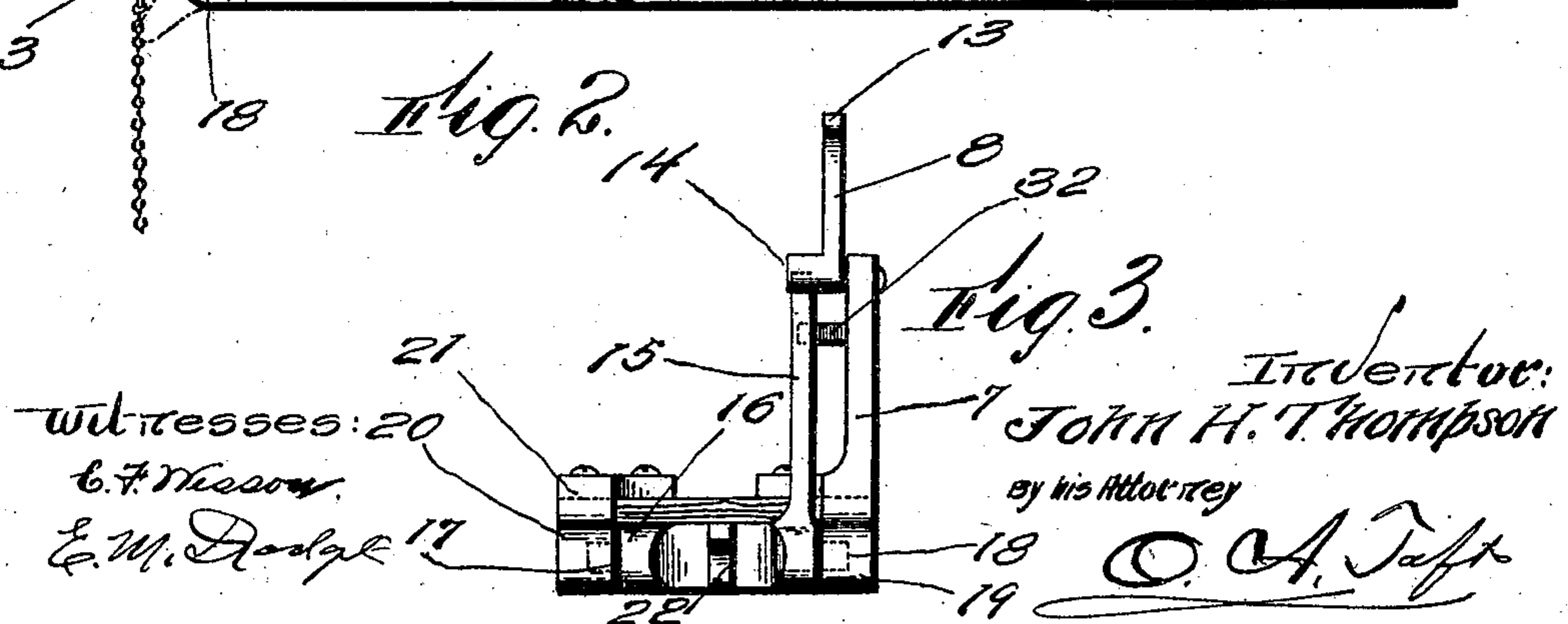
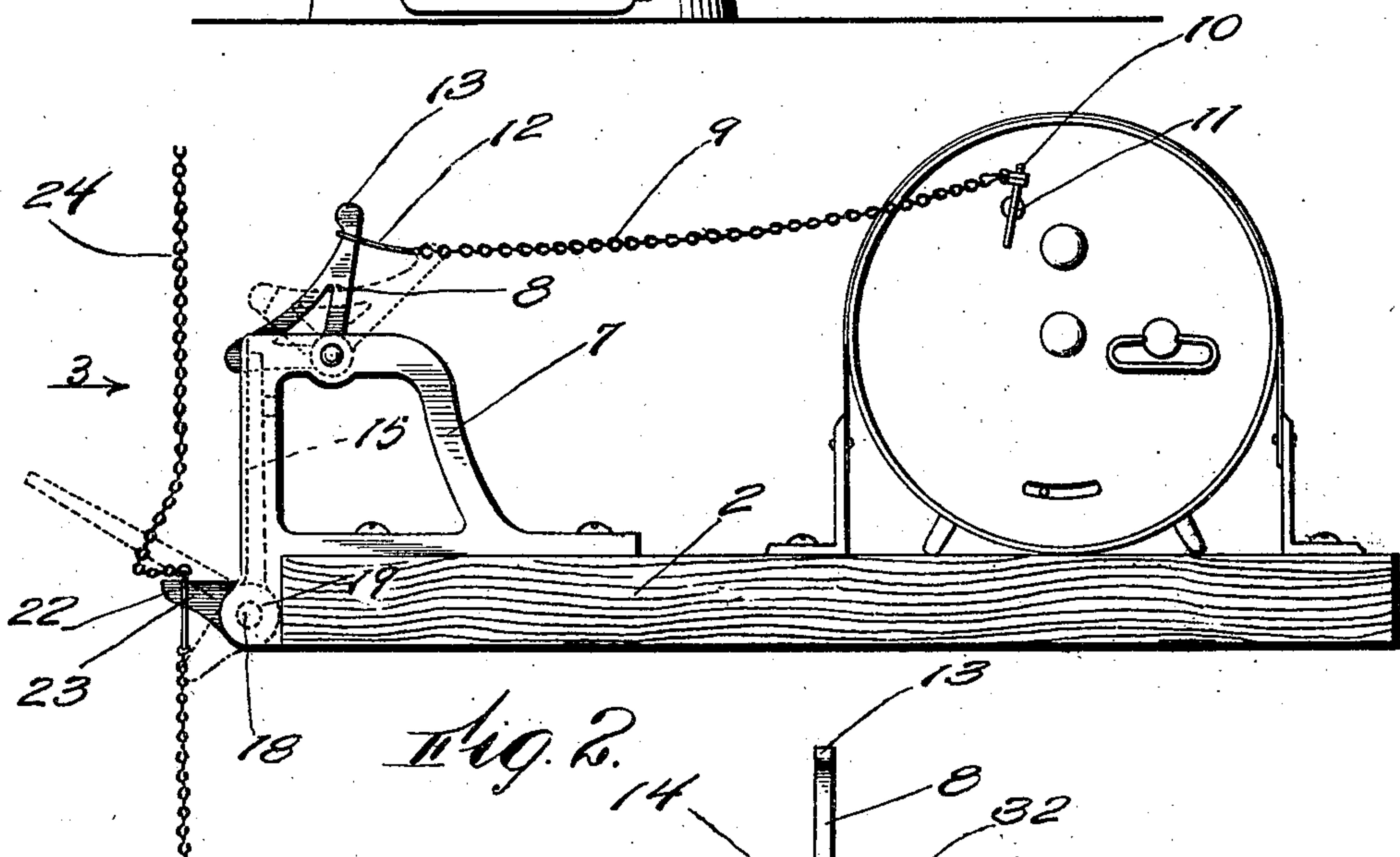
