No. 612,518. Patented Oct. 18, 1898.

J. H. HERBENER.

ADJUSTING DEVICE FOR THERMOMETERS.

(Application filed Dec. 18, 1897.)

(No Model.)

Fig. 1.

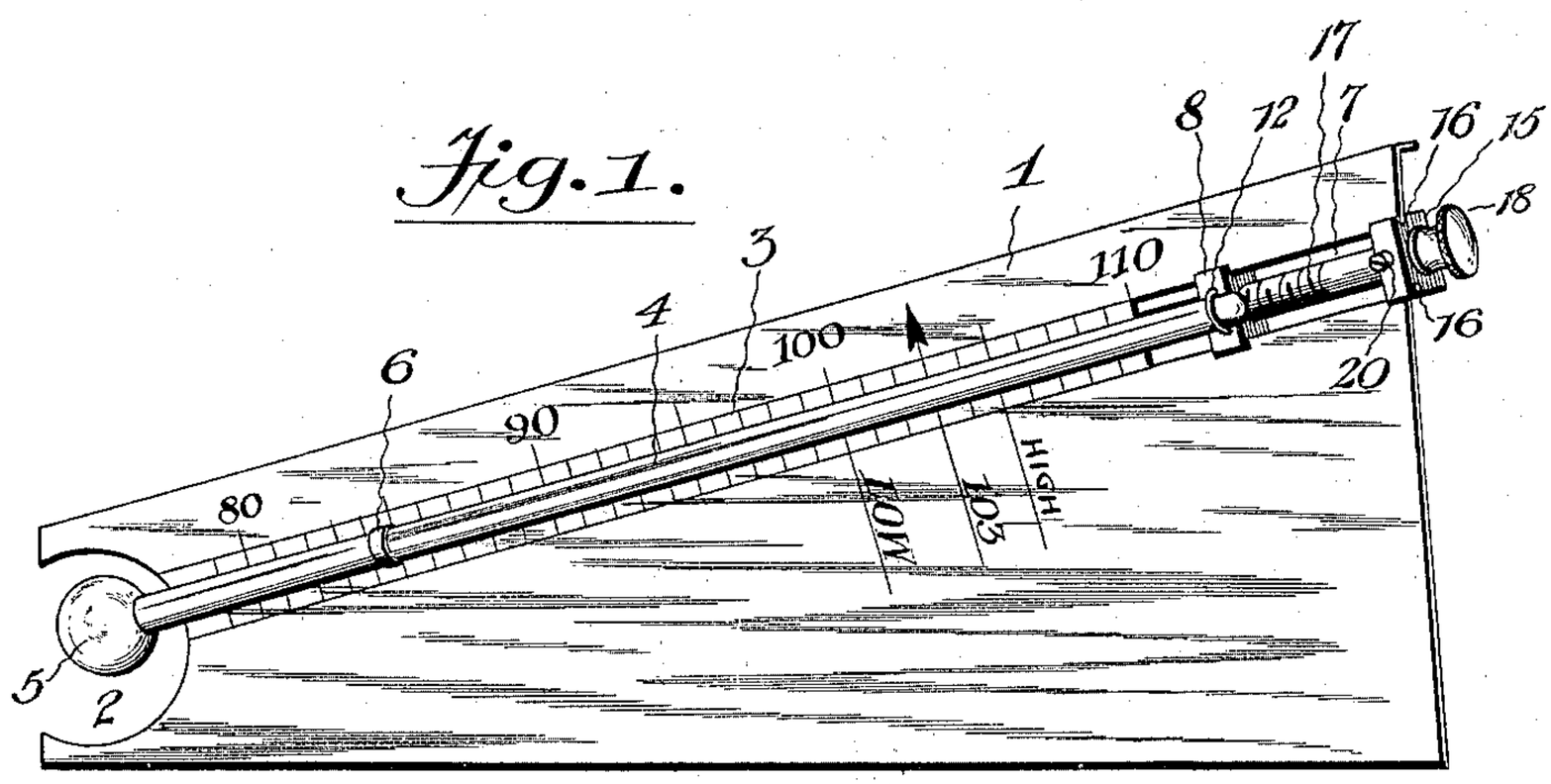


Fig. 2.

