

R. P. DAUBENSPECK.
CLOCK CONTROLLED DAMPER CONTROLLING MECHANISM.
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937,569.

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2 SHEETS—SHEET 2.

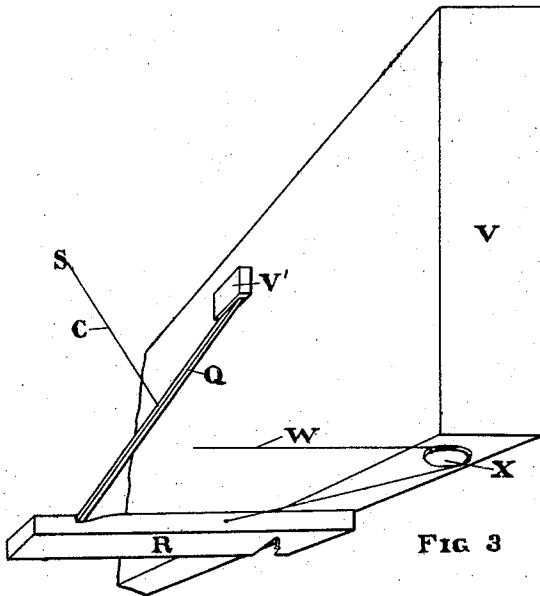


FIG 3

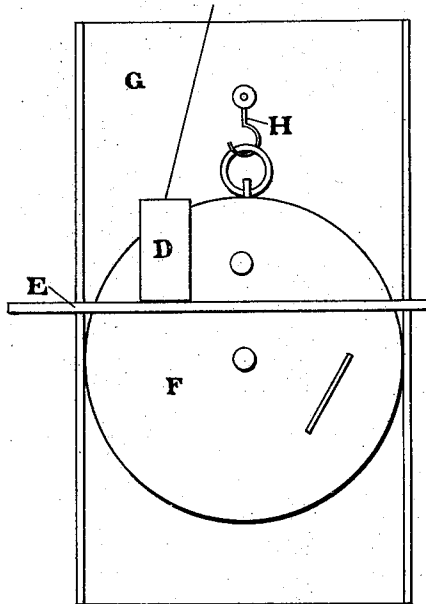


FIG 2

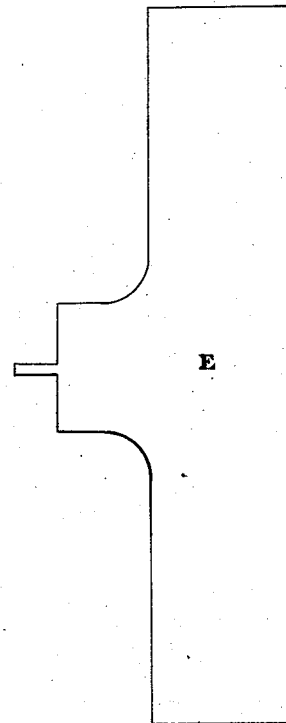


FIG 4

WITNESSES

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CLOCK-CONTROLLED DAMPER-CONTROLLING MECHANISM.

937,569.

Specification of Letters Patent.

Patented Oct. 19, 1909.

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To all whom it may concern:

Be it known that I, RICHARD P. DAUBENSPECK, a citizen of the United States, residing at Huntingdon, in the county of Huntingdon and State of Pennsylvania, have invented certain new and useful Improvements in Clock-Controlled Damper-Controlling Mechanisms, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to improvements in clock-controlled mechanism for actuating the dampers and other draft-controlling members of heaters, such as furnaces, stoves and the like; and the object of my invention is to provide a device which will be simple in construction, comparatively cheap in manufacture and most efficient in use.

In the drawings illustrating the principle of my invention and the best mode now known to me of applying that principle, Figure 1 is a diagrammatic view of an installation embodying my invention; Fig. 2 is a rear elevation of the clock mechanism; Fig. 3 is a perspective of a weight-holding device; and Fig. 4 is a plan of the weight-supporting plate.

Briefly described, my new controlling mechanism consists of an ordinary alarm-clock to the winding stem or key of the alarm mechanism of which is attached a plate. Upon this plate is placed a weight which by suitable connections is connected to the damper mechanism of the furnace or other heater. The alarm mechanism of the clock is set in the usual manner; and when the hour for which the alarm mechanism is set arrives, the plate attached to the stem of that mechanism is rotated, whereby the weight upon the plate is thrown off. When the weight falls, it pulls upon the cords by which it is connected to the damper mechanism, and the latter is operated.

My device further comprises supplementary weight-retaining members which are tripped by the fall of the weight from the plate upon the winding stem of the alarm mechanism and the weights held by which actuate certain draft-controlling means.

The floor A' supports the lower end of a stanchion B' upon the upper end of which rests a joist C'. To the stanchion B' is fastened a box or casing G in which hangs a hook H adapted to pass through the ring with which the ordinary alarm clock F is

commonly provided. The alarm clock F, as is best shown in Fig. 2, fits snugly between the sides of the box or casing G. To the stem of the alarm mechanism of the clock F is fastened a plate E, the sides of which extend beyond the sides of the box G, when the plate E is in a horizontal position. The alarm mechanism of the clock F need not be described and need not be shown, since it is the ordinary alarm mechanism with which this type of clock is commonly provided. By turning the plate E, the alarm mechanism will be wound; and in winding the alarm mechanism, care is taken to wind it to that point where the plate E will be left in a horizontal position (Fig. 2).