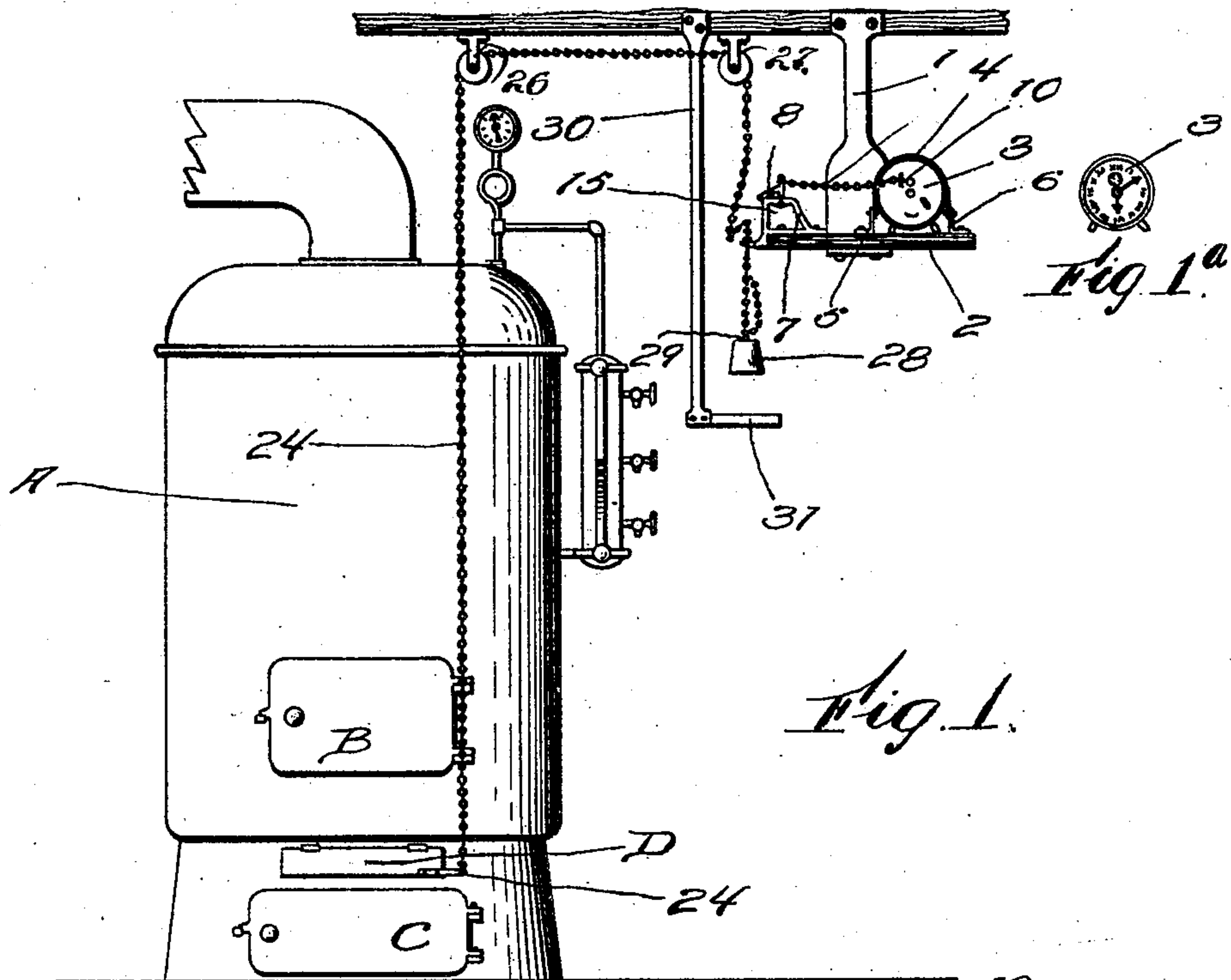


