

(No Model.)

W. SOMERVILLE.

THERMOMETER AND BAROMETER MOLD, &c.

No. 296,793.

Patented Apr. 15, 1884.

Fig. 1.

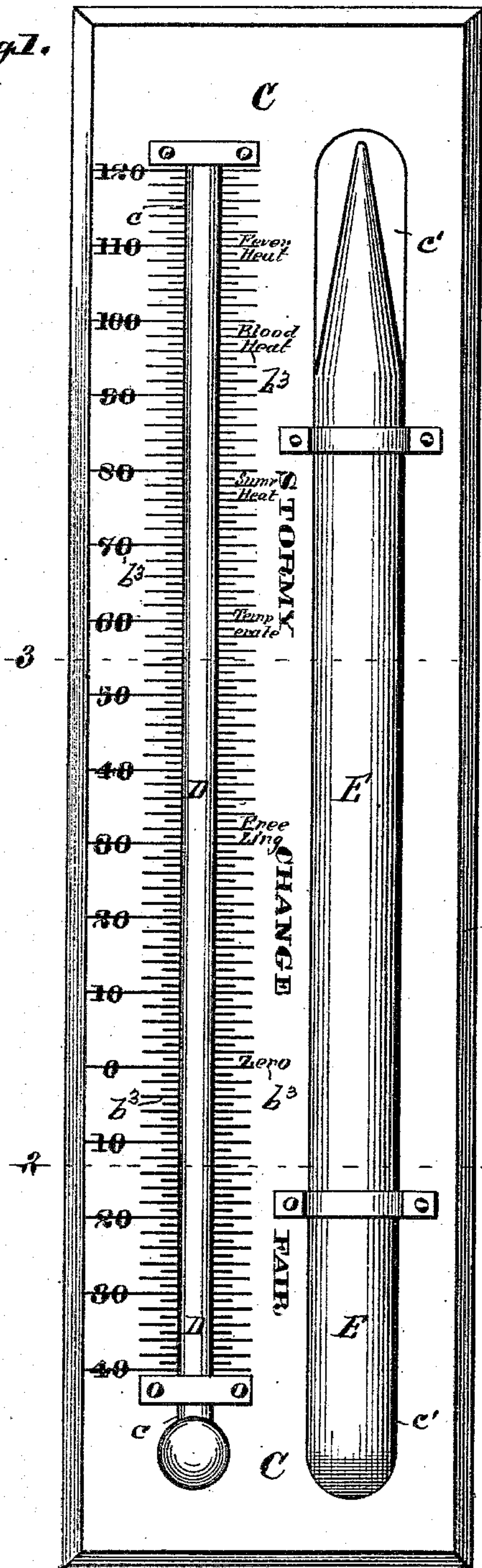


Fig. 2.

