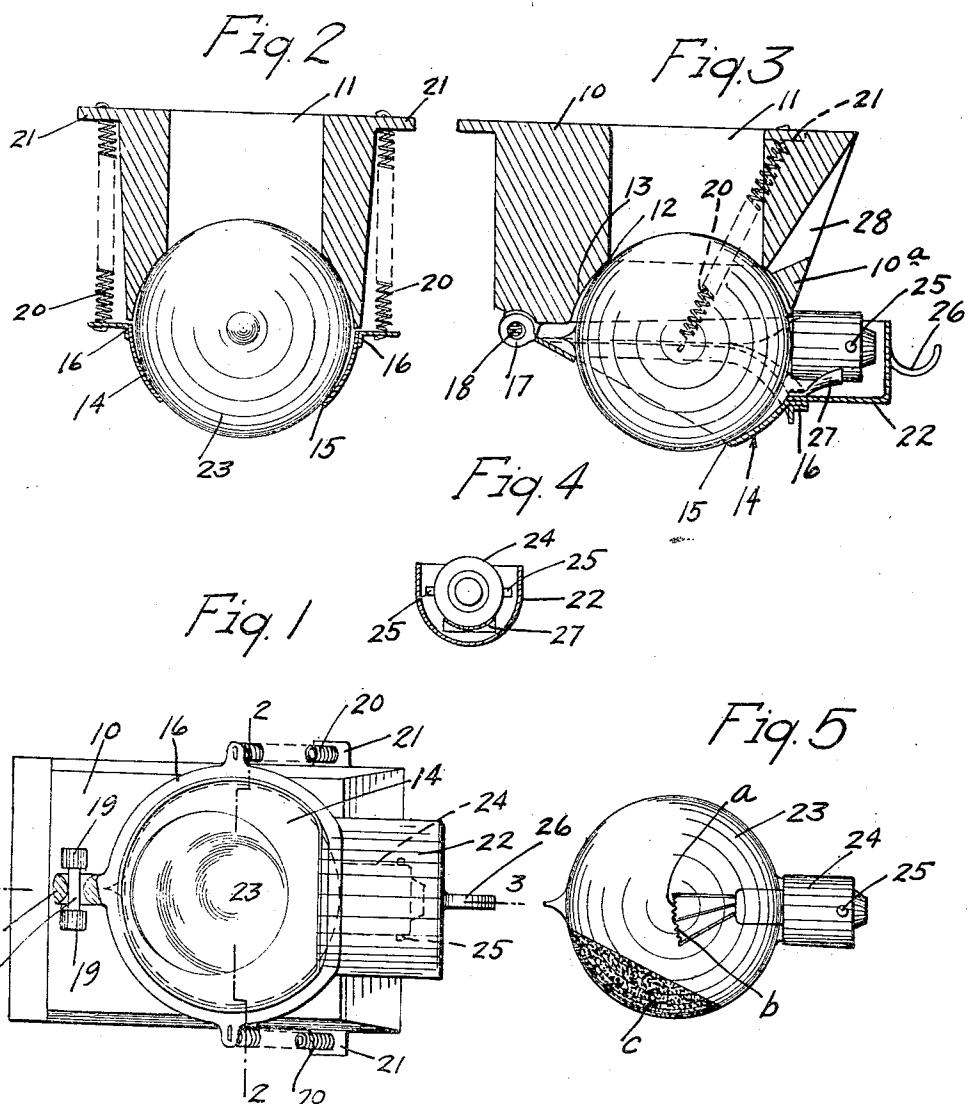


O. WINSTON,
BULB STENCILING DEVICE,
APPLICATION FILED NOV. 25, 1916.

1,258,289.

Patented Mar. 5, 1918.
2 SHEETS—SHEET 1.



