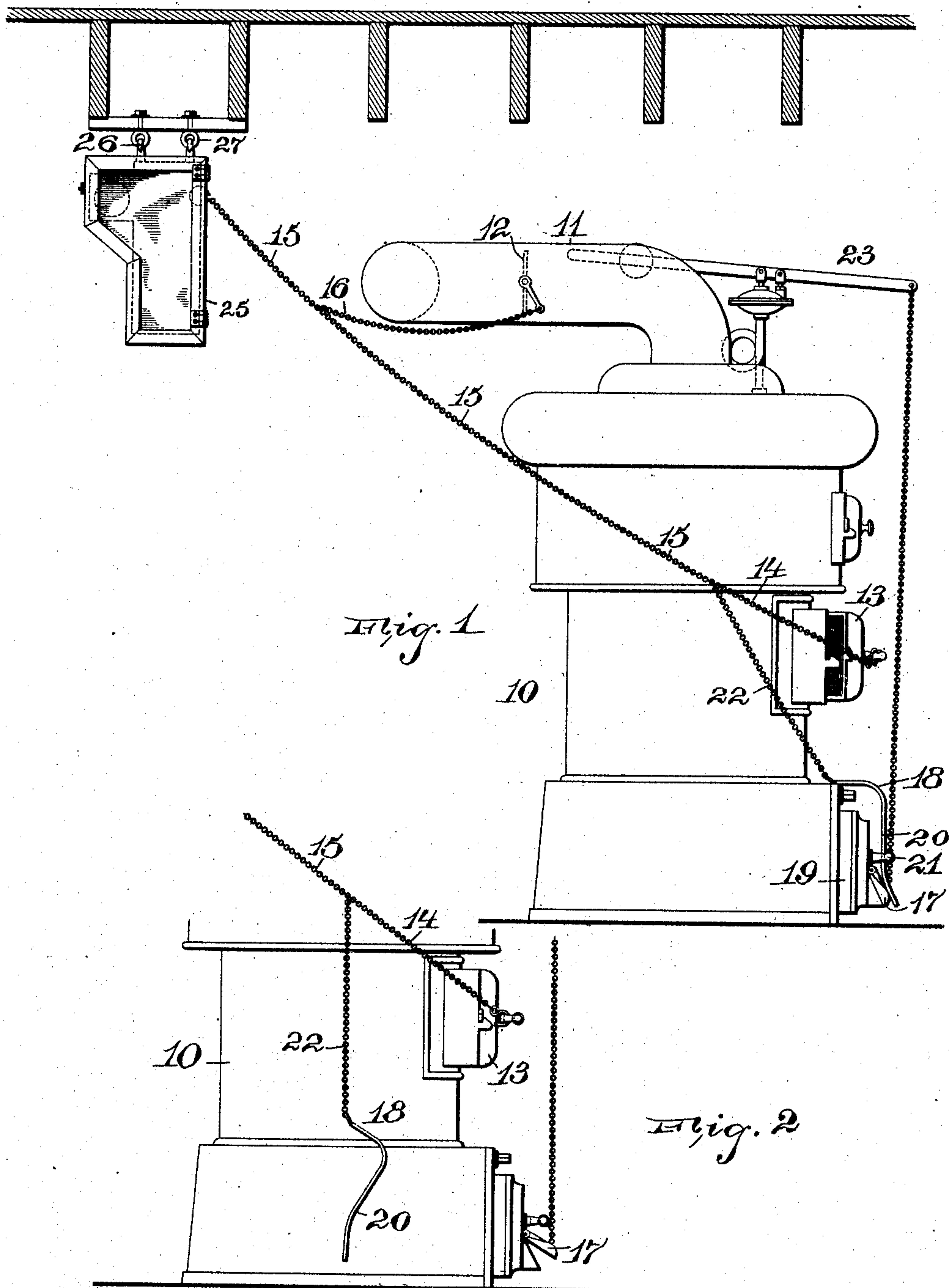


J. NAUGHTON.  
 APPARATUS FOR AUTOMATICALLY REGULATING HEATERS.  
 APPLICATION FILED MAR. 2, 1909.

928,323.