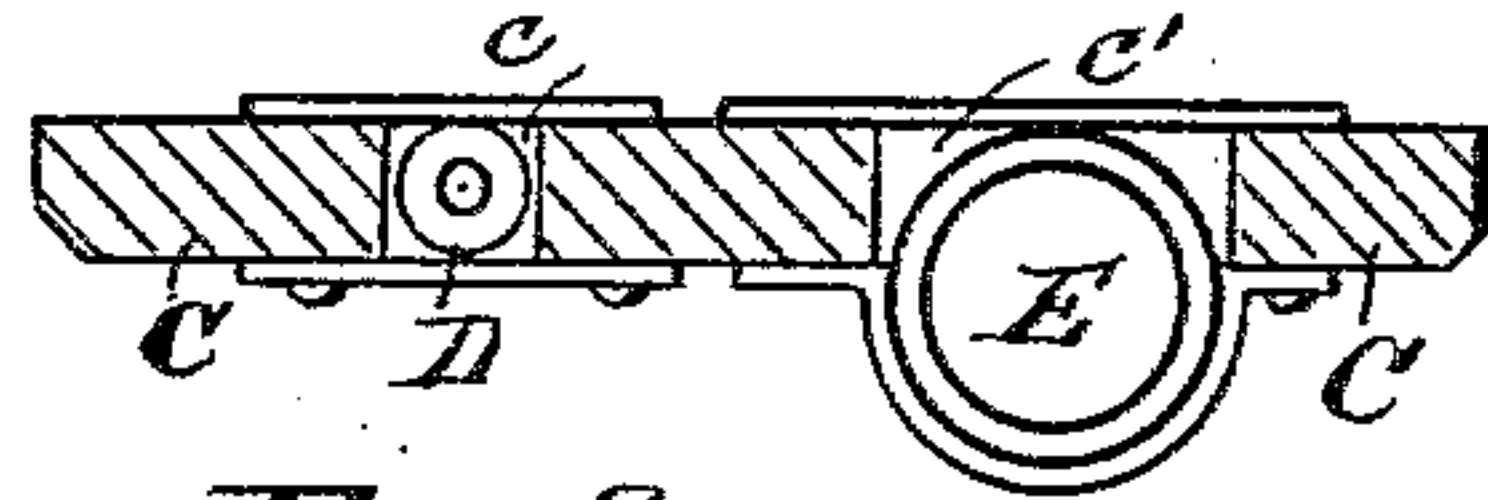


Fig. 3.

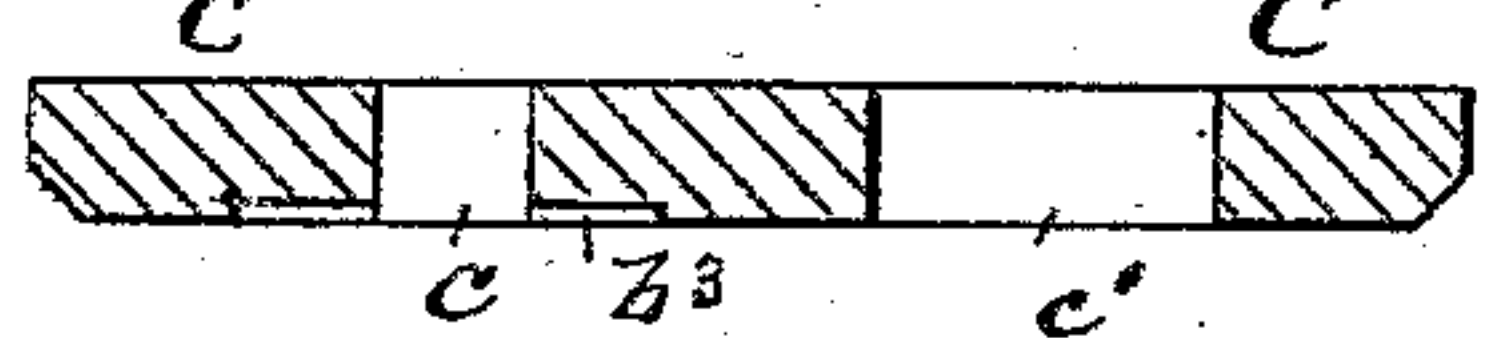


Fig. 4.