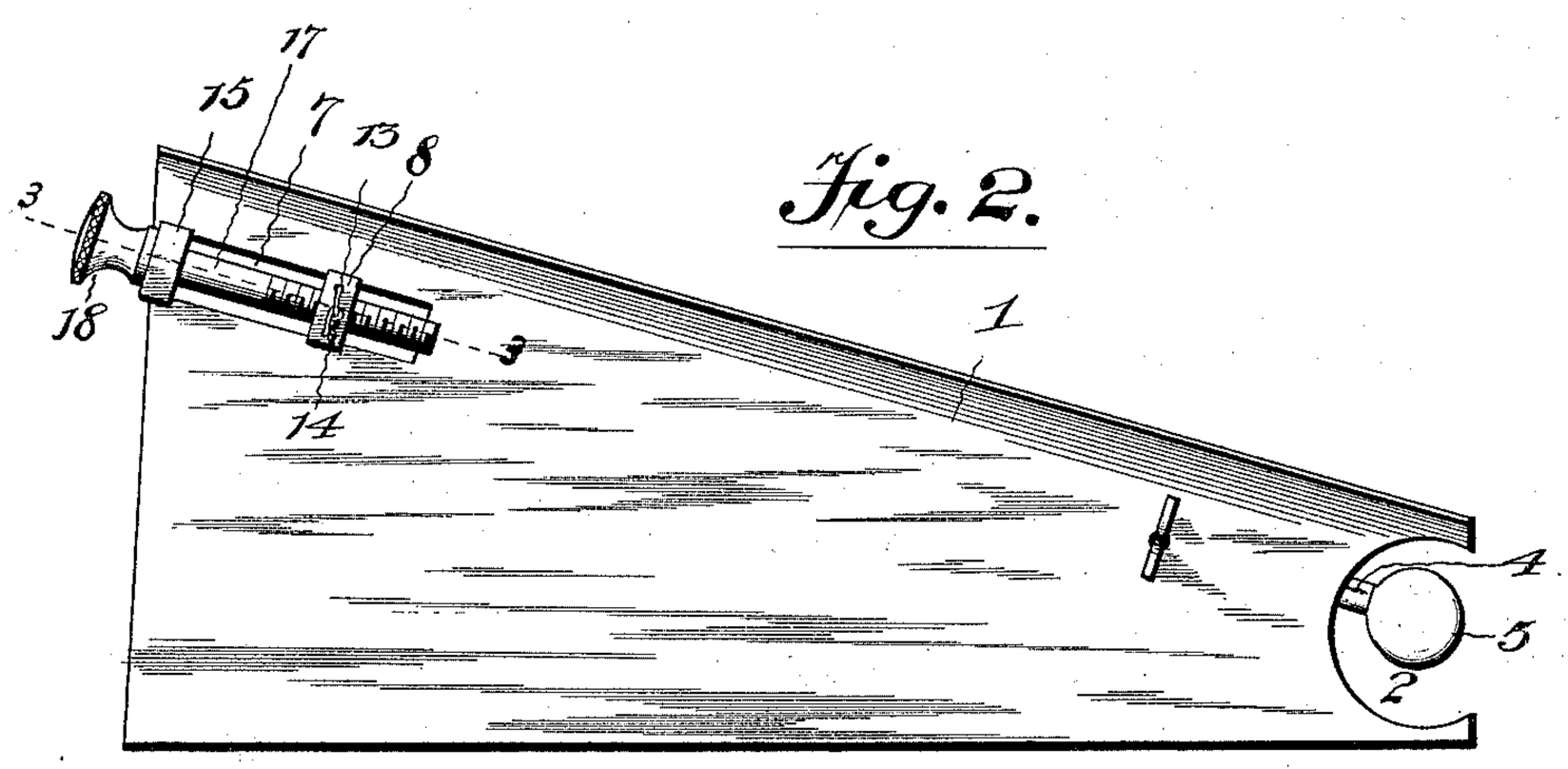


Fig. 3.

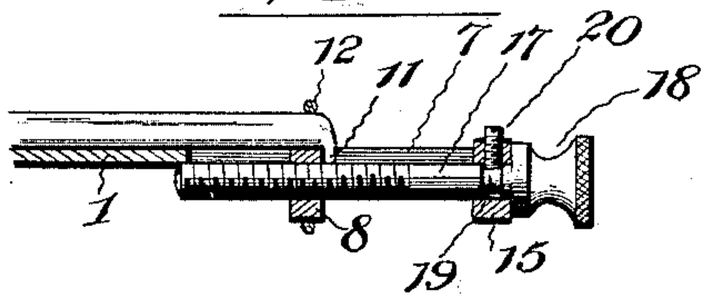
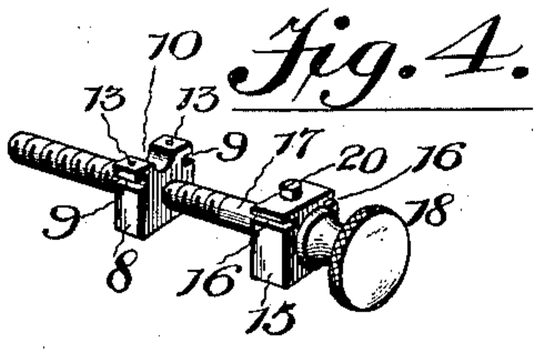


Fig. 4.



Inventor

Witnesses
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UNITED STATES PATENT OFFICE.

