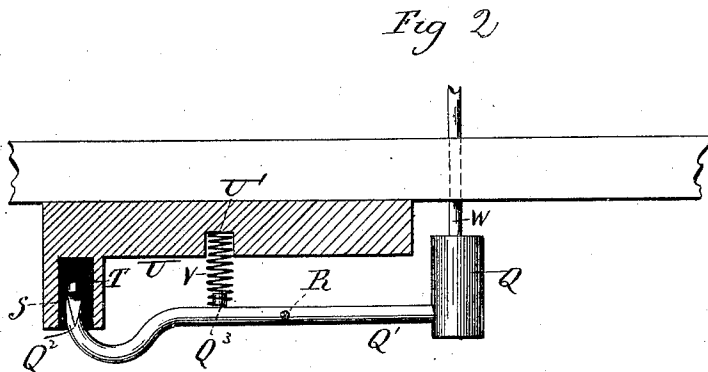
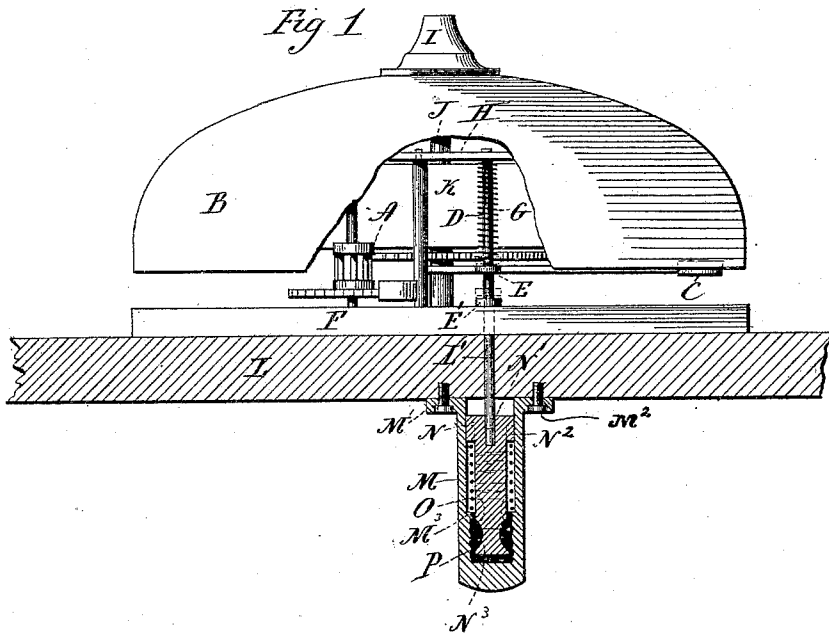


(No Model.)

G. D. MOSHER.  
THERMOSTATIC FIRE ALARM.

No. 473,669.

Patented Apr. 26, 1892.



Witnesses  
J. H. Shumway  
Lillian D. Kellogg

George D. Mosher  
Inventor.  
By atty Earle Hepburn

# UNITED STATES PATENT OFFICE.

GEORGE D. MOSHER, OF BIRMINGHAM, CONNECTICUT, ASSIGNOR OF ONE-HALF TO SIMON NOVITSKY, OF SAME PLACE.

## THERMOSTATIC FIRE-ALARM.

SPECIFICATION forming part of Letters Patent No. 473,669, dated April 26, 1892.

Application filed December 21, 1891. Serial No. 415,760. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE D. MOSHER, of Birmingham, in the county of New Haven and State of Connecticut, have invented a new Improvement in Thermostatic Fire-Alarms; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a view, partly in plan and partly in section, of a thermostatic fire-alarm constructed in accordance with my invention; and Fig. 2, a view showing one of the modified forms which my improved thermostatic tripping device may assume.

My invention relates to an improvement in thermostatic fire-alarms, the object being to produce a simple, cheap, effective, and reliable device.

With these ends in view my invention consists in an alarm-train normally ready to operate a bell, a bell-hammer in connection with the said train for actuation thereby, and a movable spring-actuated detent to normally restrain the train, all of the said parts being organized together, in combination with an independently-organized thermostatic tripping device consisting of a striker arranged for moving the said detent when released, a spring for throwing the striker and acting in opposition to the spring of the said detent, a body of fusible material normally holding the striker in its retired position against the tension of the said spring, the striker being thereto constructed to be gripped by the said material, and a pocket to contain the said fusible body and a portion of the striker.

My invention further consists in certain details of construction and combinations of parts, as will be hereinafter described, and pointed out in the claims.

As herein shown, the alarm mechanism proper consists of a spring-actuated alarm-train A, a bell B, a bell-hammer C, connected with the train for actuation thereby, and a spring-actuated detent composed of a rod or wire D, mounted for longitudinal reciprocation, provided with a collet E, arranged to nor-

mally engage with the bell-hammer to prevent the operation thereof, a stop-collet E', normally engaged with the base F of the alarm mechanism proper, and a spiral spring G, encircling the inner end of the rod D and interposed between the movement-plate H of the said alarm mechanism and the detent-collet E, before mentioned. The bell B is removably secured by means of a button I upon the outer end of the main shaft J, carrying the spring K, which actuates the alarm-train. By turning the bell the said shaft J is rotated and the spring wound up. I would have it understood, however, that I do not limit myself to constructing the alarm mechanism proper in any particular form, the only requirement being a train which is normally restrained by means of a movable detent, the train being combined with a bell and bell-hammer.