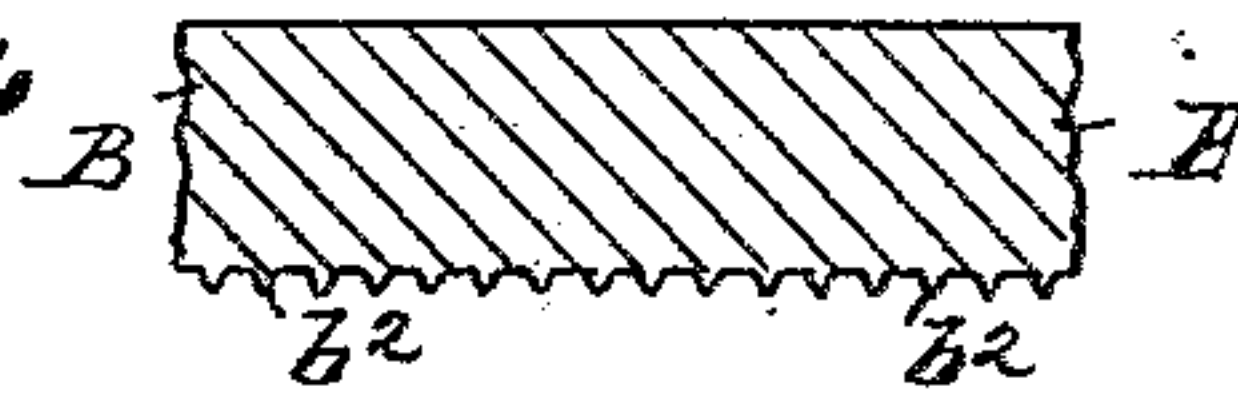


Fig. 5.

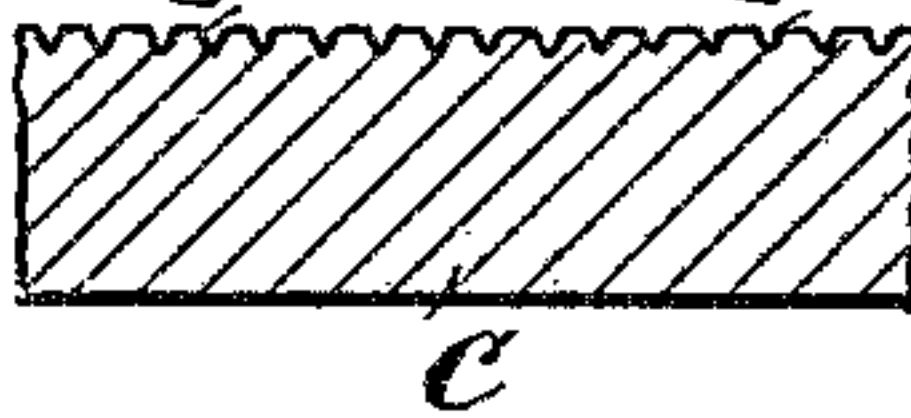


Fig. 6.