Upon the plate E is placed a weight D, and to the latter is fastened one end of a cord I, which passes over the pulleys J, K. The other end of the cord I is connected to the ash-pit door A of the furnace D'. To the cord I is attached one end of a supplementary cord W, the other end of which passes over a pulley X and is attached to a wooden bar R mounted free to swing upon the beam V. The wooden bar R is held in place by a wooden strip Q one end of which engages in a notch in the wooden bar R, and the other end of which bears against a block V' fastened to the beam V (Fig. 3). To the wooden strip Q is fastened one end of a cord S, which passes over a pulley T, to the other end of which is attached a weight O. To the cord S, near its point of attachment with the weight O is fastened one end of a cord L, which passes over the pulleys M, N and is fastened at its other end to the damper B in the flue or stack B''. The pulley T is a double pulley, and through it passes not only the cord S but also the cord U, one end of which is attached to the cord S, and the other end of which is attached to the check-damper C.

When the dampers are set for the night, the check-damper C is opened and the ash pit door A and stack-damper B are closed. The object of my device is to open the stack damper B and ash pit door A and to close the check damper C automatically at a predetermined time the following morning. In winding the alarm mechanism of the clock F by means of the weight-supporting plate E, the latter is left in a horizontal position where it will securely support the weight D. The alarm mechanism is set in the usual

manner for the predetermined hour at which it is desired to open the ash pit door A and stack damper B and to close the check-damper C. When this hour arrives, the plate E will be rotated and the weight D will fall, whereby the cord I is drawn taut. The pull of the weight D upon the cord I draws the cord W to the right in Fig. 1 and trips the weight-holding strip Q by swinging the wooden bar R upon its pivot (Fig. 3). When the strip Q is thus freed, the weight O is allowed to fall, thereby drawing taut the cord L, and swinging open the stack damper B. Further, when the strip Q is tripped, as just described, the check damper C falls and closes by its own weight.

It will be readily understood that my invention is susceptible of being embodied in many forms other than that shown and described herein and that this may be done without departing from the spirit of my invention. Thus, instead of making the plate E integral with or fastened directly to the winding stem of the alarm mechanism of the clock, the plate E may be fastened to the key with which the winding stem is commonly provided. Again, instead of a cord, chains, bands or other flexible connections may be used; and these flexible connections may be rove in a manner different from that shown in the drawings and hereinbefore described.

I desire to be understood as claiming my invention in the broadest legally permissible manner.

I claim:

1. The combination with a heater provided with draft-controlling devices; of a clock-mechanism provided with a rotary stem and a weight-supporting device carried thereby; a weight which normally rests upon said supporting device free to be displaced therefrom, when said stem is rotated by said clock-mechanism; and means which connect said weight with said draft-controlling devices, whereby the latter are operated by the energy due to the fall of the former.

2. The combination of a heater provided with draft-controlling devices; a weight connected therewith by the fall of which said devices are operated; a support upon which said weight is normally mounted; means for moving said support at a predetermined time to cause the fall of said weight; a second weight connected with said draft-controlling device; means for supporting said second weight; means for locking said last

named means; said locking means being released by the fall of the first named weight.

3. The combination with a heater provided with draft-controlling devices; of a clock-mechanism provided with a rotary winding stem and a weight-supporting device carried thereby; a weight which normally rests upon said supporting device free to be displaced therefrom, when said winding stem is rotated by said clock-mechanism; and means which connect said weight with said draft-controlling devices, whereby the latter are operated by the energy due to the fall of the former.

4. The combination with a heater provided with draft-controlling mechanism; of a clock-mechanism provided with a device adapted to be released at a predetermined time and having weight-supporting means; a weight which normally rests upon said supporting means free to be displaced therefrom, when said device is released; and means which connect said weight with said draft-controlling mechanism, whereby the latter is operated by the energy due to the fall of the former.

5. The combination with clock-controlled devices; of a clock-mechanism provided with a movable stem and a weight-supporting device carried thereby; a weight which normally rests upon said supporting device free to be displaced therefrom, when said stem is moved by said clock-mechanism; and means which connect said weight with said clock-controlled devices, whereby the latter are operated by the energy due to the fall of the former.

6. The combination with clock-controlled devices; of a clock-mechanism provided with a rotary stem and a weight-supporting device carried thereby; a weight which normally rests upon said supporting device free to be displaced therefrom, when said stem is rotated by said clock-mechanism; and means which connect said weight with said clock-controlled devices; whereby the latter are operated by the energy due to the fall of the former.

In witness whereof I have hereunto set my hand in the presence of the two undersigned witnesses at said Huntingdon this seventh day of December, A. D. 1908.

RICHARD P. DAUBENSPECK.

Witnesses:

A. C. JOHNSTON,
J. D. MYTON.