JOHN H. HERBENER, OF NORTHVILLE, MICHIGAN.

ADJUSTING DEVICE FOR THERMOMETERS.

SPECIFICATION forming part of Letters Patent No. 612,518, dated October 18, 1898.

Application filed December 18, 1897. Serial No. 662,475. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. HERBENER, a citizen of the United States, residing at Northville, in the county of Wayne and State of Michigan, have invented a new and useful Adjusting Device for Thermometers, of which the following is a specification.

This invention relates to adjusting devices for the tube of a thermometer, its object being to provide the thermometer with a simple and efficient adjustable device by means of which the tube may be adjusted on the scale-plate should the thermometer become inaccurate.

With this object in view the invention consists of the several details of construction, combination, and arrangement of parts, as will be hereinafter fully described, and particularly pointed out in the claims.

In the drawings, Figure 1 is a perspective view of a thermometer provided with my improved adjusting device. Fig. 2 is a rear side view of the thermometer. Fig. 3 is a section on the line 3 3 of Fig. 2. Fig. 4 is a perspective view of the adjusting mechanism detached.

Similar reference-numerals indicate similar parts in the several figures.

1 indicates the scale-plate of the thermometer, such as is commonly used in incubators, and is cut out at one end to form a recess 2. The scale is indicated by 3, the tube by 4, and the bulb by 5. The bulb will be partially within the recess 2 in order that it may be free to move in the recess longitudinally of the plate. The tube is supported near the bulb by a loop 6, which is preferably detachably connected to the plate, and the tube will be free to move longitudinally in the loop. The end of the tube remote from the bulb will be secured to the adjusting device, which I will now describe. A slot 7 is made in the end of the scale-plate and extends in alinement with the tube, forming ways to receive a sliding nut, which is coupled to the thermometer-tube. The nut 8, which constitutes a slide, is provided with slots 9 in opposite sides to receive the edges of the plates on each side of the slot, and thus be supported to slide in the slot longitudinally thereof. The front side of the nut 8 is provided with a curved recess 10 to form a seat for the tube, and the latter is provided with a lip 11 at its closed end to engage that face of the nut which is toward the open end of the slot. The tube is secured to the nut by a piece of wire 12, which is looped over the tube and extends through openings 13 in the nut, and the ends of the wire will be twisted together, as indicated at 14, or otherwise secured.

15 indicates a block or head provided with slots 16 to fit over the edges of the metal at the open end of the slot, and this head is firmly secured to the plate by solder or otherwise. The head is provided with an opening for the passage of the stem of the adjusting-screw 17, which is threaded for a portion of its length and fits in the threaded opening in the nut 8. Near the head 18 of the adjusting-screw the stem is provided with an annular groove 19, into which the set-screw 20, in one side of the block 15, is adapted to enter and prevent longitudinal movement of the adjusting-screw in the block and also when tightened up preventing its rotary movement, thereby preventing accidental movement of the tube longitudinally. When, however, it is necessary to correct the thermometer, the set-screw 20 can be loosened and the adjusting-screw turned, which will have the effect of causing the nut 8 to travel on the screw, and thereby shift the position of the tube relatively to the scale in either direction, as may be required.

From the foregoing description it will be seen that should the thermometer become inaccurate the tube may be easily shifted longitudinally of the scale to correct the inaccuracy. The testing of the thermometer may be done in several ways, one of the easiest being to take a thermometer known to be correct and place it side by side with the thermometer to be tested in warm water. If the thermometer being tested is inaccurate, the tube can be adjusted until accuracy is attained.

While I have illustrated and described my invention as applied to a thermometer specially adapted for use in incubators, I do not intend to limit its use to such thermometers, as it may be attached to the scale-plates of other styles of thermometers; and it is also to be understood that changes in the form, proportion, and the minor details of construc-

tion may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having thus described the invention, what I claim is—

1. In a thermometer, the combination of a scale-plate, a slide mounted on the scale-plate and provided with a curved recess, means for adjusting the slide, and a thermometer-tube guided on the scale-plate and provided at its closed or solid end with a lip 11, and having the said end seated in the curved recess of the slide and positively coupled to the same contiguous to the lip 11, whereby it is capable of adjustment in either direction, substantially as described.

2. In a thermometer, the combination of a scale-plate provided with a slot extending inward from one end, and a slide arranged in the slot and provided at opposite sides with slots receiving the edges of the scale-plate, whereby it is slidingly mounted thereon, a head arranged at the outer end of the slot and provided at opposite sides with slots receiving the edges of the plate, an adjusting-screw connected with the head and engaging the end, and a thermometer-tube guided on the scale-plate and positively coupled to the slide, whereby it is capable of adjustment in either direction, substantially as described.

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

JOHN H. HERBENER.

Witnesses:
J. E. THOMPSON,
HARRY S. GERMAN.