Patented July 20, 1909.

2 SHEETS—SHEET 1.



Witnesses:  
*E. A. Peck*  
*M. A. Johnson*

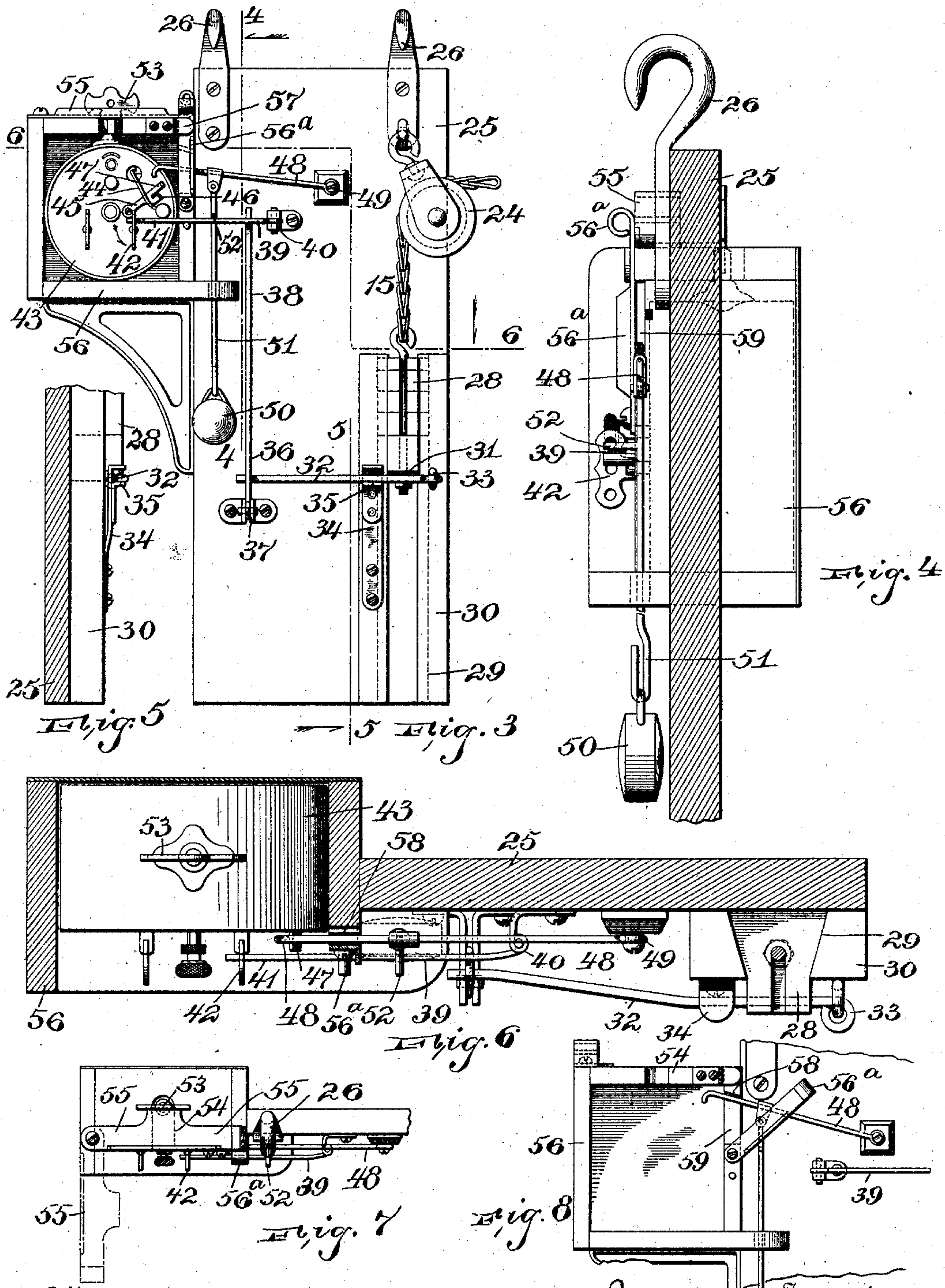
Inventor  
*James Naughton*  
 By his Attorney  
*Wm. H. Campfield*

J. NAUGHTON.  
 APPARATUS FOR AUTOMATICALLY REGULATING HEATERS.  
 APPLICATION FILED MAR. 2, 1909.

928,323.

