

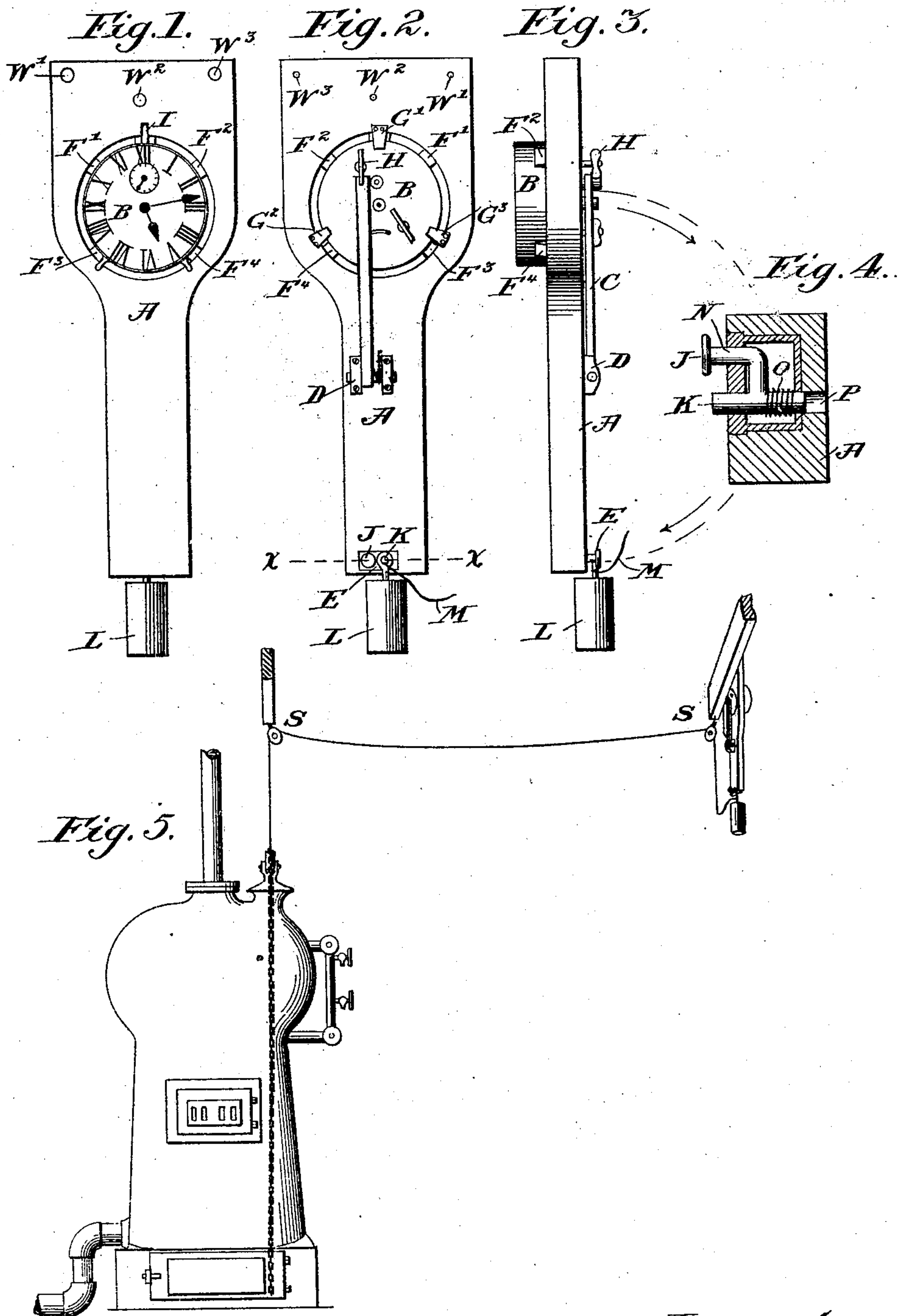
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W. F. CAWTHORNE & H. M. LUMMIS.

TIME CONTROLLED DAMPER.

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Witnesses:

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TIME-CONTROLLED DAMPER.

No. 842,525.

Specification of Letters Patent.

Patented Jan. 29, 1907.

Application filed May 29, 1905. Renewed October 5, 1906. Serial No. 337,627.

