

(No Model.)

G. FISCHER.  
THERMOSTAT AND ALARM.

No. 485,739.

Patented Nov. 8, 1892.

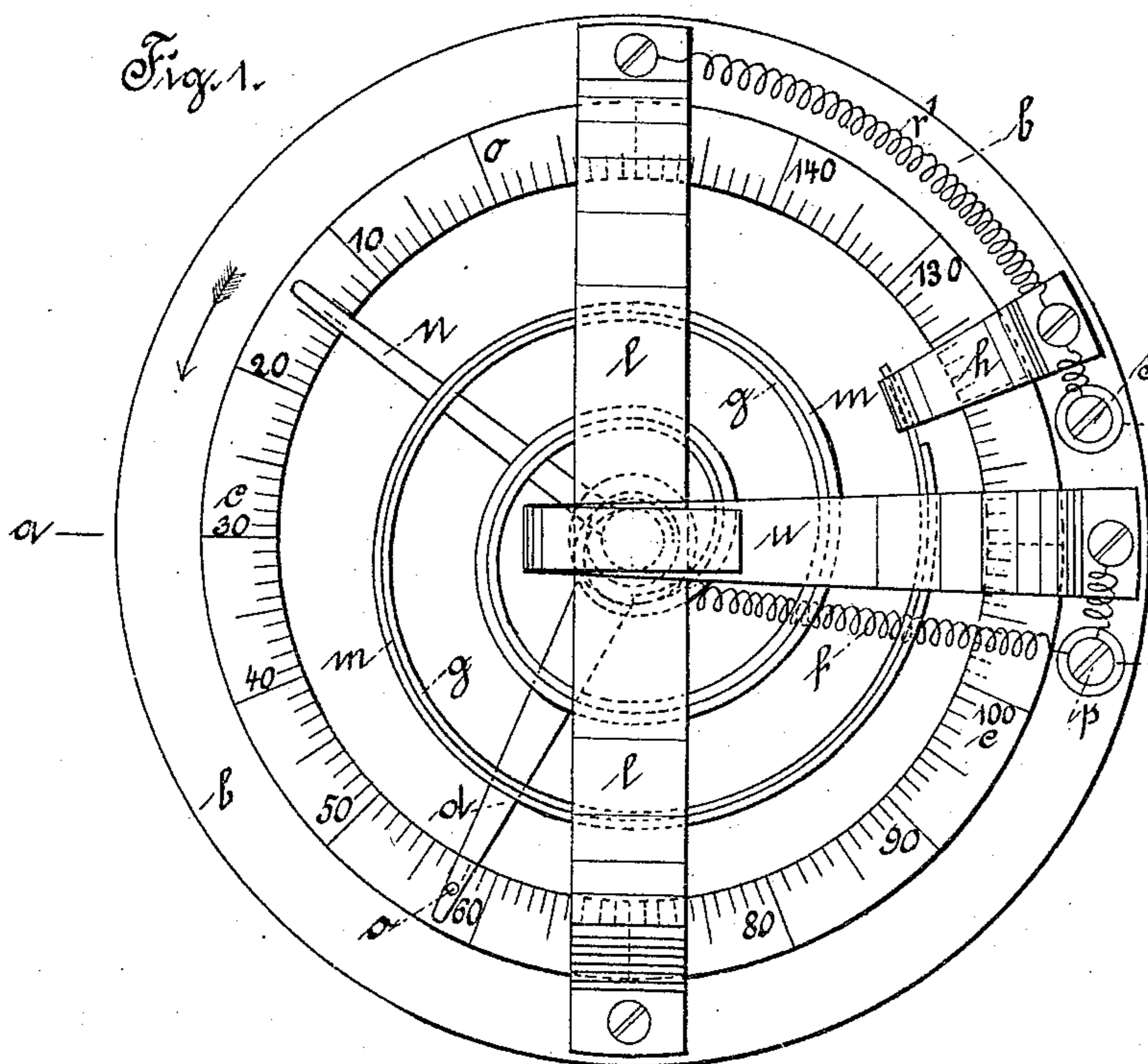
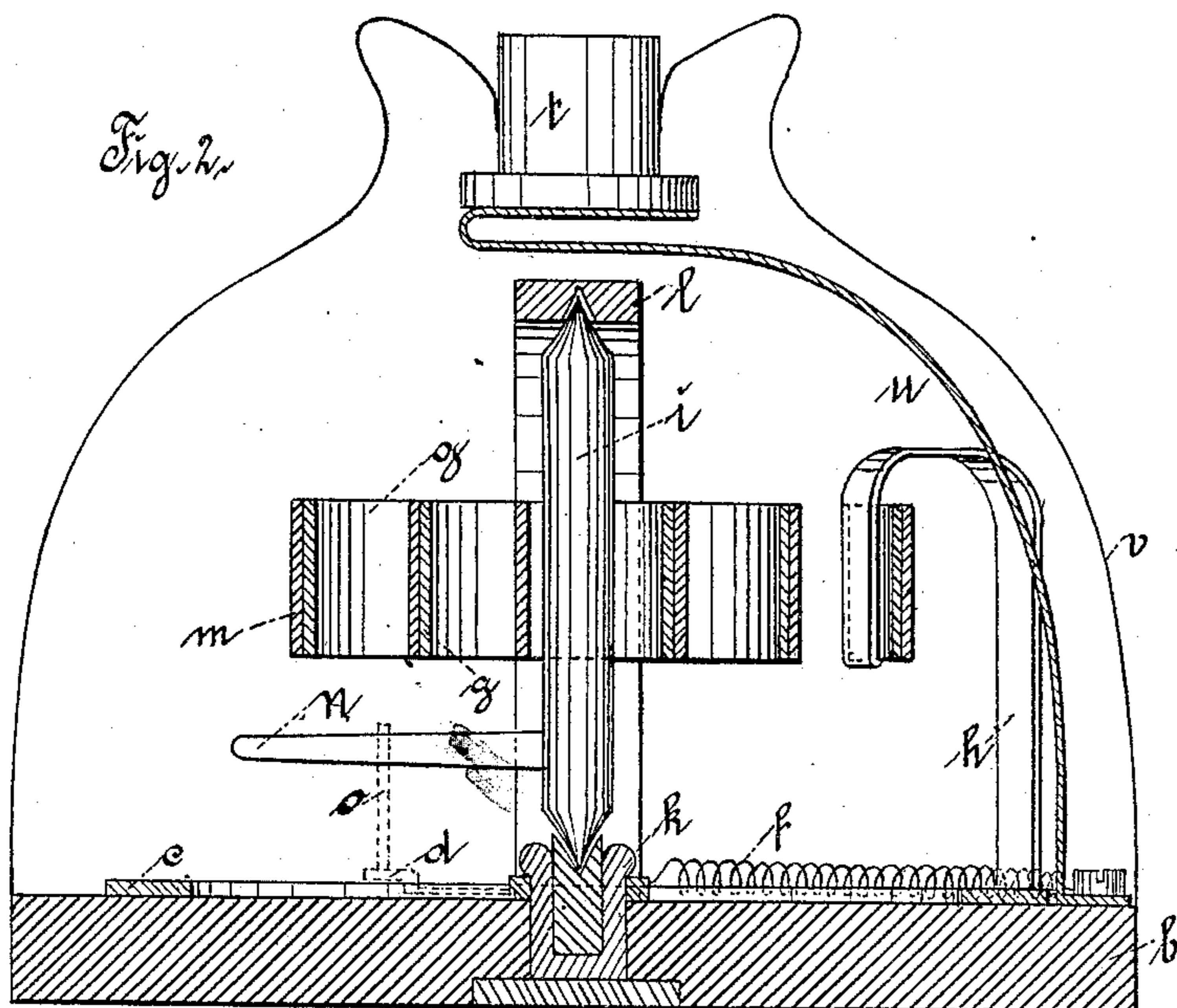