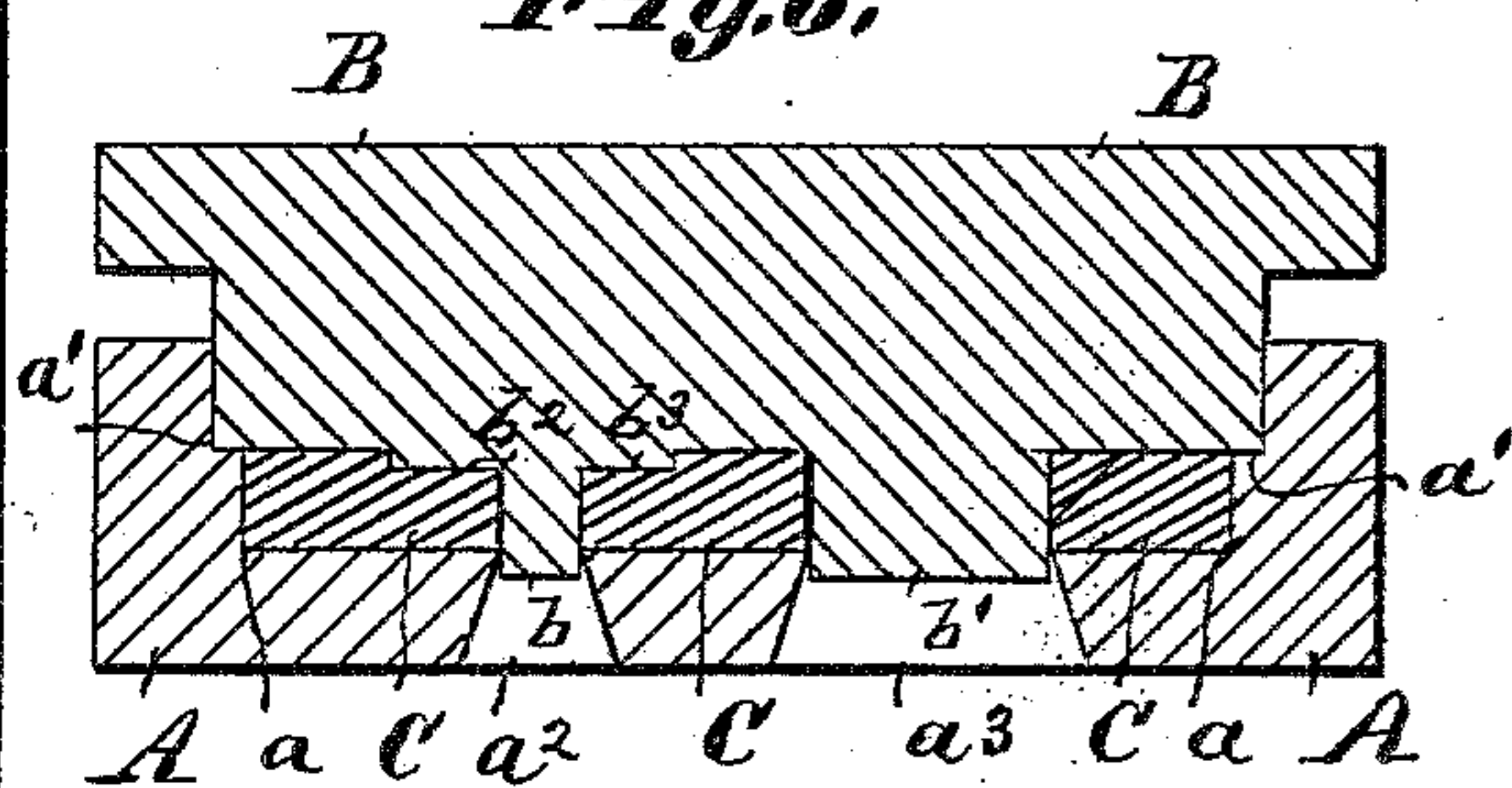


Fig. 7.

