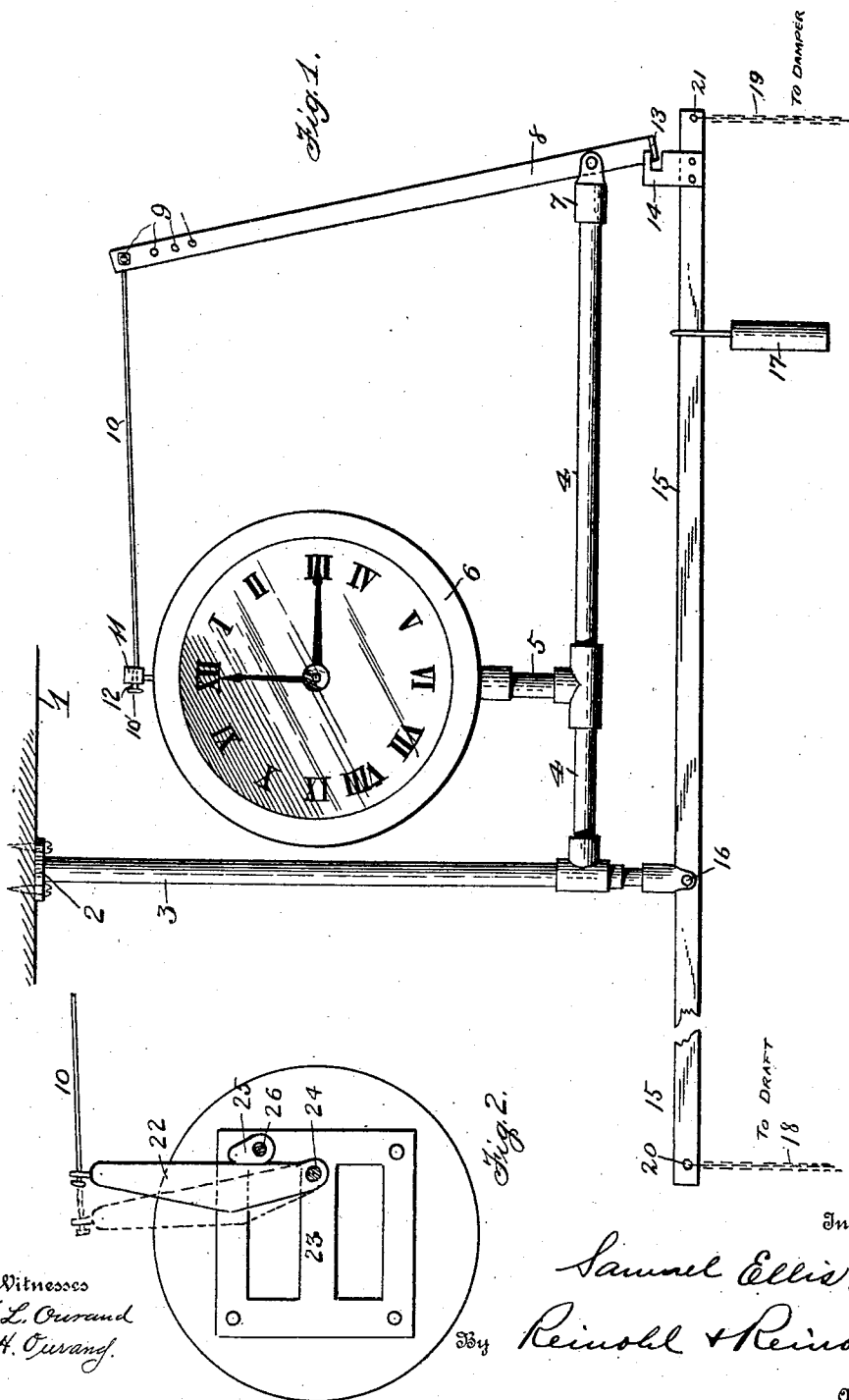


S. ELLIS.
 AUTOMATIC DRAFT REGULATOR.
 APPLICATION FILED OCT. 29, 1907.

907,480.

Patented Dec. 22, 1908.



UNITED STATES PATENT OFFICE.

SAMUEL ELLIS, OF ATLANTIC CITY, NEW JERSEY.

AUTOMATIC DRAFT-REGULATOR.

No. 907,480.

Specification of Letters Patent.