To all whom it may concern:

Be it known that we, WALTER F. CAWTHORNE and HENRY M. LUMMIS, citizens of the United States, residing at Elizabeth, in the county of Union and State of New Jersey, have invented a new and useful Time-Controlled Damper-Adjuster, of which the following is a specification.

Our invention relates to improvements in heater draft regulating or adjusting devices; and the objects of our improvement are, first, to provide a simple device which will automatically without manual interference operate to adjust the one or several dampers and draft appliances upon a stove or heater at a predetermined time, and thus adjust the temperature of the place the heater is designed to heat without the personal effort of person; second, to provide a device of the above nature which is susceptible of being attached to and suspended from a beam of a cellar-ceiling or of such other place as desired.

The device consists, essentially, of a base-board, (vertical,) an alarm-clock, a hammer in the form of an oblong bar, a bearing and spring for said hammer, a spring-catch, a weight, and a cord or series of cords with pulleys.

We attain the objects of our invention by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a front elevation of the whole machine, except the cord and pulleys. Fig. 2 is a rear elevation of the whole machine, (cord severed and pulleys omitted.) Fig. 3 is a side elevation of the same, showing the arc described by the hammer in descending upon the spring-catch. Fig. 4 is a longitudinal section of the spring-catch as inserted in the base, section being at $x x$ in Fig. 2. Fig. 5 is a general view showing one method of attaching the cord to the heater. This must be varied, however, to meet the requirements of the particular heater, and reverse action may be at the same time obtained by running a cord upward from the floor to the weight, the tension of which may be lessened by the descent of the weight.

Like characters refer to like parts throughout.

In Fig. 1, A is a vertical base-board, being for economy in its lower half somewhat narrower than in its upper half. In the upper

part of this board is made a circular opening for the insertion of the clock. Attached to the inside of this circular opening are four V-shaped springs $F^1 F^2 F^3 F^4$ in such manner that when the clock is inserted they will grip the same and hold it firmly in said opening. On the back of the base-board and extending over the edge toward the center of the opening are three small plates $G^1, G^2,$ and G^3 , Fig. 2, to stop the said clock from passing through the opening and hold the back of the clock flush with the back of the base-board. On the front of the base-board at the top of the opening is cut a groove I, into which fits the bell-post of the clock to prevent rotation of the clock while in said opening. B is the alarm-clock, which must be of a pattern whose alarm winding-post revolves upon the acting of the alarm mechanism.

In Figs. 2 and 3, C represents the hammer, which is pivoted in a bracket D near the middle of the base-board. At the pivoted end of this hammer there is arranged a spring in such manner as to force the downward motion of the hammer. K is a spring-catch receding into the base-board upon pressure from without. L is a weight having a loop at the top and normally suspended upon said catch K. M is a flexible cord by means of which power is transmitted to the damper or draft of the heater, which cord is attached to the weight.

In Fig. 4, K is the catch upon which the weight is suspended, and J is the head where the impact is received from the hammer. O is a spring keeping the catch normally protruding. P is a circular opening continued through the base for the reception of the working part of the catch upon compression.

In Fig. 5, S are the pulleys over which the cord proceeds to the heater.

Suitable screw-holes are made in the top of the base-board $W^1, W^2,$ and W^3 , Figs. 1 and 2, to facilitate attaching the appliance to the place where required.

In operation the base-board is permanently attached to the beam of the cellar or other place. The cord is attached to the damper or drafts, or both, of the heater, run through the suitable pulleys, and the opposite end is secured to the weight L. The clock is wound and placed back first through or into the opening in the upper part of the base, so

that, the bell having been removed, the bell-post fits into the groove I. The hammer C is raised until it lays upward against the back of the clock with its end directly under the winding-post of the alarm mechanism of the clock. The said winding-post is given a few turns and let to remain with one of its projections extending down over the end of the hammer, thus holding the hammer up.

The weight L is then hung upon the catch K in such manner as to leave some slight slack cord after the damper and drafts are adjusted as desired before operation. When the time arrives at which the clock-alarm has been previously set, the alarm winding-post H, Fig. 2, revolves off from the end of the hammer, thus releasing the same. The hammer then falls, describing the arc illustrated in Fig. 3, and strikes the head J of the spring-catch, driving the catch K back into the base-board, and the support being gone the weight L falls, taking up the slack in the cord and drawing the same until the damper and draft are operated as desired.

