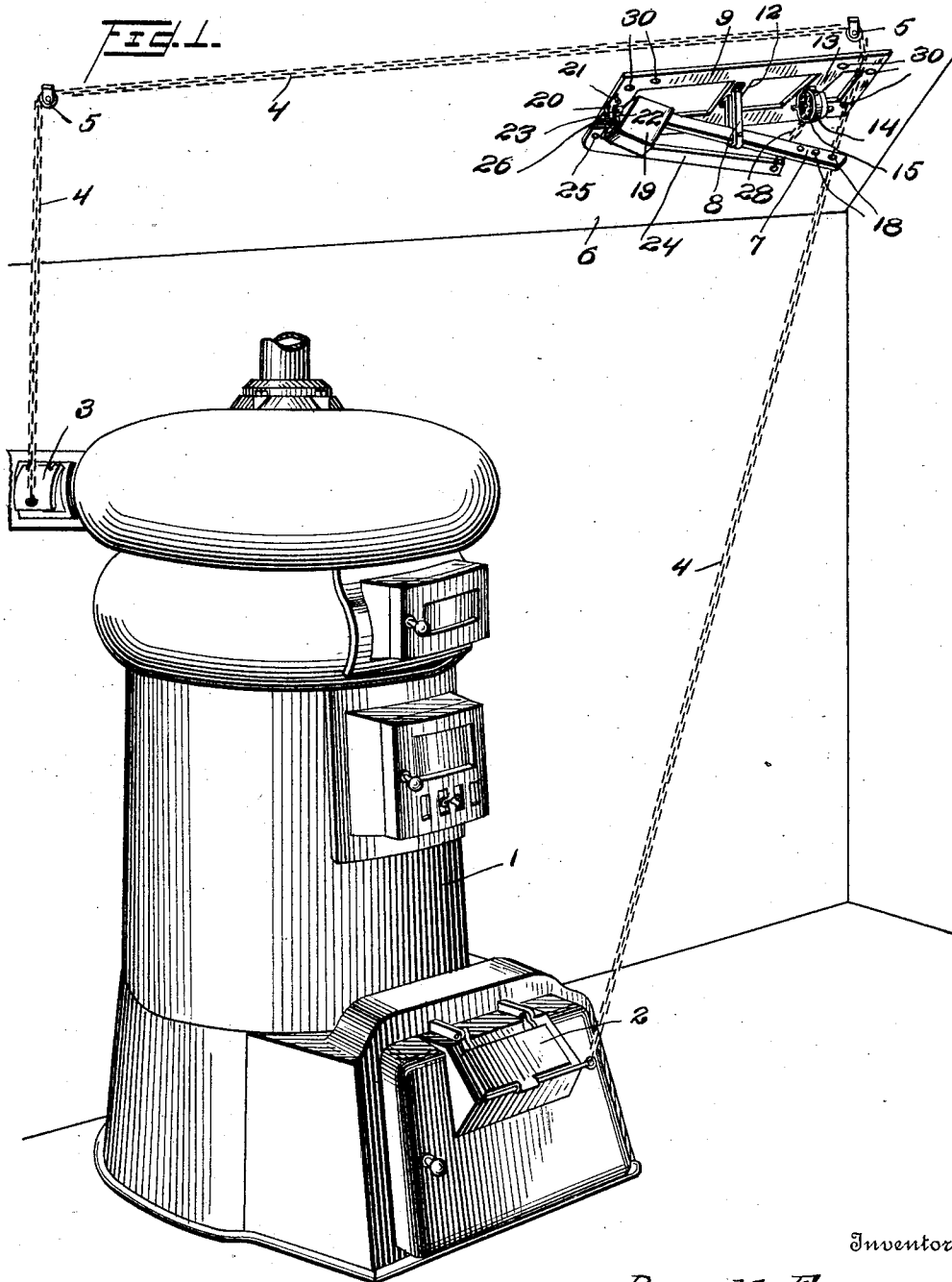


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TIME CONTROLLED DRAFT AND DAMPER REGULATOR.
APPLICATION FILED JAN. 6, 1912.

1,062,699.

Patented May 27, 1913.

2 SHEETS—SHEET 1.



Inventor

Bassett Ferguson

Witnesses

H. Strauss

R. St. Krenkel

By

Joshua R. T. T. T. T.