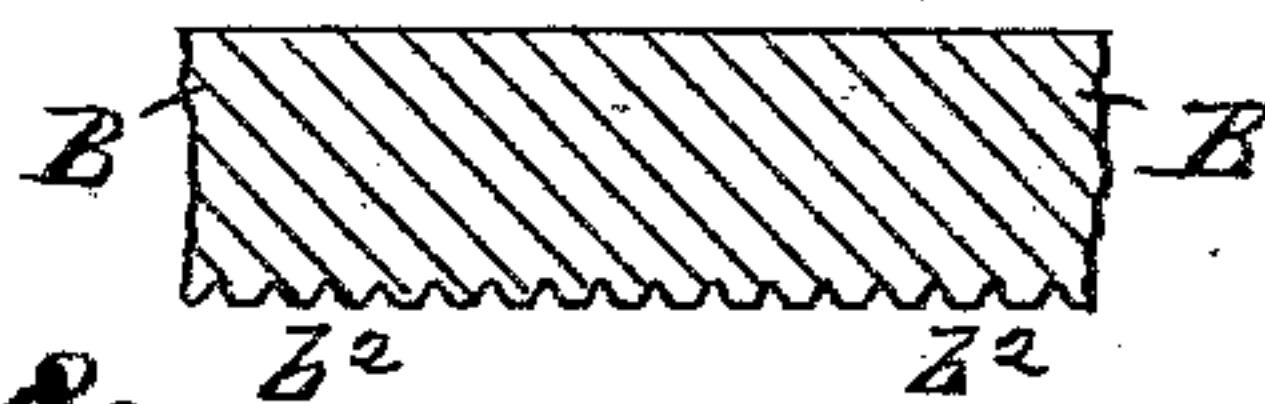
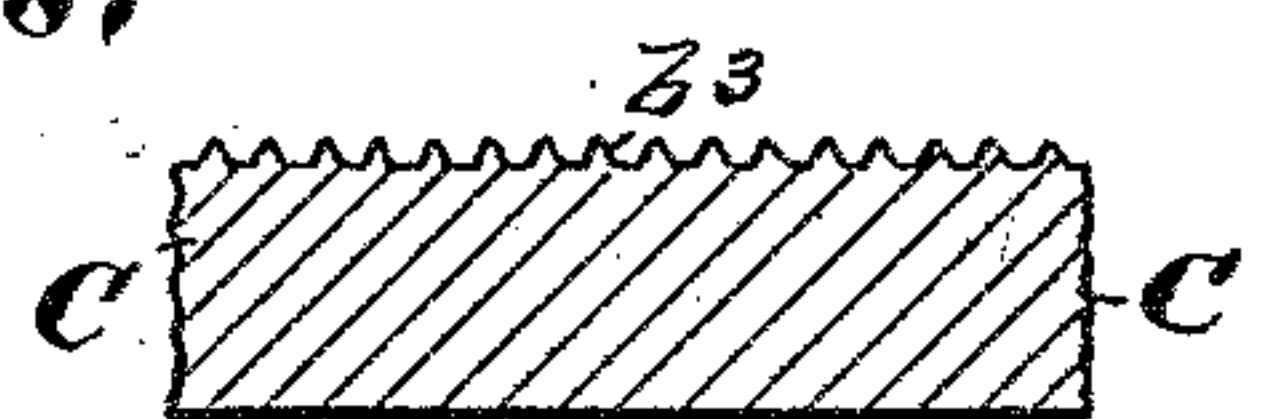


Fig. 8.



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THERMOMETER AND BAROMETER MOLD, &c.

SPECIFICATION forming part of Letters Patent No. 296,793, dated April 15, 1884.

Application filed March 3, 1883. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM SOMERVILLE, a citizen of the United States, residing at St. Louis, and State of Missouri, have invented certain new and useful Improvements in Thermometer and Barometer Molds, and in the Manufacture of Thermometers and Barometers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to thermometers, or thermometers and barometers combined, and in the manufacture of glass, china, or earthenware thermometer plates or frames, or thermometer and barometer plates or frames combined, with the numerals, marks, words, &c., indicating temperature and changes of weather all in one piece, together with a longitudinal opening in the plate or frame for the insertion of the glass or mercurial tube, and likewise, in case of a barometer plate or frame, to have a longitudinal opening or slot for the insertion of the barometer-tube; and to this end my invention consists in forming the mold proper in two sections—a base or bottom piece having a cavity for the pressed or molded thermometer or barometer plate or frame, or both combined, and having also a cavity for the plunger, the latter having projections to form the longitudinal opening or slots in the plate or frame.

My invention consists, further, in a novel process of pressing into or upon the plate or frame the numerals, marks, and wordings with which thermometers and barometers are usually provided, being such as indicate the degrees of temperature, weather changes, &c., and all of which will now more fully appear.

In the accompanying drawings, Figure 1 is an elevation of my improved thermometer and barometer combined as it appears when completely made and ready for application and use. Fig. 2 is a transverse sectional elevation taken on line 2 2. Fig. 3 is simply a transverse section of the molded glass plate or frame, taken on line 3 3, showing the marks, &c., indicating temperature, also showing the

slot or slots for the insertion of the respective tubes. Fig. 4 is a detail section of the plunger, showing the numerals, marks, &c., as projecting from its under face. Fig. 5 is a detail section of the glass frame, showing that the marks, &c., can be impressed into its upper face. Fig. 6 is a sectional elevation of plunger and base-plate (or mold proper) with the molded glass plate between said parts. Figs. 7 and 8 are details, respectively, of the plunger and glass frame, showing the reverse manner of forming the marks, lines, &c., upon the face of the glass frame.

