

Aug. 3, 1926.

1,594,940

G. W. GOODRIDGE

METHOD OF ASSEMBLING AND WIRING CONTACT PINS

Original Filed Oct. 6, 1925

Fig. 1.

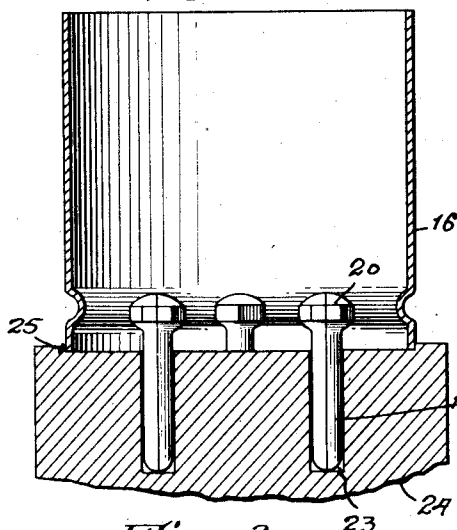


Fig. 2.

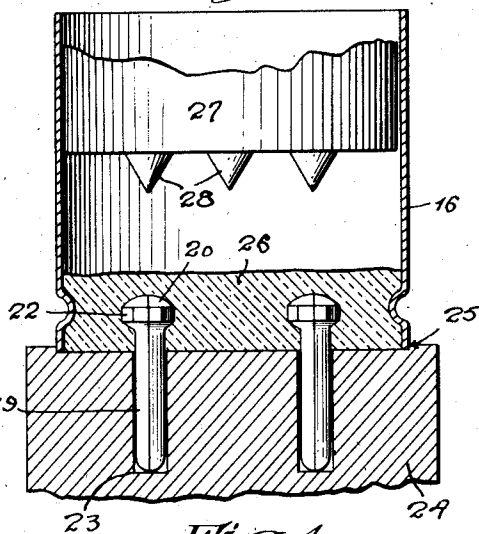


Fig. 3.

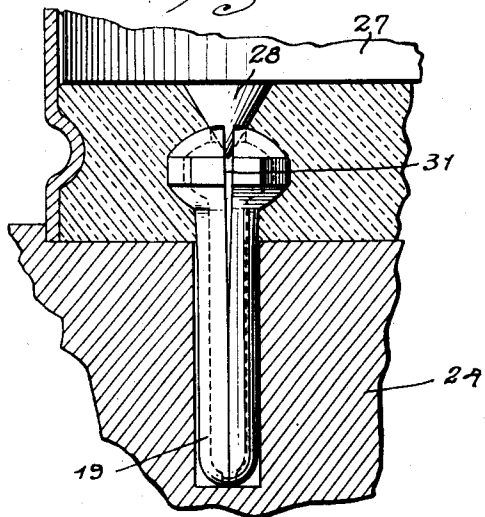


Fig. 4.

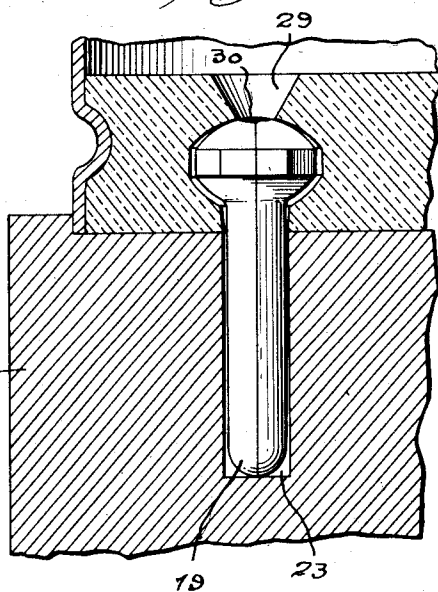
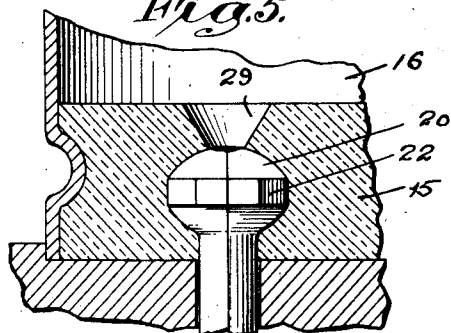


Fig. 5.



Inventor

GILBERT W. GOODRIDGE

By his Attorneys

Handwritten signature

UNITED STATES PATENT OFFICE.

