No. 634,911. Patented Oct. 17, 1899.

G. F. RICHARDSON.

THERMOSTAT.

(Application filed May 19, 1899.)

(No Model.)

Fig. 1

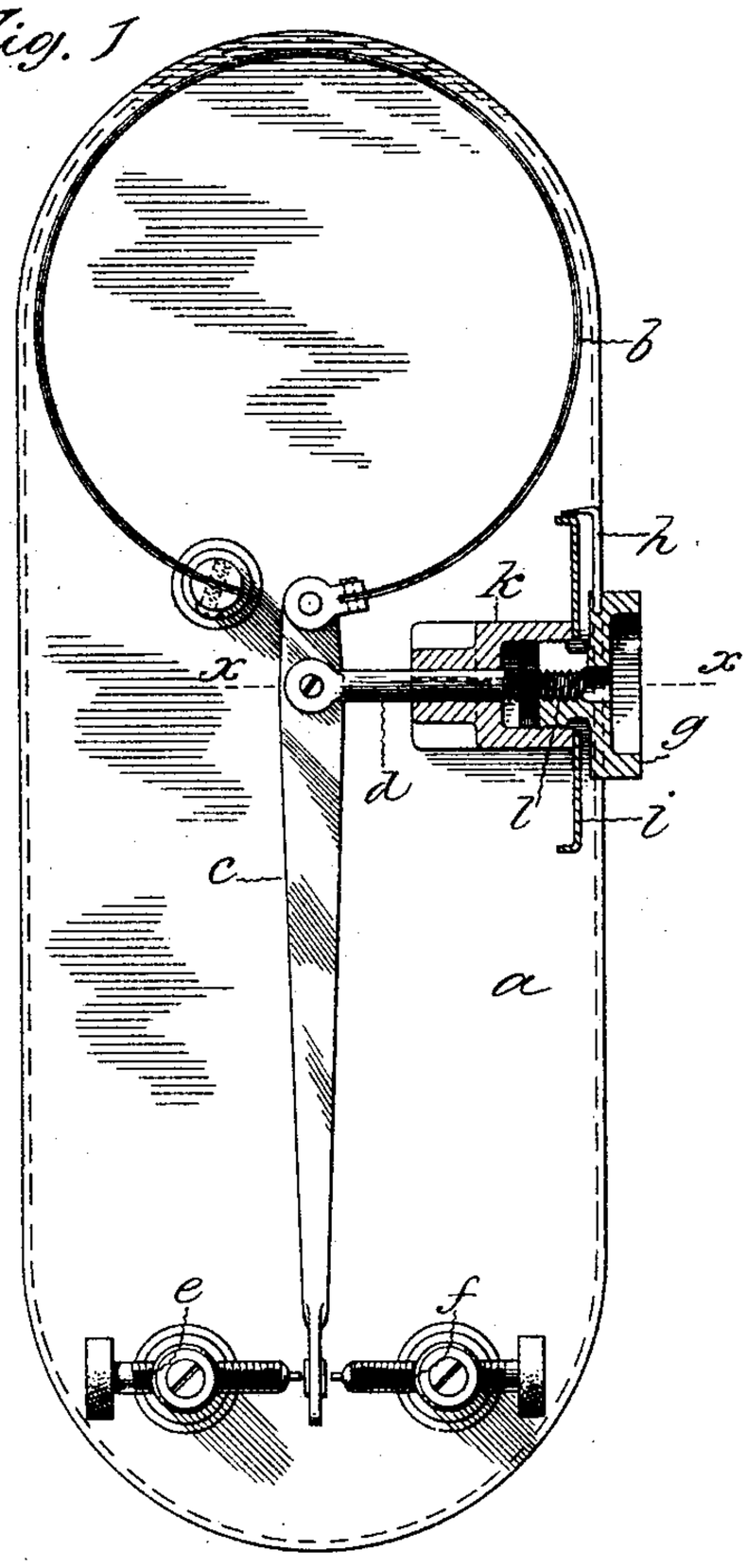


Fig. 2

