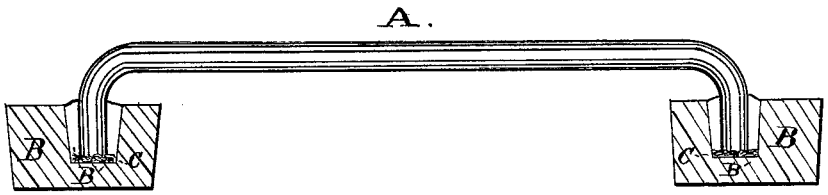
J. J. PAQUETTE.

GAGE-GLASSES.

No. 189,778. Patented April 17, 1877.



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UNITED STATES PATENT OFFICE.

JOHN J. PAQUETTE, OF NEW ORLEANS, LOUISIANA.

IMPROVEMENT IN GAGE-GLASSES.

Specification forming part of Letters Patent No. **189,778**, dated April 17, 1877; application filed February 20, 1877.

To all whom it may concern:

Be it known that I, JOHN J. PAQUETTE, of the city of New Orleans, State of Louisiana, have invented certain new and useful Improvements in Gage-Glasses; and I hereby declare the same to be fully, clearly, and exactly described as follows:

This invention relates to gage-glasses, such as are in use for ascertaining the level of the liquid in various vessels, such as steam-boilers, vacuum-pans, carbureters, &c.; and it consists in a gage-glass having certain characteristics, as hereinafter described and claimed, and also in the method of constructing the said glass.

Heretofore these glasses have generally been constructed as follows: The brass or metal caps for holding the ends of the glass tube are made somewhat larger in interior bore than the tube itself, and, the tube being cut to the proper length, the caps are attached to the vessel, the joint between the glass tube and the metal cap being then luted with cement or plaster. These joints are sure to leak sooner or later, and the want of a better method of closing the joint has long been felt.

In the accompanying drawings a glass is illustrated, having the construction and made in the manner hereinafter described. A represents the glass tube, which is cut to the proper length and bent to the desired shape. B B are suitable dies, having cavities for holding the ends of the tube A, which cavities contain a small portion of clay, C, or, better, a wad of asbestus. A quantity of lead, or a suitable alloy, sufficient to fill the cavities B′ B′ is next melted, and the glass tube and the dies being heated to about the melting-point of the alloy, the molten metal is poured around the glass tube into the cavities in the dies.

Previous to this casting the tube is pressed down into the cavities, in order to force the ends of the tube into the clay or asbestus, which is designed to prevent the molten metal from rising within the tube.

It is important that the glass tube should be heated to, or nearly to, the melting-point of the metal used, or it will certainly crack the moment that the molten metal comes in contact with it. The dies should also be heated, to prevent a too sudden cooling of the casting.

When the cast metal is cold, the gage-glass is removed from the molds and the metal will be found to adhere firmly to the glass, and form a perfectly tight and durable joint. The metal ends are then trimmed into shape, if necessary, and may be readily soldered to the ordinary brass fittings.

For the casting any suitable metal may be used having a fusing-point below the temperature at which glass softens. Lead answers very well, as does also type-metal, and the various well-known alloys of lead and tin, with or without zinc.

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

1. A gage-glass having a cast-metal joint, substantially as described.

2. The method herein described of forming gage-glasses, the same consisting in heating the glass, placing it within a heated mold, and casting molten metal around the glass, substantially as described.

Witness my hand this 19th day of February, 1877.

J. J. PAQUETTE.

Witnesses:

R. D. WILLIAMS,

E. RAINE.