GILBERT W. GOODRIDGE, OF FAIRFIELD, CONNECTICUT, ASSIGNOR TO THE BEAD CHAIN MANUFACTURING COMPANY, OF BRIDGEPORT, CONNECTICUT, A CORPORATION OF CONNECTICUT.

METHOD OF ASSEMBLING AND WIRING CONTACT PINS.

Original application filed October 6, 1925, Serial No. 60,898. Divided and this application filed May 20, 1926. Serial No. 110,576.

My invention relates to an improved method of assembling and wiring contact pins in a body of glass or the like.

In electric fittings of various types, such as audions, lamps, etc., contact pins are secured to the insulating base of the fitting and lead wires are permanently soldered to the pins. The common practice heretofore has been to employ pins formed from rod stock, cut to length and bored to receive the lead wire. Pins of this type are generally riveted to the base by offsetting. In some instances the pin is molded in the base, but this practice has been confined to bases of relatively expensive material which may be cold molded or is not subject to substantial shrinkage on cooling. The practice has not been followed with glass bases since the shrinkage of the glass as it cools upon the pins, results in cracks or fractures which render the fitting defective. The use of this excellent and economical insulating material has therefore been practically impossible.

My invention provides a method of pin assembly and wiring which obviates the difficulties mentioned, so that glass bases may be used, and also makes possible the use of pins which are cheaper than the pins now commonly employed.

In the accompanying drawings—

Figs. 1 to 5 inclusive illustrate, more or less diagrammatically, in enlarged section, my method of assembly in a glass base.

While my invention, in some aspects, is applicable to pins of other type than that illustrated in the accompanying drawings, the sheet metal pin shown is desirable by reason of its economy. Pins of this general type form the subject matter of the copending applications of William J. Gagnon, Ser. Nos. 56,291 and 56,292, filed September 14, 1925.

The usual audion bulb and its conductors and lead wires do not enter into the present phase of my invention, and the accompanying illustration is confined to the insulating base 15 of glass, the metallic shell 16 of which surrounds and holds the same and the contact pins 19, the heads 20 of which are embedded in the glass base. The attachment of the lead wire to the contacts 19 is illustrated in my copending application Ser. No. 60,898, filed October 6, 1925, of which the present application is a division.

As pointed out in the Gagnon applications above referred to, the pins are shaped from sheet metal stock and are longitudinally split from end to end. The embedded head 20 exceeds the pin shank in diameter, and is also preferably non-circular, at least in part, as at 22, in order to hold the pin against rotation in the base.

To mold the pins in the base in accordance with the present invention, I proceed preferably as follows. The shanks of the pins 19 are inserted in suitable recesses in the bottom of the mold 24, and the shell 16 of the base positioned against the seat 25 to form a confining wall. Glass 26 in plastic condition, is flowed into the shell until a sufficient quantity is present to cover the heads 20 of the pins. A press plunger 27 descends into the shell to shape the glass. On the lower face of the plunger are conical teats 28 so located and of such pitch that they not only form a flared mouth 29 leading to the axial hole 30 in each pin head, but also enter these holes and expand the split heads as at 31 (Fig. 3). The expansion of the pin head by the teats on the lower face of the former during the molding operation displaces the surrounding plastic glass, and the latter on cooling shrinks upon the pin head without fracture. Whether the pin head retains its distended condition until collapsed by the shrinking glass, or whether it at once returns to normal size following withdrawal of the plunger, I am not sure, but I have found that by shaping the teats 28 to offset this slight expansion of the pin head during the molding of the hot glass, no fracture around the pin heads occurs on cooling, while nevertheless the head is firmly embedded in the glass and the pin anchorage is secure.

The base, with the pins thus embedded therein, is now ready for the reception of the lead wires from the bulb, in the manner disclosed in my copending application above referred to.

While the described method of securing the pin in a frangible base is preferably followed in connection with pins of the sheet metal type disclosed in the Gagnon applications mentioned, it is obviously possible to follow the method using pins of other construction. An expansible and collapsible

head may be formed on a pin of any type. It will also be understood that while I have described my invention with particular reference to an audion bulb, it is applicable to
5 other electrical fittings without departing from what I claim as my invention.

I claim:—

1. The method of molding a contact pin in a frangible base, which comprises providing the pin with a contractile head, and
10 molding base material thereon while both pin head and base material are in expanded condition.

2. The method of molding a contact pin in a glass base, which comprises providing the
15 pin with a contractile head and molding hot glass thereon while said head is in expanded condition.

3. The method of molding a contact pin in a glass base, which comprises simultaneously
20 expanding the pin and compressing hot glass around the same.

In testimony whereof I have signed my name to this specification.

GILBERT W. GOODRIDGE.