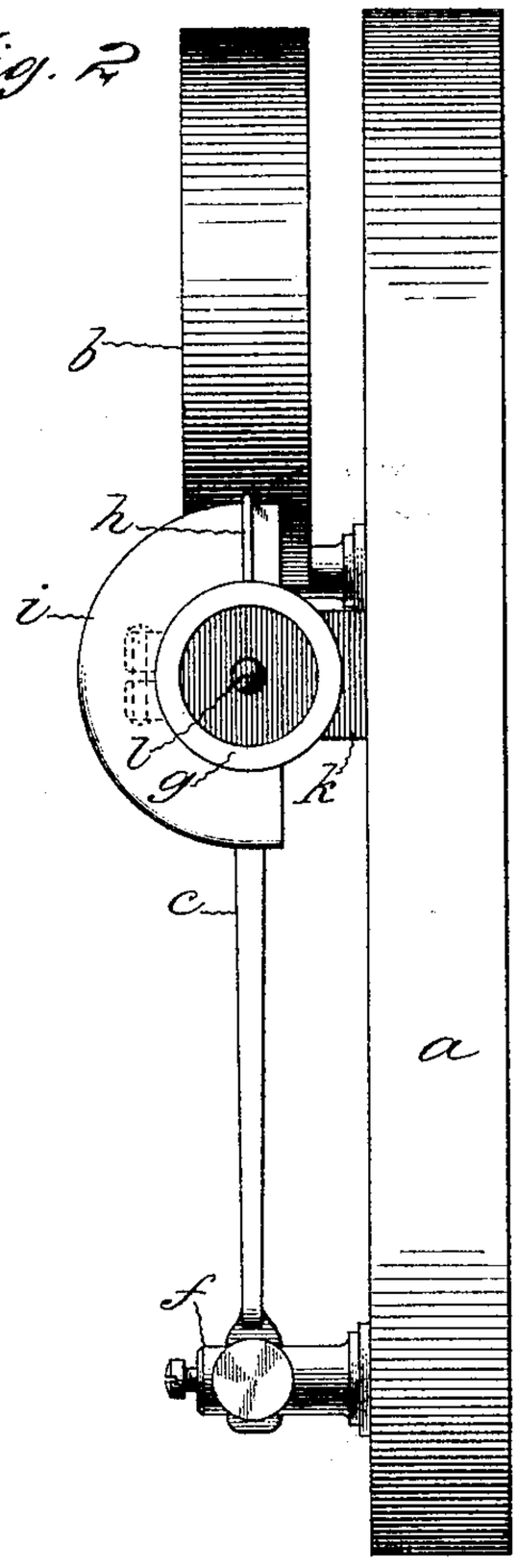
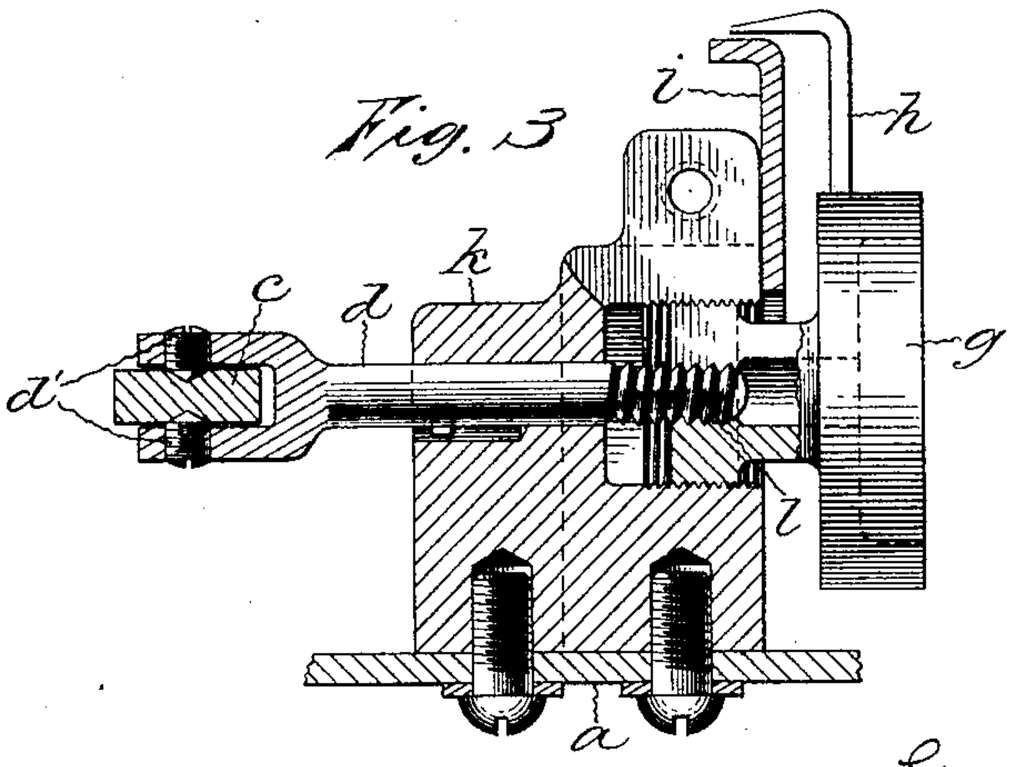


Fig. 3



Witnesses
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THERMOSTAT.