Patented Dec. 22, 1908:

Application filed October 29, 1907. Serial No. 399,636.

To all whom it may concern:

Be it known that I, SAMUEL ELLIS, a citizen of the United States, residing at Atlantic City, in the county of Atlantic and State of New Jersey, have invented certain new and useful Improvements in Automatic Draft-Regulators, of which the following is a specification.

My invention relates primarily to stoves or furnaces provided with draft doors and dampers, and has especial reference to means for automatically closing the damper and opening the draft door of the furnace to regulate the draft and the supply of air thereto, and the invention consists in certain improvements in construction, which will be fully disclosed in the following specification and claim.

It is well known that housekeepers and janitors desire the rooms of a house or building to be warm upon the rising of its inmates in the morning, but in order that this may be accomplished, some one must get up and go to the furnace room, at least an hour earlier than the usual rising hour, and open the draft door and close the damper of the furnace. It is my purpose to dispense with this inconvenience, and provide means for accomplishing the work automatically.

In the accompanying drawings, which form part of this specification:—Figure 1 represents a front elevation of a device embodying my invention, and Fig. 2 a rear view of a modification of the connection with the clock.

Reference being had to the drawings and the designating characters thereon, the numeral 1 indicates the ceiling of a furnace room, to which is secured by a hanger 2, a rod or support 3, from which is suspended the apparatus. The hanger 2 may be secured to the ceiling by any preferred means, such as screws, nails or bolts.

Near one end of the support or rod 3 is an arm 4 which has secured thereon a support 5 for a clock 6, and the arm 4 terminates in a pivot post 7, to which the trip rod or bar 8 is pivotally secured.

The upper end of the bar 8 has a number of holes 9 therein for regulating the length of the rod 10, one end of which rod engages the striker or clapper 11 of an alarm clock, from which the bell has been removed. The clapper 11 has an opening through which the rod 10 extends, and the rod 10 termi-

nates in a hook or button 10' to prevent its withdrawal from the clapper.

At the lower end of the bar 8 is a lug 13 which engages a lug 14 secured on the pivoted bar 15, which extends across the top of the furnace (not shown) and is secured at its center to the lower end of the post or support 3 at 16.

To the bar 15 is secured a weight 17 to close the damper (not shown) of the furnace. 18 and 19 indicate chains or cords leading to the draft door and the damper respectively of a furnace and these chains are secured to the bar 15 at the ends 20, 21 of the bar respectively.

Instead of the rod 10 engaging the clapper 11, a lever 22 may be pivotally connected to the frame 23 of the clock, as at 24, and is vibrated by a cam 25 on the revoluble shaft 26 which supports the spring of the alarm striking mechanism.

The operation of the apparatus is as follows: Upon retiring for the night, a housekeeper or janitor adjusts the trip mechanism, by putting the lug 13 in engagement with the lug 14 and sets the clock to trip or release the mechanism at any time of the morning desired. Upon the arrival of the hour determined, the clapper 11 or lever 22 begins to vibrate, which causes the rod 10 to operate the bar 8 and releases its lug 13 from the lug 14, when the arm 15 is dropped by means of the weight 17, attached thereto, which closes the damper and at the same time opens the draft door of the furnace, which allows the air to circulate through the fire in the furnace.

It is obvious that changes in minor details may be made without departing from the spirit of my invention, for example, a spring may be substituted for the weight 17, by connecting the spring at one end with the bar 15, and its opposite end to the support 3.

The device is extremely cheap, simple, and durable, can be manufactured at a low cost and may be made of any suitable material.

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

In a self-contained draft device for furnaces, the combination of a rigid frame, means for securing said frame to a support, a weighted lever pivoted on said frame and provided with a catch, means for connecting the opposite ends of said lever, respectively, to the draft door and damper of a furnace, an

inclined trip lever pivoted on said frame and provided with a latch for engaging said catch, a clock mechanism carried by said frame, a lever pivoted on said clock mechanism for actuation by the latter, and means for adjustably connecting said last lever to said trip lever, whereby said trip lever can be adjustably inclined in its normal latched position to vary its engagement with the weighted lever

and to augment by gravity the actuation of the said clock mechanism, substantially as described. 10

In testimony whereof I affix my signature, in presence of two witnesses.

SAMUEL ELLIS.

Witnesses:

JOHN T. EVANS,
R. M. SNYDER.