Patented July 20, 1909.

2 SHEETS—SHEET 2.



Witnesses:  
 E. A. Pell  
 M. A. Johnson.

Inventor  
 James Naughton  
 By his Attorney  
 Wm. H. Campfield.



# UNITED STATES PATENT OFFICE.

JAMES NAUGHTON, OF BELLEVILLE, NEW JERSEY.

## APPARATUS FOR AUTOMATICALLY REGULATING HEATERS.

No. 928,323.

Specification of Letters Patent.

Patented July 20, 1909.

Application filed March 2, 1909. Serial No. 480,937.

*To all whom it may concern:*

Be it known that I, JAMES NAUGHTON, a citizen of the United States, residing at Belleville, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Apparatus for Automatically Regulating Heaters; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to figures of reference marked thereon, which form a part of this specification.

This invention relates to a timing apparatus combined with an operating mechanism for opening the drafts of a heater or stove so that at a predetermined time the fire is started and it is not necessary for the occupants to be astir very early in order to turn on the fires.

The invention is designed to not only release a weight to operate the drafts, but it is also constructed to stop the action of the alarm portion of the clock when the weight has been released.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a view of a heater showing the operating attachment secured adjacent thereto. Fig. 2 is a view of the bottom portion of the heater showing the position of the drafts and doors after the opening of the drafts has taken place. Fig. 3 is a detail view of the face of the mechanism for opening the drafts, and Fig. 4 is a section on line 4, 4, in Fig. 3, but on a slightly enlarged scale. Fig. 5 is a section on line 5, 5, in Fig. 3. Fig. 6 is an enlarged section on line 6, 6, in Fig. 3. Fig. 7 is a top view of the portion of the device inclosing the clock which is shown in face view in Fig. 3, and Fig. 8 is a similar view showing means for removing some levers from in front of the clock receptacle to allow the removal of the clock.

The device can be attached to any form of heater 10 which is provided with a flue 11 in which a damper 12 is situated, and also having a fire-door 13 connected by a chain 14 to the chain 15 which also operates the chain 16 of the damper 12, the chains 15 running up to the operating mechanism, whereby a pull on the chain 15 tends to open the damper 12 and to shut the door 13 when the operating mechanism is released. The

draft door 17 is held shut by a rod or wire 18 which has one end resting on the top of the door 19, and has a portion 20 to go under the handle 21 and rest on the door 17. The clamping wire or rod 18 has, on one end, a chain 22 connecting the chain 15 so that when the chain is pulled with the rest of the chains, the door 17 is permitted to open by the action of the diaphragm or regulating damper 23 which is common to all heaters. This particular form of doors and dampers of course is different in different styles of heaters, but can be adapted for use, by any one skilled in the art, by simply re-arranging the chains to fit the particular form of heater in use in the building. The doors, in their position after being operated, are shown in Fig. 2 where the spring clamp or holder 18 has been pulled from its contact with the door 17 and the door 17 is opened, when the door 13 has been pulled shut. The chain 15 passes over a pulley 24 which is fastened to a support 25 which is preferably a board, and has the hooks 26 on its top edge which are adapted to fit into the eyes 27 at any point convenient to the heater. This permits the removal of the operating mechanism for repairs, or when its use is to be discontinued.