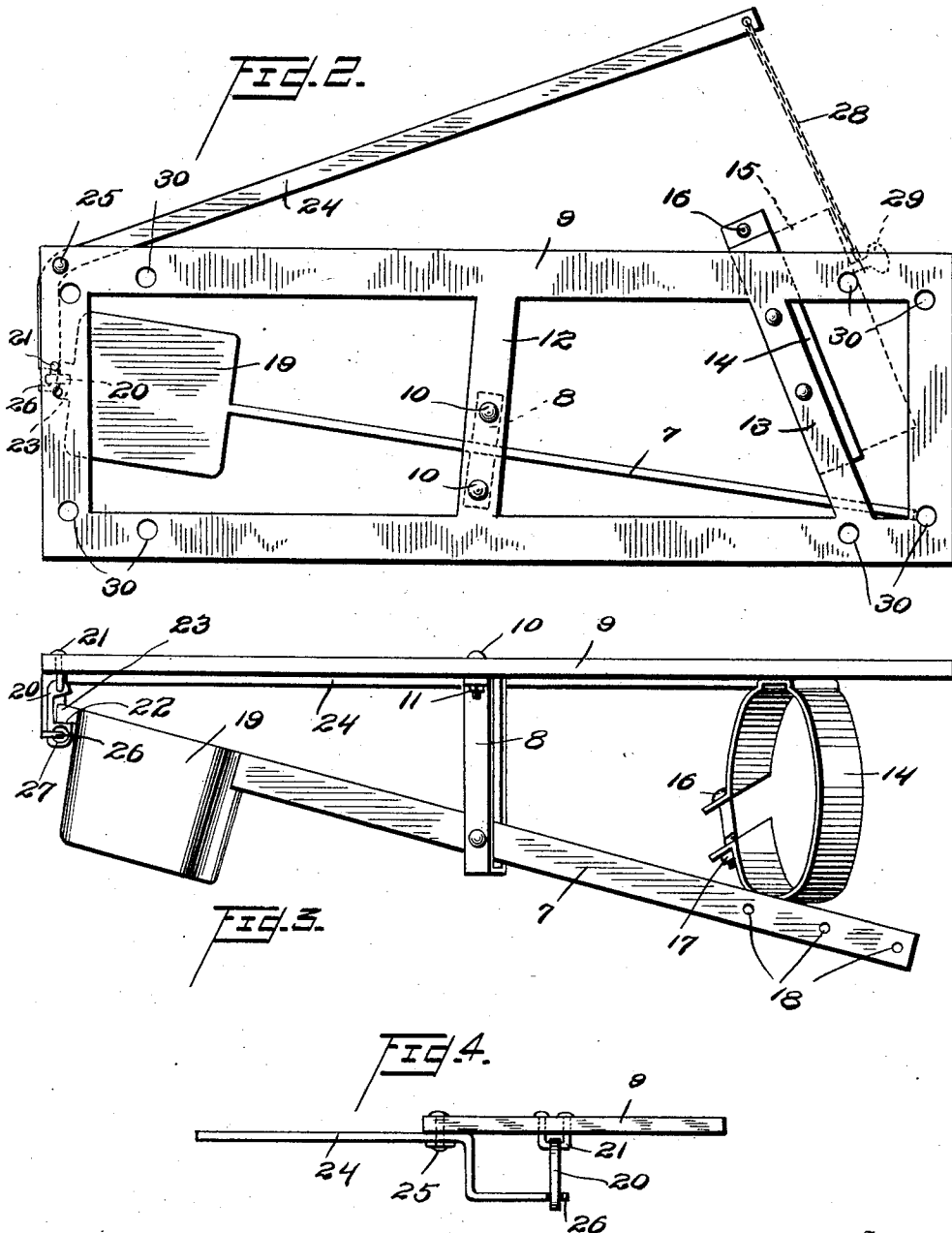
Attorney

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Inventor

Bassett Ferguson

Witnesses

H. Strauss
R. H. Krenkel

By

Joshua R. Potter
Attorney

UNITED STATES PATENT OFFICE.

BASSETT FERGUSON, OF PHILADELPHIA, PENNSYLVANIA.

TIME-CONTROLLED DRAFT AND DAMPER REGULATOR.

1,062,699.

Specification of Letters Patent.

Patented May 27, 1913.

Application filed January 6, 1912. Serial No. 669,726.

To all whom it may concern:

Be it known that I, BASSETT FERGUSON, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Time-Controlled Draft and Damper Regulators, of which the following is a specification.

My invention relates to improvements in time controlled draft and damper regulators, the object of the invention being to provide a device of this character which may be readily secured in position, and which will, through the medium of an alarm clock, automatically cause the damper to close and the draft to open at a pre-determined time.

A further object is to provide a device of this character which may be manufactured and sold at a reasonably low price, which embodies in its construction simplicity, strength and durability, and which may be placed in operative position by any one of average intelligence, not requiring skilled labor.

With these and other objects in view, the invention consists in certain novel features of construction and combinations and arrangements of parts, as will be more fully hereinafter described and pointed out in the claims.

In the accompanying drawings: Figure 1, is a perspective view illustrating my improvements in connection with a heater, showing the draft door in closed position and the damper in open position. Fig. 2, is a top plan view of my improved device omitting the chain to be connected to the draft and damper. Fig. 3, is a view in side elevation of Fig. 2, and Fig. 4, is an end view showing the connection between the tripping arm and the catch, omitting other features for purpose of clearness.