WITNESSES

E. C. Wells
A. H. Opsahl

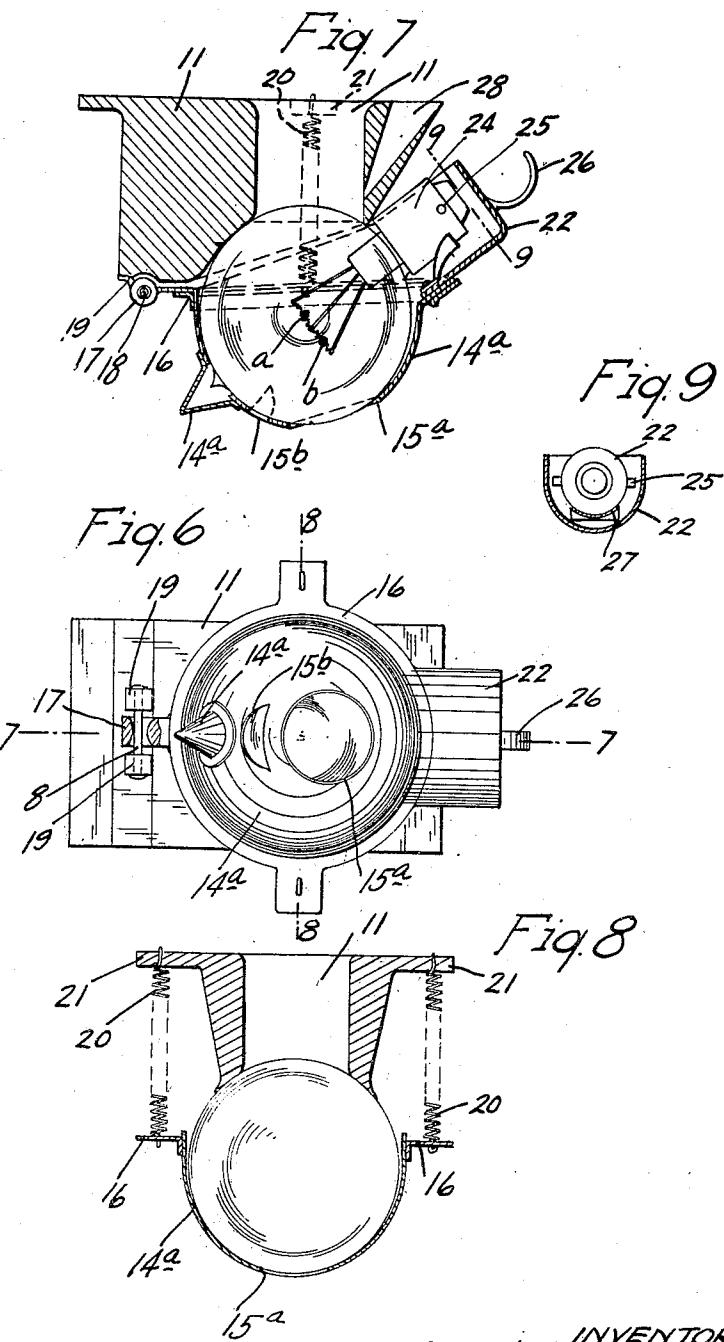
INVENTOR
Overton Winston
BY HIS ATTORNEYS

William Merchant

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Williamon Michael

UNITED STATES PATENT OFFICE.

OVERTON WINSTON, OF MINNEAPOLIS, MINNESOTA.

BULB-STENCILING DEVICE.

1,258,289.

Specification of Letters Patent. Patented Mar. 5, 1918.

Application filed November 25, 1916. Serial No. 133,473.

To all whom it may concern:

Be it known that I, OVERTON WINSTON, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Bulb-Stenciling Devices; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it app pertains to make and use the same.

My invention has for its object to provide an extremely simple and highly efficient stenciling device for use in accurately, quickly and economically applying to electric light bulbs, or the like, frosting or light dimming surfaces. Generally stated, the invention consists of the novel devices and combinations of devices hereinafter described and 20 defined in the claims.

It has been found desirable to provide frosted surfaces or zones of various different shapes at proper precalculated places on the globes of electric light bulbs which are 25 to be used for headlights for automobiles and similar vehicles, and as above indicated, my invention provides a highly efficient device for this purpose.

In the accompanying drawings which 30 illustrate the invention, like characters indicate like parts throughout the several views.

Referring to the drawings,

Figure 1 is a bottom plan view of the improved stenciling device;

Fig. 2 is a transverse section taken approximately on the line 2—2 of Fig. 1;

Fig. 3 is a section on the line 3—3 of Fig. 1;

Fig. 4 is a transverse vertical section taken through the hood extension of the stencil plate close to its outer end;

Fig. 5 is a side elevation of an electric light bulb showing the manner in which 45 frosting is applied thereto by the use of a stenciling device;

Fig. 6 is a bottom plan view corresponding to Fig. 1, but illustrating a slightly modified form of the stenciling device;

Fig. 7 is a section taken on the line 7—7 of Fig. 6;

Fig. 8 is a section on the line 8—8 of Fig. 6; and

Fig. 9 is a section on the line 9—9 of Fig. 7.

Referring first to the construction illustrated in Figs. 1 to 4, inclusive, the numeral 10 indicates the body or socket member of the stenciling device. This member 10 would preferably be rigidly secured to any suitable support, not shown. It is formed with a vertical passage 11, which, at 12, joins a concave bulb seat 13 that flares toward but opens at the bottom of the said socket member 10. For spherical light bulbs, the passage 11 should be cylindrical and the concave seat 13 should be rounded in horizontal cross section, and, of course, the bearing shoulder formed at 12 should also be a true circle, so that the light bulb, 60 when seated against the same, will not have contact with the flaring walls of the pocket 13.