Similar letters indicate similar parts throughout the several views.

A is the base-plate of the mold, and is provided on its upper surface with a cavity, a , in which the thermometer and barometer plates are formed, and at a' is another cavity or offset to receive and guide the plunger B of the mold. (See Fig. 6.)

a^2 is an opening or longitudinal slot in the base-plate; also at a^3 is a similar but wider longitudinal slot. It is through the said openings or slots that the projecting points b b' of the plunger are caused to pass, and which form the said openings or slots in the glass frame or plate to receive the respective mercurial and barometer tubes. (See Fig. 6.) The under face of the plunger B is provided with figures, marks, lines, and letters in elevation or depression, (see b^2 , Figs. 4 and 7,) so as to form on the face of the thermometer plate or thermometer and barometer plate the proper numerals, marks, and words, b^3 , in relief or depression, (see Figs. 5, 8,) indicating the degrees of temperature and changes of weather, with which thermometers and barometers are usually provided, and as clearly illustrated in Fig. 1.

Instead of so providing the face of the plunger with the said numerals, marks, &c., the cavity a of the mold can be provided with the same numerals, marks, &c., in elevation or depression, with the same results—viz., forming on the face of the frame or plate the proper marks, wordings, &c., indicating the degrees of temperature, changes of weather, &c.

Fig. 3 shows the frame or plate as it appears when completely made in the mold.

More specifically stated, this article of manufacture consists of the glass frame or plate C,

having the longitudinal opening or slots at $c c'$, and the face of said plate having, either in elevation or depression, the marks, wordings, &c., with which thermometers and barometers are usually provided.

As apparent, I can manufacture the thermometer plate or frame independent of the barometer portion, each or both combined forming an improved article of trade.

The mold I have illustrated in Fig. 6 is for ordinary plain plates; but molds can be made or changed in a manner well known, so as to vary the shapes into many fanciful shapes, as desired.

D represents the glass or mercurial tube for the thermometer. The tube D is simply inserted into the slot or opening c of the glass frame C, and fastened at top and bottom in manner usual. (See Figs. 1, 2.) In a similar manner the barometer-tube E can be inserted and fastened in the opening c' of the plate or frame C. (See Figs. 1, 2.) I can thus make a thermometer-plate, also barometer-plate, or both combined, of pressed or molded glass, or china or earthenware, having the numerals and marks indicating the degrees and changes of temperature or weather most accurately, and without possibility of variation, pressed into or upon same at same time. These materials are non-conductors of heat or cold, (all such made of tin, metal, &c., are not;) besides, I can mold these plates or frames so as to have the tube or tubes (mercury-tube and barometer-tube) free from nearly all contact,

thereby securing an accurate indicator. (See Fig. 2.) All such now made of glass, earthenware, &c., are engraved or cut upon a plain piece, by which process it is very difficult to achieve reliability, as this depends upon extreme care and good workmanship.

The numerals, marks, &c., so pressed in or upon the glass plate at the same time it is molded can be seen from both sides.

The tube or tubes can be affixed to the plate without the slot or openings.

What I claim is—

1. In the manufacture of thermometer or barometer plates or frames, or both combined in one piece, the mold herein described, consisting of a base or bed plate and plunger with elevations or depressions therein or thereon for forming the numerals, marks, &c., indicating degrees of temperature and changes of weather, and with or without the projections for providing in said plate a slot or slots, as and for the purposes set forth.

2. As a new article of manufacture, a thermometer plate or frame or barometer plate or frame, or both combined, having the usual marks, numerals, &c., pressed into or upon the plate, substantially as and for the purposes set forth.

WILLIAM SOMERVILLE.

Witnesses:

WILLIAM W. HERTHEL,
JOHN W. HERTHEL.