As herein shown, the alarm mechanism proper is attached to a board L, which may represent a portion of a wall or a special standard for the device. An opening L', formed in this board, permits the detent to project through it on the opposite side from the alarm mechanism proper. To the said opposite side of the board L, I attach my improved thermostatic tripping device, which, as shown in Fig. 1 of the drawings, consists, in part, of a socket M, having its inner end constructed with a flange M', by means of which it is secured by screws M<sup>2</sup> to the said face of the board. This socket receives a striker consisting in the present instance of a plunger N, having its outer end constructed with a central opening N' to receive the adjacent projecting end of the detent-rod D. The outer end of the said plunger is also constructed with a flange M<sup>2</sup>, forming an abutment for the outer end of a spiral spring O, encircling the plunger and abutting at its opposite end against a shoulder M<sup>3</sup>, formed within the socket and near the outer end thereof, the said spring acting in opposition to the spring G of the detent before described, than which it is heavier. The outer end of the said striker has a deep annular groove N<sup>3</sup> to receive a portion of a body of fusible material P, located in the extreme bottom of the socket, forming a pocket for it, and preferably consists of wax, which has its melting-

point in the neighborhood of a temperature of one hundred degrees. When this wax is in its normal condition, it will retain the striker in its retired position against the tension of the spiral spring O, but, on the other hand, when the wax softens the spring O will act to drive the striker against the projecting end of the detent-rod D, which is then moved inward, so as to carrying its detent-collar E out of engagement with the bell-hammer C, and into the position in which it is shown by broken lines in Fig. 1 of the drawings, whereby the alarm-train is released and the actuation of the bell-hammer on the bell permitted. It should be observed that the socket M will be made in practice so thin that it will be very sensitive to changes in temperature in the apartment in which the alarm is located and readily communicate the same to the restraining body of wax contained in it. I do not necessarily limit myself to the use of wax, but prefer some composition of that material on account of the low point at which it melts.

The modified form of tripping device shown by Fig. 2 of the drawings has a striker composed of a hammer Q, mounted at one end of a rod Q', which is hung midway of its length upon a pin R and having its opposite end bowed and cut away, as at Q<sup>2</sup>, to be embedded in a body of wax or other suitable material S, located in a pocket T, formed to receive it in a base-piece U. A spiral spring V, having one end inserted into a hole U', formed in the said base-piece, and its opposite end engaged with a short stud Q<sup>3</sup>, extending inwardly from the rod Q', is employed for throwing the hammer Q against the projecting end of the detent-rod W, when the end Q<sup>2</sup> of the said rod is released by the softening of the fusible body S.

As constructed in either of the two ways which I have shown and described, my improved thermostatic fire-alarm is not only very simple and cheap, but also effective and reliable.

I would have it understood that I do not limit myself to the exact construction and arrangement of parts herein shown and described, but hold myself at liberty to make such changes and alterations as fairly fall within the spirit and scope of my invention.

I am aware that a thermostatic alarm having a bell the sounding whereof follows the fusion of a body of fusible metal is not new, and I do not therefore claim such a construction, broadly.

I am also aware that a bell organization substantially like that shown by me herein is, irrespective of my thermostatic tripping device, also old, and I do not therefore claim it, broadly.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a thermostatic fire-alarm, an alarm-train normally ready to operate, a bell, a bell-hammer in connection with the said train for actuation thereby, and a movable spring-actuated detent to normally restrain the said train, all of the said parts being organized together, in combination with an independently-organized thermostatic tripping device consisting of a striker arranged for moving the said detent when released, a spring for throwing the striker and acting in opposition to the spring of the detent than which it is heavier, a body of fusible material normally holding the striker in its retired position against the tension of the spring of the striker, which is thereto constructed to be gripped by the said material, and a pocket to contain the said fusible material and a portion of the striker, substantially as described.

2. In a thermostatic fire-alarm, an alarm-train normally ready to operate, a bell, a bell-hammer in connection with the said train for actuation thereby, and a movable spring-actuated detent to normally restrain the said train, all of the said parts being organized together, in combination with an independently-organized thermostatic tripping device consisting of a socket having its inner end flanged for securing it in place, a plunger located in the said socket and having its inner end cut away, whereby it is adapted to receive and thus be gripped by the said material, a spring interposed between the said socket and plunger, so as to constantly tend to project the latter toward the said detent, which it then moves by overcoming the detent-spring than which it is heavier, and a restraining-plug of fusible material located in the bottom of the said socket and entering the cut-away portion of the plunger to grip the same, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

GEORGE D. MOSHER.

Witnesses:

ROBERT L. GILBERT,  
ANDREW J. EWEN.