LAMP BASE AND RING THEREFOR


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6 Claims. (Cl. 176—32)

In Figs. 2 and 3 we have designated the lamp shown by the reference character 21, as comprising a bulb 22 and a mount 23 including the filaments 24 and 25 which may be energized separately or together by means of the lead-in conductors 26, 27 and 28, the ends of which respectively connect with the shell 29 of the base 30, the center contact 31, and the ring 32, said elements being held together by glass insulation 33 formed therearound.

The ring contact element 32 is shown in perspective in Fig. 1. In the embodiment illustrated, it is desirably cut from sheet brass, or similar material, generally circular in outline with a center opening 34, from the peripheral portion defining which outstanding tapering, curved, and inclined lugs 35 which in the course of manufacture become embedded in the glass insulation 33. The ring is also provided with an apertured or frusto-conical hollow boss 36 which receives the lead 28 and is soldered or otherwise connected thereto. The ring is thus of special construction, avoiding sharp angles and grooves which had been used, thereby for the first time making it suitable for automatic or machine feeding.

The molten glass which is fed to the base-making machine to form the base insulation 33, desirably passes through a die or guide of durable material, such as described and claimed in the Walker patent, No. 2,031,083 of February 18, 1936, and the Richardson Patent No. 2,190,286 of February 13, 1940, the temperature of the molten glass stream being desirably controlled in accordance with the Richardson et al. patent, No. 2,116,450 of May 3, 1938.

Briefly, the operations of the machine for feeding rings 32 to the shell supports or bottom glass dies, (it being understood that the Walker et al. patent, previously mentioned, discloses how center contacts and shells of bases are thereafter fed to such a machine) are that (1) said rings pass from a hopper to a slide, along which they are fed singly by a finger onto a special dial having a series of pockets or slots around its peripheral portion, each of which is just large enough to hold one ring. (2) The rings are preferably carried by the dial three-quarters of a revolution to a selected position where (3) each is, in turn, engaged and pushed by a plunger out of its pocket in the dial and along a ring slide on which it is, in turn, grasped by rear transfer fingers. (4) These fingers carry each ring to (5) a turning head which rises, a holding plunger comes down, the head rotates, and a locating pin enters the lead wire boss and turns the ring to the po-
sition it is to occupy in the bottom die of the base-making machine. The head then stops turning, and the rear transfer fingers move back until (6) the front fingers grasp the ring, whereupon the turning head descends, the holding plunger rises, the front fingers carry the ring over the bottom glass die, and a ring placer plunger comes down and pushes the ring from the fingers into said die without altering the subsequent eyelet or shell feed.

The base-making machine with which our rings are used is diagrammatically represented in Fig. 5 as having twenty-four heads. After unloading and cleaning each glass die assembly or head 241 at the positions indicated, such a head of the machine has its parts positioned as shown in Fig. 4 at the time of feeding a ring 32 thereto.

The spider 242 of the base-making machine 238 has a series of pockets 243 around its periphery for receiving the elements of the base dies or heads. These elements for each head comprise an upper outer die housing member 244 secured to the spider 242 in any desired manner, as by means of screws. Inside of this member 244 is a bushing 246, secured in place as means of a set screw 247. Mounted for reciprocation in the bushing 246 is the die proper or base elements support 248, presenting an upwardly opening pocket, the outer portion 249 of which is formed to support a base shell 28, the inner portion 250 of which is shaped to receive a center contact 31, and the intermediate portion 252 is formed to support a ring 32.

This die proper has a bottom portion 253 connected to the top or base supporting portion by columns 254 and normally connected to an interior cam-actuated member 255 by means of a set screw 256. Turning of the cam-actuated member 255 and the associated die proper 248 is prevented by pin 257 held in place by set screw 258.

The member 255, by action of the cam 259, holds the die proper 248 in uppermost position, as shown in Fig. 4. After application of the ring 32 and center contact 31, the die proper 248 is lowered for reception of the shell 28, so that during the glass filling operation, the shell 28 is supported within the bushing 246 and housing 244.

In order to prevent a ring 32, after reception by the die 241, from turning from the proper position for receiving the molten glass, a plunger member 261 has its stem 262 reciprocatingly mounted with respect to the member 255 and carrying a cam-actuated member 264, so that it may be moved from the uppermost position illustrated in Fig. 4 to the lower position (not shown), the push-up cam being designated by the reference character 264.