1, represents a furnace or heater which is provided with the ordinary hinged draft door 2 and damper 3. This draft door 2 and damper 3 are connected by a chain or other flexible connecting device 4, which is passed over pulleys 5 secured to the ceiling 6, and to said chain 4, in that stretch of the chain between the draft door 2 and the pulley 5, the lever 7 of my improved device is secured. This lever 7 is fulcrumed between its ends in a bifurcated bracket 8 secured to a frame 9 by means of bolts 10,

and nuts 11. This frame 9 is, as a matter of fact, a plate of sheet metal or other suitable material cut out for purposes of lightness, and provided with a transverse bar 12 to which the bracket 8 is secured, and with a second diagonally positioned transverse bar 13 to which a split ring 14 is fixed. This split ring 14 is adapted to receive an alarm clock 15 which is securely clamped in the ring by means of a bolt 16, and nut 17. The lever 7 is provided near one end, with a plurality of openings 18, in any of which the chain 4 is adapted to be secured. The opposite end of this lever 7 is provided with a weight 19 sufficiently heavy, when permitted to fall, to move the chain 4. This weighted end of lever 7 is normally held in an elevated position by means of a catch 20. This catch 20 is pivotally connected by a U-bolt 21 with the end of frame 9, and is recessed forming a shoulder 22 to receive a lug 23 on the end of lever 7.

A tripping arm 24 bent at an angle near one end, is pivotally connected at the bend to the frame 9 by means of a rivet 25, and at the end of its shorter member is made in the form of an angular hook 26 which projects through an opening 27 in the lower end of catch 20.

The long end of the lever 24 is connected by a chain 28 with the winding key 29 of the alarm portion of clock 15, so that when the alarm clock releases the alarm, this key 29 begins to turn, and chain 28 is wound thereon, so that the tripping arm 24 is swung on its fulcrum, and catch 20 moved outwardly to release lever 7. The weight 19 will then cause this end of the lever to move downwardly, and the other end of the lever to move upwardly, and through the medium of chain 4, cause draft door 2 to open and damper 3 to close.

In referring to the parts 24 and 28 as chains, I would have it understood that while chains are very desirable for the purpose, the invention is not limited to any particular form of device, but any flexible connecting device adapted for the purpose may be utilized.

With my improvements, the frame 9 which carries all of the operating mechanism, may be readily secured to the ceiling by any one of average intelligence, not requiring skilled labor, and to facilitate this, the frame is provided with openings 30 for

the reception of suitable devices to secure it to the ceiling.

When the frame with its parts, are in position on the ceiling, it is of course necessary to place the pulleys 5 properly, and then connect the chain 4 with the draft door 2, and the damper 3, passing said chain over the pulleys 5, and securing it to the lever 7. When an ordinary alarm clock is secured in the clamping collar or ring 14, and the chain 28 secured to its winding key 29, the device is ready for operation.

At night the alarm clock is set for any particular hour in the morning, and at such time the lever 7 will be automatically released, and will operate to open the draft door 2 and close the damper 3, so that the fire will come up, and the house will be warm and comfortable when the occupants arise for the day.

Various slight changes might be made in the general form and arrangement of parts described without departing from my invention, and hence I do not limit myself to the precise details set forth, but consider myself at liberty to make such changes and alterations as fairly fall within the spirit and scope of the appended claims.

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

1. A device of the character described, comprising a plate, a vertically swinging lever fulcrumed between its end and enlarged at one end forming a weight, flexible devices connecting the unweighted end of the lever with the draft and damper of a furnace, whereby the movement of the lever controls the said draft and damper, a tripping arm bent at an angle and pivoted to the plate, a catch pivotally secured to the plate, a lug on the weighted end of the lever and resting on the catch, whereby the

weighted end of the lever is held elevated, the short end of the tripping arm engaging the catch, a clock holding clamp secured to the plate, a clock secured in the clamp, and a flexible device connecting the long end of the tripping arm with the alarm winding key of the clock, whereby the turning of the key causes the tripping arm to move the catch and release the weighted end of the lever, substantially as described.

2. A device of the character described, comprising a plate, a vertically swinging lever fulcrumed between its ends and enlarged at one end forming a weight, flexible devices connecting the unweighted end of the lever with the draft and damper of a furnace, whereby the movement of the lever controls the said draft and damper, a tripping arm bent at an angle and pivoted to the plate, a catch pivotally secured to the plate, and having a hole therein, a shoulder on the catch, a lug on the weighted end of the arm and resting on the shoulder, whereby the weighted end of the lever is held elevated, a hook on the short end of the tripping arm and positioned in the opening in the catch, a clock holding clamp secured to the plate, a clock secured in the clamp and a flexible device connecting the long end of the tripping arm with the alarm winding key of the clock, whereby the turning of the key causes the flexible device to wind on the key and causes the tripping arm to move the catch and release the weighted end of the lever, substantially as described.

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

BASSETT FERGUSON.

Witnesses:

R. H. KRENKEL,
CHAS. E. POTTS.