The stencil plate 14 is a concave-convex structure formed with a stencil opening 15, the outline of which is such as to give the desired form of frosting. For example, if the frosting is to be applied to a spherical light bulb and is to have a circular margin, then the stencil opening 15 should have 65 true circular form. The said stencil plate is made of thin sheet metal or other suitable material which will spring at the edge of the stencil opening 15 and permit the stencil plate at such point, to tightly and closely 70 engage the light bulb even when there are slight irregularities in the surface thereof. This stencil plate 14 is, as shown, attached to a flanged reinforcing ring 16, which, at 75 one point, has a hinge lug 17 pivoted on a pin 18 held by laterally spaced lugs 19 of the socket member 10. Here it should be noted (see particularly Fig. 1) that the perforation through the hinge lug 17 is of such 80 shape and size that the stencil plate may not only swing vertically, but may move slightly forward and rearward and laterally. Furthermore, it will be noted that the spacing 85 of the lugs 19 is such that there is clearance between the same and the hinge lug 17, thereby permitting the entire stencil plate to 90 shift laterally, as may be required to permit the proper seating of the stencil against the light bulb. At its sides, the reinforcing ring 16 has outstanding lugs that are 95 connected to the lower ends of coiled springs 20, the upper ends of which are anchored to lugs 21 on the upper front portion of the socket member 10; and here it may be noted 100 that the said springs, stand in a plane that is 110

approximately at a right angle to the plane of the stencil opening 15, so that they will pull the stencil against the bulb with equal pressure at all points.

5 At its front portion, the stencil plate 14 is secured to a hood-like extension 22 that is of relatively heavy material and is adapted to receive the shank of the light bulb.

The globe of the light bulb is indicated by 10 the numeral 23, and its metal curved shank by the numeral 24. The metallic contact collar of the said shank 24 is shown as provided with the usual lock lugs or studs 25. Furthermore, the bulb shown has two filaments *a* and *b*, and has a frosted zone *c*. In 15 Fig. 5, the bulb is shown as it appears upon being removed from the stenciling device, but when used in the headlight it will be turned otherside up, so that its frosting *c* and off- 20 set filament *b* will be above the axis thereof.

The numeral 26 indicates a finger piece on the hood 22, and the numeral 27 indicates a light leaf spring anchored within the hood and engageable with the under surface of 25 the shank of the light bulb. Here it may be noted that the outer end of the spring 27 terminates inward of the lugs 25, so that it will not be engaged by said studs when the bulb is rotated on the axis of this shank.

30 When the frosting is to be applied to a two-filament light bulb, or for that matter, to a lamp having a single transversely extended filament, it is important that the frosting be applied to the bulb at the right 35 position in respect to the filament, circumferentially of the bulb. Hence, to facilitate the proper setting of the bulb, the socket member 10 is provided with a peep hole or sight opening 28 that alines radially with the 40 positioned bulb so that the exact position of the filaments thereof may be observed while the bulb is held by the socket and stencil plate and rotated on its axis.

It will be noted that the stencil plate 14, 45 as well as the pocket 13 have greater divergence than the surface of the light bulb so that the bulb will be engaged only by that portion of the stencil plate that is immediately adjacent to the stencil opening 15. 50 This also provides for the holding of the bulbs that vary somewhat in diameter, that is, that may be somewhat smaller or somewhat larger than the bulb shown in the drawings, and at the same time, maintains 55 a close engagement between the light bulb and stencil plate. When the bulb is placed in the opening of the stencil plate 14 and the latter is allowed to move upward under the tension of the springs 20, the light leaf 60 spring 27 will hold the shank of the bulb so that it will engage with the short stop edge 10^a of the socket member 10, and thus set the axis of the bulb at a right angle to and centrally of the plane of the stencil opening 65 15. The said spring 27 is, however, not

strong enough to overcome the tension of the springs 20, and hence, does not prevent the stencil plate from being moved into close engagement with the bulb under the tension of the springs 20.

When the light bulb is applied and held, as shown in the drawings, Figs. 1, 2 and 3, that portion thereof which projects through the stencil opening 15 is exposed in the application thereto of an acid or other material, or mixture of materials which, when applied to the glass, will produce a frosting thereon. Of course, if desired, the frosting can be painted on the exposed portion of the bulb, or so far as this invention is concerned, it might be produced by sand blown against the same. At any rate, only that portion of the bulb upon which the frosting or like surface is to be produced, is exposed through the stencil plate.