The head 265 of the plunger 261 carries a pin 266, receivable in a corresponding aperture in the die proper 248, and which passes through the apertures boss 36 of a ring 32 when the latter is fed thereto, thereby holding said ring in the desired position while the base parts are being filled with glass and being retracted by a pull-down cam (not shown), which engages the upper face of the part 263 at the proper time, so as to withdraw the pin 266 from the die proper to form the opening 267 through the glass insulation 33 of the base 30 being formed, to allow for passage of the lead-in conductor 28, as shown most clearly in Fig. 2.

In order to prevent undesired movement of the plunger member 261 with respect to the member 265, as because of its stem 262 becoming loose from wear, a friction collar 259, consisting of a plurality of annular members 271 held together about the stem 262 by a collar spring 272, is provided. Movement of the collar 269 to above the position illustrated in Fig. 4 is prevented by overlying shoulders 273. Turning of the stem 262 with respect to the cam-actuated member 255 is prevented by engagement between shoulders on the latter and cooperating shoulders on the member 263.

It will, therefore, be seen that after a die 241 has been cleaned by air, at which place the cam 259 and the push-up cam 264 operate to move the die proper 248 and the plunger 261 up to the position illustrated in Fig. 4, a ring 32 is fed thereto at the place indicated by "ring feed" in Fig. 5 when the parts are still positioned as shown in Fig. 4. The cam 264 acts only momentarily, the plunger 261 staying in place by frictional action of the collar 268. The spider 242 then moves on until the die reaches the position designated "eyelet feed" in Fig. 5, where the eyelet member 31 is positioned, as in accordance with the Walker et al. patents above referred to.

The cam 259 then allows the die proper 248 and frictionally-held plunger member 261 to descend so that when the die 241 reaches the position designated "shell feed" the die proper is at the bottom of its permitted movement, and the bushing 246 and die proper 248 provides a pocket with walls of substantial height for holding the shell 29 in place during the time the molten glass is fed thereto in the position designated "glass feed," also as in accordance with said Walker et al. patents.

After the shell 29, center contact 31 and ring 32 in the head 241 have received the desired charge of molten glass and said glass has had time to harden to some extent, said glass is acted upon by one or more upper shaping plungers, designated 1 and 2 in Fig. 5. The plunger 261 and its associated pin 266 is then lowered with respect to the die proper 248 by means of the pull-down cam (not shown) leaving the base aperture 267, and a pin plunger descends at the position indicated in Fig. 5 to form the aperture 274 which receives the lead-in conductor 27 for connection with the center contact 31. The die 241 is then unloaded and cleaned, and the operation may be repeated.

From the foregoing, it will be seen that our base rings 32 are especially formed for handling by a machine which acts in synchronization with the base-making machine to accurately place them, as third contacts of bases to be formed, in one die after another of a base-making machine, the other contacts, that is, the shell and center contact of each base, being placed in accordance with the Walker et al. patents, 1,310,237 and 1,210,238, previously referred to.

Although a preferred embodiment of our invention has been disclosed, it will be understood that modifications may be made within the spirit and scope of the appended claims.

We claim:

1. A ring for a lamp base comprising a metal plate with a generally circular periphery and a center aperture outlined by a plurality of outstanding inclined lugs, and another lug disposed intermediate the periphery and center aperture of said ring and formed generally hollow frustoconical for the reception of a lead-in conductor.

2. A ring for a lamp base comprising a metal plate with a generally circular periphery and a center aperture outlined by inclined lug means,
and an aperture disposed intermediate the periphery and center aperture of the ring for the reception of a lead-in conductor.

3. A ring for a lamp base comprising a metal plate with a generally circular periphery and a center aperture outlined by a plurality of outstanding inclined lugs, and a hollow lug disposed intermediate the periphery and center aperture of said ring for the reception of a lead-in conductor.

4. A ring for a lamp base comprising a metal plate with a generally circular periphery and a center aperture outlined by lug means, and an aperture disposed adjacent the periphery of the ring for the reception of a lead-in conductor.

5. A lamp base including a shell, a center contact, and an intermediate metal plate, all of said elements being joined together by glass poured molten into place while assembled in a die, said plate being of a form particularly adapted for machine operation and for that purpose having a generally circular periphery, a center aperture outlined by a plurality of lugs embedded in said glass, and another embedded lug disposed intermediate the periphery and center aperture of said ring and formed hollow.

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REFERENCES CITED

The following references are of record in the file of this patent:

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<tr>
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