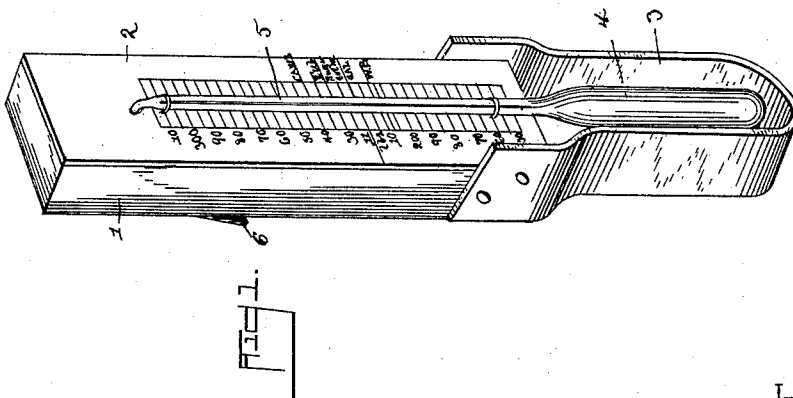
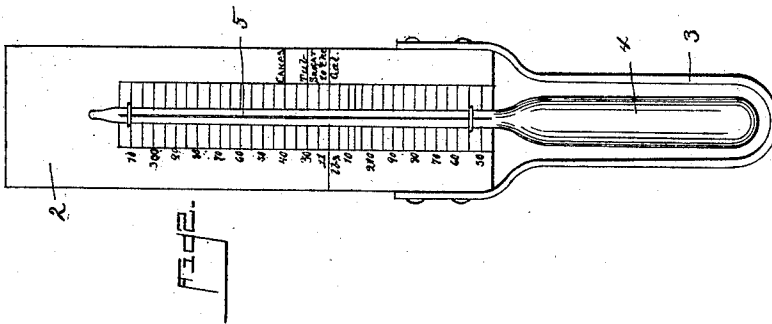
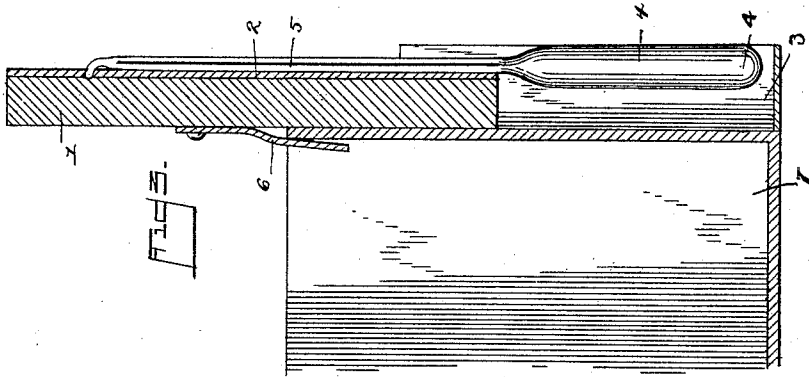


(No Model.)

A. J. DODGE.
THERMOMETER.

No. 465,054.

Patented Dec. 15, 1891.



Witnesses

Chas. U. Ford

W. S. Duval

Inventor

Albert J. Dodge

By his Attorneys,

Cashow & Co.

UNITED STATES PATENT OFFICE.

ALBERT J. DODGE, OF PETERBOROUGH, NEW HAMPSHIRE.

THERMOMETER.

SPECIFICATION forming part of Letters Patent No. 465,054, dated December 15, 1891.

Application filed May 22, 1891. Serial No. 393,775. (No model.)

To all whom it may concern:

Be it known that I, ALBERT J. DODGE, a citizen of the United States, residing at Peterborough, in the county of Hillsborough and State of New Hampshire, have invented a new and useful Maple-Sugar Indicator, of which the following is a specification.

The objects of this invention are to provide a cheap and simple thermometer for indicating the degree of heat to which maple-sirup is subjected and to indicate what degree of heat is necessary to produce certain results, and to so construct the device that the mercury will be exposed directly to the action of the heat, and yet out of contact with the sirup.

A further object of the invention is to provide means for removably attaching the device to an evaporating-pan.

Other objects and advantages of the invention will appear in the following description, and the novel features thereof will be particularly pointed out in the claim.

Referring to the drawings, Figure 1 is a perspective of an indicator constructed in accordance with my invention. Fig. 2 is a front face view. Fig. 3 is a vertical longitudinal section, the thermometer being mounted upon the edge of an evaporating-pan.

Like numerals of reference indicate like parts in all the figures of the drawings.

1 designates the base or back of the instrument, to the front face of which is secured a metallic face-plate 2, which plate is divided off into degrees of heat and running from 50° to 310° Fahrenheit. From the base 1 depends a sheet-metal loop or guard 3 of general U shape, so that its front and back are open, the ends of the guard being secured to the opposite sides of the base, and depending into the guard is the bulb 4 of a mercury column 5, located upon the face-plate 2. A sheet-metal plate 6 is secured to the back of the base, and is diverged toward its lower end from the base, so as to form a supporting hook or bracket adapted to engage with the edge of the evaporating-pan 7, and when in this position the guard prevents actual con-

tact of the mercury bulb with the pan, and yet subjects the bulb to a direct action of the heat, in that the guard being open at front and bottom permits the air to pass entirely through it.

As is well known, maple-sirup contains a considerable amount of water, which must be first evaporated before the formation of the sugar takes place. I have found by experience that as the water evaporates in the sirup the sirup gets warmer, and as the sirup heats the mercury the tester rises and will indicate upon the face the degree of heat at which the sirup is and to what degree of heat it is necessary to bring the sirup in order to secure certain results. For instance, at 220° the sirup will yield eleven pounds of sugar to the gallon, at 230° the sirup is in condition for forming tub sugar, and at 240° the sirup is in condition for forming cakes of sugar.

From the above construction it will be apparent that I have provided a cheap and simple device for testing maple sirup and indicating accurately the degrees of heat to which the sirup is subjected or has attained, and also the degrees of heat necessary to secure certain results; or, in other words, adapt the sirup for certain uses.

Having described my invention, what I claim is—

The herein-described thermometer, comprising a base, a depending U-shaped sheet-metal guard open at its back and front, a face-plate secured to the base and having a scale marked thereon, a mercury column secured to the face-plate and having a bulb extending into and surrounded by the guard, and a bracket-plate secured back of the base and adapted to engage the pan, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

ALBERT J. DODGE.

Witnesses:

MINNIE L. OSGOODE,
D. M. WHITE.