The stenciling device shown in Figs. 6 to 9, inclusive, is like that already described with the following exceptions or additions to-wit, the stenciling plate here indicated by the character 14^a has two stencil openings 15^a and 15^b, and further has a conical projection 14^a alined with the top or point of the light bulb. It will be noted that the stencil opening 15^a is circular while the opening 15^b is crescent shaped. These openings 95 will, of course, give correspondingly formed frosted surfaces on the light bulb.

The free end of the spring 27 (see particularly Figs. 4 and 9) is made concave or cylindrical in cross section, so that it fits the 100 shank of the light bulb and holds the same against lateral displacement while it is being rotated on its axis.

In the arrangement illustrated in Figs. 1 to 4, inclusive, the light bulb, when held 105 in the stenciling device, has its axis approximately intersecting the edge of the axis of the hinge 17, while in the construction illustrated in Figs. 7 to 9, inclusive, the bulb, when held by the stenciling device, has its 110 axis extended far below the axis of the said hinge. The latter construction throws the near edge of the stencil opening farther from the reinforcing ring 16 and gives a much better chance for the metal of the 115 stencil plate to be spring-pressed into contact with the globe of the bulb.

By reference to Fig. 2, it will be noted that when the bulb is applied in the stenciling device, there is clearance between the 120 upper portion of the stenciling plate and the lower edge portion of the socket member, so that the springs 20 normally exert force pressing the marginal edge of the stencil opening against the globe of the bulb.

What I claim is:

1. A bulb stenciling device comprising a socket member having an opening terminating in a flaring pocket and formed with a bulb engaging edge at the junction between 130

5 said opening and pocket, a stencil plate loosely hinged to said socket member at one end and provided with a stencil opening through which a portion of the positioned bulb will be exposed for frosting, and yielding means for pressing said stencil plate against the bulb and the bulb against the ledge of said socket member.

10 2. A bulb stenciling device comprising a socket member having an opening terminating in a flaring pocket and formed with a bulb engaging edge at the junction between said opening and pocket, a stencil plate loosely hinged to said socket member at one 15 end, and provided with a stencil opening through which a portion of the positioned bulb will be exposed for frosting, said socket member having a stop for engaging the shank of the bulb and said stencil plate having a yielding member engageable with said 20 bulb shank to press the same against said stop.

25 3. A bulb stenciling device comprising a socket member having an opening terminating in a flaring pocket and formed with a bulb engaging edge at the junction between said opening and pocket, a stencil plate loosely hinged to said socket member at one 30 end, and provided with a stencil opening through which a portion of the positioned bulb will be exposed for frosting, said socket member having a stop for engaging the shank of the bulb and said stencil plate having a yielding member engageable with said 35 bulb shank to press the same against said stop, the said parts holding said bulb with freedom for rotation.

40 4. A bulb stenciling device comprising a socket member having an opening terminating in a flaring pocket and formed with a bulb engaging edge at the junction between said opening and pocket, a stencil plate loosely hinged to said socket member at one 45 end and provided with a stencil opening through which a portion of the positioned bulb will be exposed for frosting, and springs connecting the opposite sides of said

stencil plate to the opposite sides of said socket member.

5. A bulb stenciling device comprising a 50 socket member having an opening terminating in a flaring pocket and formed with a bulb engaging edge at the junction between said opening and pocket, a stencil plate loosely hinged to said socket member at one 55 end, and provided with a stencil opening through which a portion of the positioned bulb will be exposed for frosting, and springs connecting the opposite sides of said 60 stencil plate to the opposite sides of said socket member, the said springs being extended in a plane at a right angle to the plane of the stencil opening of said stencil plate.

6. A bulb stenciling device comprising a 65 socket member and a stenciling plate hinged thereto and coöperating therewith to hold a light bulb with a portion exposed through said stencil plate, a spring yieldingly pressing said stenciling plate against the bulb 70 and the latter against said socket member, and a spring carried by said stenciling plate and engageable with the shank of the bulb to position the same against a stop on said stenciling member. 75

7. A bulb stenciling device comprising a socket member and a stenciling plate hinged thereto and coöperating therewith to hold a light bulb with a portion exposed through said stenciling plate, a spring yieldingly 80 pressing said stenciling plate against the bulb and the latter against said socket member, and a spring carried by said stenciling plate and engageable with the shank of the bulb to position the same against a stop on said stenciling member, the free end of said 85 spring being concave in cross section to fit the shank of the bulb.

In testimony whereof I affix my signature in presence of two witnesses.

OVERTON WINSTON.

Witnesses:

BERNICE G. WHEELER,
HARRY D. KILGORE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."