J. W. HAINES.

Attaching Glass Knobs to Metal Sockets.

No. 196,447. Patented Oct. 23, 1877.

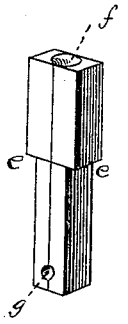

Fig. 1.

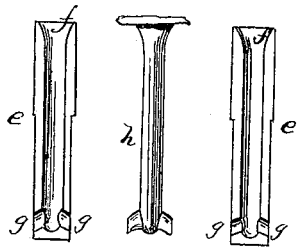

Fig. 2

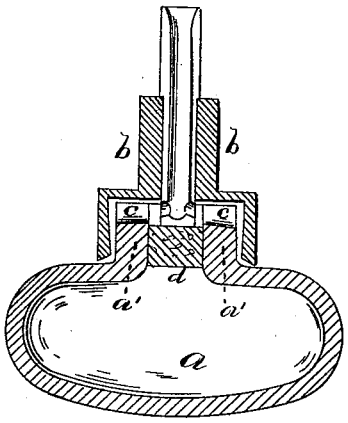

Fig. 3.

WITNESSES

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UNITED STATES PATENT OFFICE.

JOHN W. HAINES, OF CAMBRIDGE, MASSACHUSETTS.

IMPROVEMENT IN ATTACHING GLASS KNOBS TO METAL SOCKETS.

Specification forming part of Letters Patent No. **196,447**, dated October 23, 1877; application filed July 12, 1877.

To all whom it may concern:

Be it known that I, JOHN W. HAINES, of Cambridge, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Attaching Glass Door-Knobs to Metal Sockets, which improvement is fully set forth and described in the following specification and accompanying drawings.

This invention relates to the tube or gate which is introduced into the neck of the socket for the purpose of conducting the molten lead to the shank of the knob, thus casting the knob and socket together.

In the drawings, Figure 1 is a view, in perspective, of the tube or gate. Fig. 2 is a view of the said gate separated into its two parts, with the gateway between, as it appears when broken off. Fig. 3 is a longitudinal section of a glass knob and metal socket constructed according to the description in Letters Patent granted to me July 3, 1877, having the said gate inserted in the neck of the socket.

Similar letters of reference indicate corresponding parts.

a in Fig. 3 represents a glass knob which is to be joined to the flanged metal socket *b*. This is done by pouring molten lead through the gutters *c* and around the shank *a'* of the knob *a*. The cork or stopple *d* is to prevent the lead from flowing into the inside of the knob.

In order to introduce the molten lead without making any opening in the flange of the socket *b*, thus marring its beauty, I pour it through the tube or gate *e*, which is first placed within the neck of the socket, as seen in Fig. 3. This gate is made in two equal parts, as seen in Fig. 2, and has an inlet, *f*, which passes from the upper end, and opens near its lower end upon two opposite sides at *g*. The openings *g* are made upon the split or divided sides of the gate—not upon the whole sides.

The gate having been inserted in the neck of the socket, as in Fig. 3, the molten lead is poured in at the upper end of the inlet or gate *f*, and quickly passes down through the opposite openings *g g* into the gutters *c*, and thence around the shank *a'*. The gate *e* is withdrawn and falls apart and leaves the gateway *h*, which is broken off.

I am aware that there is nothing new in a gate or tube made in two parts, and having a hole from top to bottom for conducting the lead down to the knob.

The peculiarity of my gate is the branching opening *g g*, for conducting the lead by two opposite ways, said hole *g g* being intersected by the dividing-line between the two parts of the gate. By means of this invention a gate or tube is produced which is particularly adapted for use in connection with the invention patented July 3, 1877, above alluded to. One of the two outlets *g g* may be omitted, if desired.

I am aware of the existence of Letters Patent numbered 134,931, granted January 14, 1873, for an improvement in molds for casting metal knobs, in which a gateway or sprue conducts the lead through the side of a knob to its interior, for the purpose of rendering it more solid and substantial. As my gate is an internal one, and does not lead to the outside of the knob, (which must afterward be sealed up,) I do not claim anything shown in said invention or Letters Patent.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

The sprue consisting of two parts, *e e*, and having gate *f* and one or more openings, *g*, and stopper *d*, said parts arranged and constructed as and for the purpose set forth.

JOHN W. HAINES.

Witnesses:

HENRY W. WILLIAMS,

JOHN E. FRENNING.