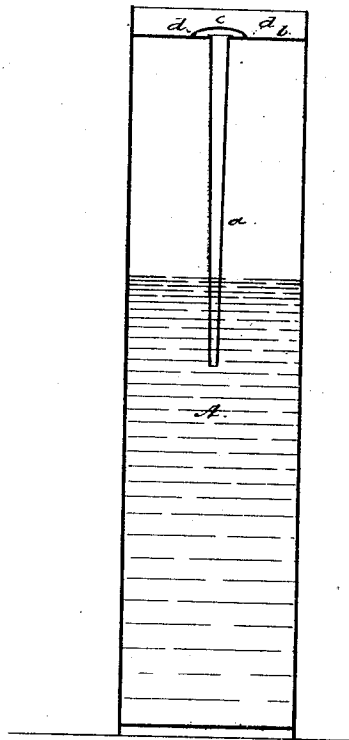


Draper & Glover.

Fire-Proof Safe.

N^o 72176

Patented Dec. 17, 1867.



Witnesses
S. N. Piper.
Geo. H. Andrews.

E. D. Draper & E. W. Glover

by their attorney.

R. H. Eddy

UNITED STATES PATENT OFFICE.

EBENEZER D. DRAPER, OF HOPEDALE, AND EDWARD W. GLOVER, OF
MEDFORD, MASSACHUSETTS.

IMPROVEMENT IN FIRE-PROOF SAFES.

Specification forming part of Letters Patent No. **72,176**, dated December 17, 1867.

To all whom it may concern:

Be it known that we, EBENEZER D. DRAPER, of Hopedale, in the county of Worcester, and EDWARD W. GLOVER, of Medford, in the county of Middlesex, and State of Massachusetts, have invented a new and useful Improvement in Water Cases or Vessels for Fire-Proof Safes; and we do hereby declare the same to be fully described in the following specification and represented in the accompanying drawing, which is a longitudinal section of a water-case provided with our invention.

In such drawing, A denotes the water-case, made in the ordinary manner, and with a tube, *a*, extending within it from its top, *b*, and opening through such top, the tube also being open at its lower end.

For sealing the mouth or upper end of the tube, we make use of a metallic meniscus, or concavo-convex plate or cap, *c*, having a diameter greater than that of the mouth; and this meniscus we fasten in place by soldering it to the plate *b* by a fusible-metal solder, *d*, which will melt at a temperature below 212° Fahrenheit. This solder may be composed of bismuth, tin, and lead, in the proportions, by weight, of eight parts of the bismuth, three parts of the tin, and five parts of the lead, the three metals being fused together; or it may be composed of cadmium, one to two parts; tin, two parts; lead, four parts; and bismuth, seven or eight parts, these metals being fused together.

By having the cap *c* dome-shaped, and to extend beyond the mouth of the tube *a*, (it being customary to make the cap of a diameter about double that of said mouth,) we are enabled to obtain a large and extended surface over the mouth for the steam to act against in order to force off the cap. By making the cap concave on its lower side, the solder will only adhere to it at or near its edge in contact with the plate *b*.

The water-cases, partially filled with water,

are for use between the walls of or within a fire-proof safe, their object being to retain water therein, in order that when the safe may be exposed to a fire, such water may be converted into steam, and in such state be discharged into the chamber of the safe, and thereby prevent combustion or burning of the books, papers, or other contents of the safe.

Our invention or improvement consists in the application of the cap *c* to the mouth of the case by means of a metallic solder, *d*, which will melt at a temperature below that of boiling water. In other words, we seal the mouth by a fusible metal which, at a temperature less than that of boiling water, will melt and allow the escape of steam from the case; and in connection therewith we use a metallic concave cap, larger in diameter than the hole, such being for the purpose set forth. We do not, however, confine our invention to this special form of cap, as a simple disk will suffice, although not so good.

So long as the metallic sealing may remain solid, the case will be hermetically sealed, and the water will be preserved from evaporation.

The mouth of the case may be sealed with the fusible metal alone; but as this is a somewhat difficult matter, we prefer the metal cap soldered in place by a fusible-metal solder which will melt at a temperature below that of boiling water.

We do not claim the employment of solder to connect one piece of metal to another, as such solder is ordinarily made and used.

We claim—

The concave cap *c*, in combination with the case A and the fusible-metal sealing or solder *d*, of the kind described, such cap being arranged with the mouth of the case, in the manner as set forth.

EBENEZER D. DRAPER.
EDWARD W. GLOVER.

Witnesses:

GEO. H. ANDREWS,
F. P. HALE, Jr.