The chain 15 normally suspends a weight 28 which fits in a dove-tailed passage 29 between the guides 30, and when the weight descends, it pulls on the chain 15 and sets the draft so that the fire will come up. When the releasing mechanism, however, is set so as to allow the drafts to be closed so that the fire will be banked, the weight is lifted and has its chamfered edge 31 resting on a lever 32 which is pivoted at 33, and the weight rests on the lever near its pivot, the chamfered edge 31 having a normal tendency to force the lever outward, being also assisted by a spring 34, the normal tendency of which is to throw the lever outward away from the support, and which spring has a lip 35 which assists in holding up the lever 32. The end of the lever 32 is engaged by a lever 36 near the pivot 37 of said lever, the free end of the lever 38 being in turn held in place by a lever 39 close to the pivotal point 40 of the lever 39 so that the multiplication of the leverage on the successive levers makes only a slight pressure on the end 41 of the lever 39 so that there is no undue friction on said lever and it is not necessary to have very much force to



hold it in place. The end of the lever 39 is adapted to engage a winding handle 42 of an alarm clock 43, this winding handle being common to the alarm clocks and being  
 5 formed of a flat strip which, when placed upright, forms a holder for the lever 39, when the handle 42 is at rest, so that the weight 28 is suspended and the doors and drafts are not operated.

10 Any ordinary alarm clock is used in this device, which alarm clock is supplied with a hammer 44 which vibrates when the alarm goes off and strikes a bell, but in this construction the bell is removed, and to cause  
 15 a cessation of the vibration of the clapper 44, I provide a pivoted lever 45 which has an arm 46 to be brought into engagement with the clapper 44, and has another arm 47 which is adapted to be engaged by the  
 20 finger 48 which is pivoted at 49 and is normally pulled downward by a weight 50 suspended on a rod 51 which has a pin 52 resting on the lever 39. When the lever 39 is released and springs outward, by reason of  
 25 its being forced outward by the lever 36 which in turn is thrown out by the lever 32 pushed by the spring 34, the weight is permitted to drop by reason of the pin 52 being disengaged, the finger 48 descends on the arm 47 of the lever 45, and the arm 46 engages the clapper 44 and it is stopped, and the alarm of the clock does not run  
 30 down any farther than is necessary to simply throw the handle 42 horizontal and permit the release of the lever 39. The clock has a supporting piece 53 which passes in through a slot 54 and is held in place by the plate 55 which swings horizontally on the top of the receptacle 56 which contains  
 40 the clock, which plate is held against swinging by a right-angled plate 56<sup>a</sup> on the front of the receptacle on one edge, which plate is normally held in place by the spring action of the lip 57 so that the plate 55 cannot be swung until the plate 56<sup>a</sup> has been swung, and in this way the clock is safely held in this receptacle. The open positions of these plates are shown in Fig. 8, and when they are open thus, the finger 48 can  
 45 be swung up into a notch 58 and the finger is thus held out of the way so that the clock

can be removed from its receptacle. When the plate 56 is shut, the finger 48 can move up and down to operate the clapper stop by reason of the receptacle being cut away as  
 55 at 59, shown more particularly in Fig. 4.

Having thus described my invention, what I claim is:—

1. In combination with a heater having draft attachments thereon and a chain for  
 60 operating the attachments, with a weight adapted to operate the chain by gravity, a set of levers pivoted to successively engage with their free ends the next lever at a point adjacent to its pivot, the first lever being  
 65 adapted to support the weight near the lever's fulcrum, a clock having a time attachment thereon, means on the clock actuated by the time attachment to normally hold the free end of the last lever, means for stopping  
 70 the time attachment, and means adapted to operate the time stopping means when the weight is released.

2. The combination of a heater having drafts therein and a chain to operate them,  
 75 with a support having a pulley thereon over which the chain is conducted, a weight on the end of the chain, a lever adapted to suspend the weight near the pivot of the lever, a spring normally tending to force the  
 80 weight from the lever, a second lever arranged to cross the first lever and having a portion near its pivot engaging the end of the first lever, a third lever crossing the free end of the second lever, the third lever en-  
 85 gaging the second lever with a portion near its pivot, a time-piece having a release mechanism, means on the clock connecting with the release mechanism and the time-piece and engaging the free end of the third lever,  
 90 an alarm on the time-piece, means when released adapted to engage the alarm to stop it, and means on the third lever for holding the releasing means inoperative when the third lever is in position.  
 95

In testimony that I claim the foregoing, I have hereunto set my hand this 27th day of February, 1909.

JAMES NAUGHTON.

Witnesses:

WM. H. CAMFIELD,  
 E. A. PELL.