SPECIFICATION forming part of Letters Patent No. 634,911, dated October 17, 1899.

Application filed May 19, 1899. Serial No. 717,530. (No model.)

To all whom it may concern:

Be it known that I, GEORGE F. RICHARDSON, a citizen of the United States of America, residing at Hartford, in the county of Hartford and State of Connecticut, have invented a certain new and useful Improvement in Thermostats, of which the following is a description, reference being had to the accompanying drawings, wherein—

Figure 1 is a face view of a thermostat embodying said improvement. Fig. 2 is an edge or side view of the same. Fig. 3 is a view in horizontal section on the plane denoted by the dotted line *x x*.

The thermostat is one which may be used for, among other purposes, the controlling of the draft of a furnace, this, of course, in connection with suitable intermediate mechanism.

In the accompanying drawings the letter *a* denotes the base-plate carrying the other parts.

The letter *b* denotes a metallic bar adapted by its nature to be expanded and contracted by the operation of heat and cold—as, for instance, a bar made up of one layer of steel and one of aluminium. Its preferred shape is circular.

The letter *c* denotes a pivoted electrode carried by the pivot-bar *d*. The expansion and contraction bar *b* is connected to one end of this pivoted electrode, and it will be readily understood that this pivoted electrode will be vibrated one way or the other, accordingly as the bar *b* expands or contracts by heat and cold.

The letters *e* and *f* denote electrodes which by their position are adapted to respectively make contact with the pivoted electrode, accordingly as that is vibrated one way or the other.

The pivot-bar *d*, which carries the pivoted electrode, itself carries the nut *g*, the rotation of which one way or the other moves the pivoted electrode bodily, whereby it may be adjusted the more readily to make contact one way or the other with the electrodes *e f*, as desired. This nut *g* is a thumb-nut or operating-nut and is provided with an index *h*. The letter *i* denotes an index-plate intended to bear graduations, and it will be readily understood that they serve as marks or points whereby to properly move and adjust the operating-nut *g*.

The nut *g* is exteriorly threaded, and that thread takes into a corresponding interior thread borne by the case *k*. This arrangement of two sets of threads gives a differential movement capable of great nicety of adjustment.

The nut *g* is a split nut. The case *k* is correspondingly split. By means of the screw *l* the threads of the differential screws can be made to make contact with each other with any desired degree of closeness. The pivoting of the pivoted lever to the pivot-bar is brought about by means of the two screws *d'*, which have pivot-points taking into corresponding pivot-sockets in the sides of the pivoted electrode.

I claim as my improvement—

1. In combination, the bar adapted to expand and contract by heat and cold, the pivoted electrode adapted to be vibrated by the expansion and contraction of said bar, the two electrodes adapted to respectively make contact with said pivoted electrode accordingly as it is vibrated one way or the other, the screw-threaded pivot-bar carrying said pivoted electrode, and the operating-nut carried on and adapted to move said pivot-bar, all substantially as described and for the purposes set forth.

2. In combination, the bar adapted to expand and contract by heat and cold, the pivoted electrode adapted to be vibrated by the expansion and contraction of said bar, the two electrodes adapted to respectively make contact with said pivoted electrode accordingly as it is vibrated one way or the other, the screw-threaded pivot-bar carrying said pivoted electrode, the split nut carried by said pivot-bar and itself exteriorly threaded, and the interiorly-threaded case carrying said nut, all substantially as described and for the purposes set forth.

3. In combination, the bar adapted to expand and contract by heat and cold, the pivoted electrode adapted to be vibrated by the expansion and contraction of said bar, the

two electrodes adapted to respectively make contact with said pivoted electrode accordingly as it is vibrated one way or the other, the screw-threaded pivot-bar carrying said pivoted electrode, the split nut carried by said pivot-bar and itself exteriorly threaded, the interiorly-threaded case carrying said nut, and the index-finger carried by said nut, all substantially as described and for the purposes set forth.

GEORGE F. RICHARDSON.

Witnesses:
W. E. SIMONDS,
LULU MORLA.