Fig. 3.

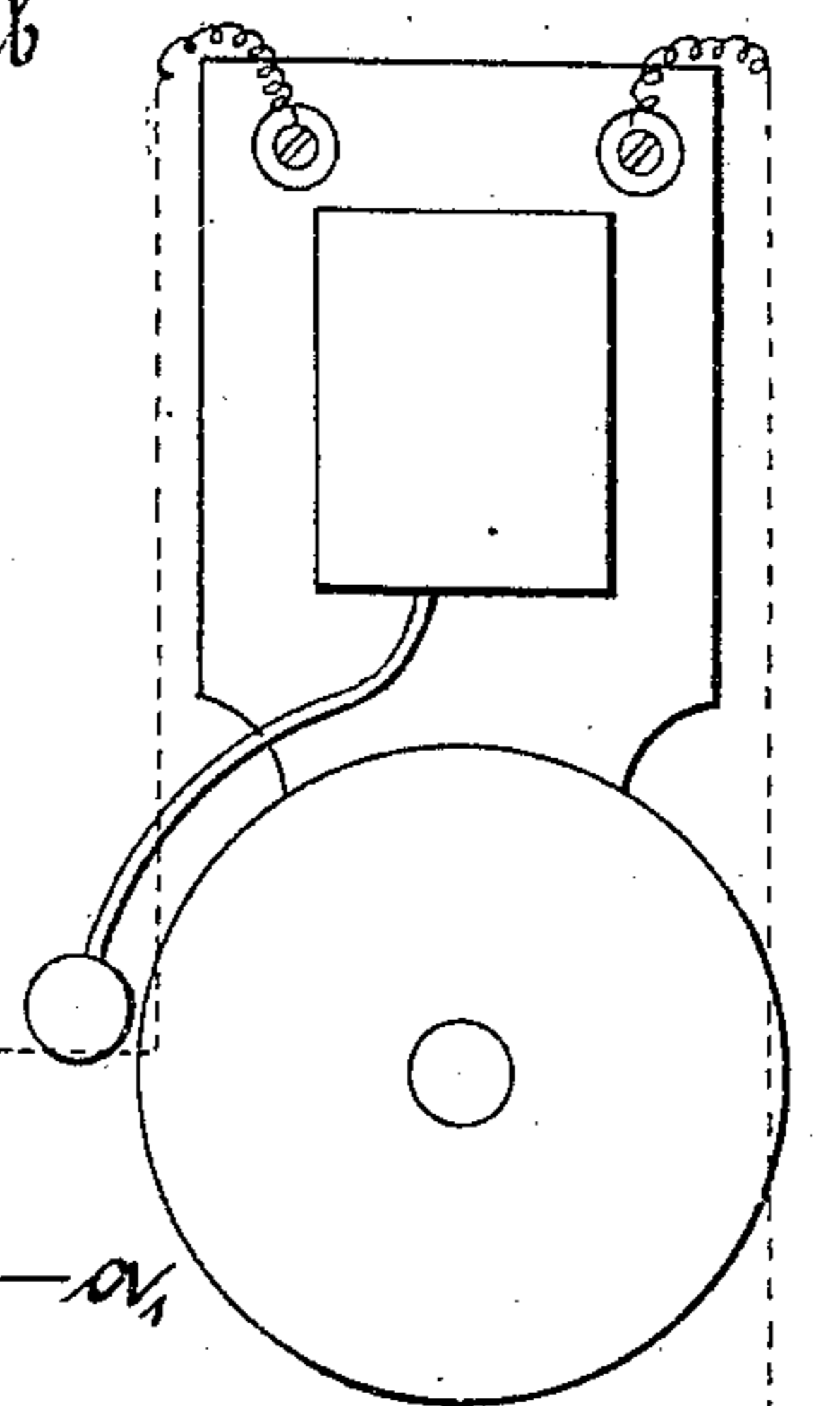
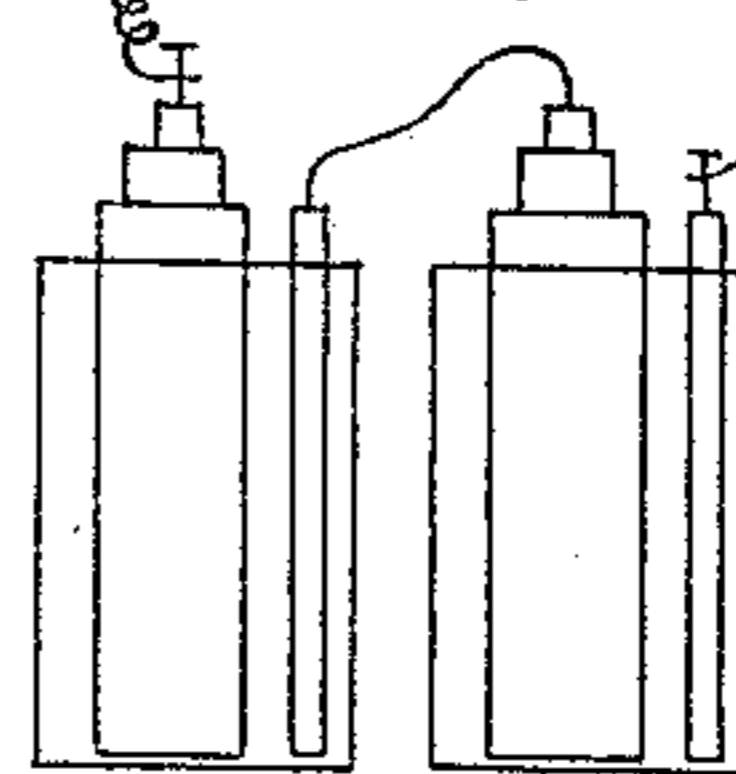


Fig. 4.



Witnesses:  
R. A. Hoyer.  
A. B. Degges

Inventor: Gustav Fischer  
per G. Rittman  
Atty.

# UNITED STATES PATENT OFFICE.

GUSTAV FISCHER, OF CHEMNITZ, ASSIGNOR TO ARNO VIEWEG, OF SIEGMAR, GERMANY.

## THERMOSTAT AND ALARM.

SPECIFICATION forming part of Letters Patent No. 485,739, dated November 8, 1892.

Application filed July 20, 1892. Serial No. 440,617. (No model.)