We are aware that prior to our invention or discovery various appliances have been produced in which an alarm-clock operates to release a weight, and hence do not claim this broadly as our invention; but

What we do claim as our invention, and desire to protect by Letters Patent, is—

1. In a time-controlled damper-adjuster, the combination of an alarm-clock, detachably set in a vertical base-board, with a hammer pivoted at one end to said base-board, and operating in a vertical arc, having its free end extending under the winding-post of the alarm mechanism of the clock, a spring-catch substantially as set forth, at or near the bottom of said base-board and directly in line with the arc described by the free end of the hammer in falling, a weight having a loop at its top and normally suspended upon said catch and having attached to it a flexible cord passing through a pulley or pulleys to the damper or draft.

2. In a machine of the above description, the combination of a base-board containing a circular opening near its top in which springs are set, a suitable alarm-clock fitting into said opening, a hammer with one end pivoted to the said base-board below said opening in such manner as to bring the other end immediately under the alarm winding-post of the clock, a spring at the pivoted end of the said hammer so arranged as to accelerate the downward force of the hammer, a suitable spring-catch countersunk in said base-board at or near the bottom thereof and in line with the arc described by the free end of the hammer in descending, a weight with a loop at its top, a flexible cord attached to said weight and proceeding over suitable pulleys or ways to the dampers and drafts of the heater.

3. In a machine of the above description, the combination of a base-board, in which there is affixed, removably, a suitable alarm-clock having an alarm winding-post on the back thereof, with a hammer pivoted at one end to said base-board, the free end extending under the alarm winding-post of the clock, a spring-catch affixed to said base-board in line with the arc described by the free end of the hammer substantially as set forth for the purpose above described.

4. In a machine of the above description, the combination of a base-board with a suitable alarm-clock having an alarm winding-post on the back thereof, a means for removably affixing said clock to said base-board, a hammer pivoted by one end to said base-board, the other end extending under the alarm winding-post of the clock, a spring-catch affixed in said base-board, in line with the arc described by the free end of the said hammer, substantially as set forth and for the purpose hereinbefore described.

5. In a machine of the above description, the combination of a base-board, with a suitable alarm-clock having an alarm winding-post on the back thereof, a means for affixing said clock, removably, in said base-board, a hammer pivoted at one end to said base-board, the free end extending under the alarm winding-post of the alarm-clock, a spring-catch affixed in said base-board, in line with the arc described by the free end of said hammer, a suitable weight normally suspended upon said catch, a cord or cords attached to said weight and passing over suitable pulleys or ways to the damper or drafts.

6. In a machine of the above description, the combination of a suitable alarm-clock having an alarm winding-post on the back thereof, removably affixed in a base-board, with a hammer pivoted at one end, by means of a suitable bracket, to said base-board, said hammer having a suitable spring to accelerate the motion of the free end thereof, the free end of said hammer extending under the alarm winding-post of the alarm-clock, a suitable spring-catch affixed in said base-board, in line with the arc described by the free end of the hammer, in passing away from the said clock, said catch normally protruding from the face of said base-board and receding into said board upon pressure, all substantially as set forth and for the purpose hereinbefore set forth.

7. In a time-controlled damper-adjuster, the combination of a suitable alarm-clock, having an alarm winding-post on the back thereof, with a suitable framework normally containing said clock, a means for removably affixing said clock in said framework, a hammer pivoted by one end to said framework in such manner that the free end thereof extends under the alarm winding-post of the said clock, a suitable catch disposed in said

framework in line with the arc described by the free end of the hammer in passing from the said alarm winding-post of the clock, all substantially as set forth for the uses and
5 purposes herein expressed.

8. In a time-controlled damper-adjuster, the combination of a suitable alarm-clock, having an alarm winding-post on the back thereof, with a suitable framework normally
10 containing said clock, a means for removably affixing said clock in said framework, a hammer pivoted by one end to said framework in such manner that the free end thereof extends under the alarm winding-post of the
15 said clock, a suitable catch disposed in said framework in line with the arc described by

the free end of the hammer in passing from the said alarm winding-post of the clock, a weight normally suspended upon said catch, a cord or cords attached to said weight and
20 passing therefrom over suitable pulleys or ways to the damper or drafts of the heater, all substantially as described and for the purposes herein expressed.

In testimony whereof we have signed our
25 names to this specification in the presence of two subscribing witnesses.

WALTER F. CAWTHORNE.

HENRY M. LUMMIS.

Witnesses:

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