*To all whom it may concern:*

Be it known that I, GUSTAV FISCHER, of Chemnitz, in the Kingdom of Saxony, German Empire, have invented certain new and useful improvements in Thermostats and Alarms, of which the following is a specification.

This invention is in the nature of an electrical indicator intended for use especially as a hand-alarm or push-button bell and a fire-alarm to sound upon the rise of the temperature of the surrounding atmosphere, but which can be applied to any of the well-known uses to which electric alarms are put.

It consists in the improved construction, arrangement, and combination of parts hereinafter fully described, and afterward specifically pointed out in the claims.

In the accompanying drawings, Figure 1 is a top plan view; Fig. 2, a central vertical section on the line  $a a'$ , Fig. 1; Fig. 3, an elevation of the alarm-bell, and Fig. 4 a view of the battery. Dotted lines between Figs. 1, 3, and 4 and connecting therewith show the lines of the connecting-wires to form the circuits.

Like letters of reference mark the same parts in all the figures of the drawings.

Referring to the drawings by letters,  $b$  is a circular block or disk of wood or other non-conducting material.

$c$  is a metal ring superposed thereon and having its upper face graduated.

In the center of the disk  $b$  is an insulating-cup  $k$ , in which is placed the step-bearing for the lower end of an upright shaft  $i$ , which has its upper bearing in the underside of a metal bow or arch  $l$ , which is secured at its outer ends by screws to the disk  $b$ . Upon this shaft is attached the inner end of a flat coiled spring  $g$ , which has a lining or coating  $m$  of hard gelatine. The outer end of the spring  $g$  is attached to a metal support  $h$ , secured by screws at its lower end to the disk  $b$ . Below the spring  $g$  a hand or finger  $n$  is secured to shaft  $i$ , the outer end of which reaches over the graduated ring  $c$ . Another hand or finger  $d$  is mounted around the insulated socket or cup  $k$ , the outer end of which hand rests upon the top of the graduated ring  $c$  and can be rigidly fixed at any point thereon by means of a pin

$o$ , which serves as a contact to limit the motion of hand  $n$ , before described.

$u$  is a metal spring secured at its lower end to the disk  $b$  by screw or otherwise, having its upper end above the arch  $l$  and carrying a push-button  $t$  of any ordinary shape or material.

From the battery or other source of electricity, Fig. 4, the circuit is as follows: Through wire  $q$  to binding-post  $p$  and thence by wire  $f$  to finger  $d$ , fixed, as before stated, at a given point on ring  $c$ , and through wire  $r$  to bells, thence to binding-post  $s$ , thence to metal support  $h$ , to spring  $g$ , shaft  $i$ , and finger  $n$ . To complete this circuit and cause the bell to ring, the finger  $n$  must be brought into contact with stop-pin  $o$  on finger  $d$ . This is effected whenever the coating of gelatine  $m$  on spring  $g$  is softened by the rise of the temperature of the surrounding atmosphere in case of the start of a conflagration, the gelatine in its hard state serving always to prevent the spring from moving. When the gelatine is on the outside of the spring, it will keep it from winding up, and when inside from unwinding.

Another circuit runs from the source of electric energy, as the battery, Fig. 4, through wire  $q$ , binding-post  $p$ , and spring  $u$  to push-button  $t$ ; also, from battery through wire  $r$  and the bells, Fig. 3, to post  $s$  and through wire  $r'$  to arch  $l$ . This circuit is completed and the alarm sounded by hand by pressing the push-button  $t$  until spring  $u$  comes in contact with the arch  $l$ .

The operating mechanism may be protected by a cover  $v$ , which should be perforated to permit the changes in the temperature of the atmosphere to readily affect the gelatine.

Having thus fully described the invention, what is claimed as new, and desired to be secured by Letters Patent of the United States, is—

1. In a fire-alarm, a flat spring held against its normal tendency in a strained position by a hard coating or sheet of gelatine thereon, as set forth.

2. The combination, with a source of electric energy and an alarm, of a spring connected to and in circuit therewith, coated with

hard gelatine to hold the spring in position to maintain the circuit open, as set forth.

3. In combination, the spring coated with gelatine, means for holding its outer end, the  
5 post to which its inner end is secured, the fixing-finger with stop-pin, and the moving finger secured to the post or shaft and arranged to be stopped by the stop-pin when the spring is released by the softening of the gelatine,  
10 as set forth.

4. The fire-alarm comprising in its struct-

ure the battery, bells, and arch *l*, in combination with the push-button *t* and spring *u*, as set forth.

In witness whereof I have hereunto signed 15  
my name in the presence of two subscribing witnesses.

GUSTAV FISCHER.

Witnesses:

R. E. JAHN,

EUGEN A. FRAISSINET.