No. 810,821.

PATENTED JAN. 23, 1906.

J. H. THOMPSON.
AUTOMATIC DRAFT OPENER.
APPLICATION FILED DEC. 5, 1904.



Witnesses: 20
E. F. Mason
E. M. Dodge 17

Inventor:
JOHN H. THOMPSON
By his Attorney

O. A. Taft

UNITED STATES PATENT OFFICE.

JOHN H. THOMPSON, OF FITCHBURG, MASSACHUSETTS.

AUTOMATIC DRAFT-OPENER.

No. 810,821.

Specification of Letters Patent.

Patented Jan. 23, 1906.

Application filed December 5, 1904. Serial No. 235,520.

To all whom it may concern:

Be it known that I, JOHN H. THOMPSON, of Fitchburg, in the county of Worcester and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Automatic Draft-Openers; and I do hereby declare that the following is a full, clear, and exact description of the same.

This invention relates to furnaces, and more particularly to time-controlled means for operating the draft thereof.

It is an object of the invention to produce a device of novel construction whereby the draft of a furnace or stove may be opened automatically at a predetermined time.

It is also an object of the invention to provide a device of this character that will be simple in construction, economical to manufacture, and efficient in practice.

With the above and other objects in view the invention consists in the details of construction and in the arrangement and combination of parts to be hereinafter more fully described and claimed.

In describing the invention in detail reference will be had to the accompanying drawings, forming part of this specification, wherein like characters of reference will denote corresponding parts in the several views, and in which—

Figure 1 is a view in elevation showing the invention applied to a furnace. Fig. 1^a is a front elevation of an ordinary alarm-clock, which is used in combination with the invention. Fig. 2 is an enlarged detail view of the operating parts of the invention, and Fig. 3 is a detail view of the bracket employed in the invention and the parts carried thereby.

In the drawings, A indicates a furnace of any ordinary or preferred construction; B, the door to the fire-box; C, the door to the ash-pit, and D the draft-door, which is positioned, as in general practice, just beneath the grate within the furnace.

Depending from the ceiling of the furnace-room or from any other suitable place is a bracket 1, which supports the shelf 2. On this shelf 2 is placed an alarm-clock 3 of any preferred construction, and to hold the same securely on the shelf against displacement a band 4, preferably flexible, is passed over the clock and has its ends secured to the brackets 5 6, attached to the shelf at either side of the clock.

To one end of the shelf, the end nearest the furnace, is secured a bracket 7, which has

pivoted to its upper edge the bell-lever 8. The upper end of the bell-lever is connected with a flexible member 9, which is also secured to the winding mechanism 10 of the alarm of the clock 3, and is adapted to wind on the shaft 11 thereof when the alarm is in operation. This flexible member is found best to be a chain and is removably secured at one end to the lever by an elongated link 12, which engages the lever just beneath the head 13, formed thereon for the purpose of holding said link thereto. The opposite portion of the flexible member is connected to the flap of the winding-shaft 11 of the alarm. On the opposite end of the bell-lever and at right angles thereto is formed a lug 14, which overlaps the upper end of the lever 15, which is formed on the short shaft 16. The shaft is provided with the end trunnions 17 18, one of which rests within a bearing 19, formed with the bracket 7, and the other with a bearing 20, formed in the bracket 21, secured to the shelf 2, suitably spaced within relation to the bracket 7.

Projecting outwardly and centrally of the shaft 16 is an arm 22, which is adapted to be engaged by an elongated link 23 of the flexible connection or member 24. This connection or member is secured at one end to an arm or lug 25, projecting longitudinally from the lower end of the draft-door D. It then extends upward and passes over the pulleys 26 and 27 and then hangs downward and is adjustably secured to a weight 28. The adjustable securement between the connection and weight may be made in any way; but I have illustrated the preferred form in which the weight 28 is provided with an eye 29, through which the connection passes and has its end secured upon itself. Also depending from the ceiling of the furnace-room is another arm or bracket 30, which supports a shelf 31, said shelf being portioned directly under the weight 28 and being adapted to limit the downward movement thereof, as it is to be understood that the distance between the shelf and the weight determines the opening of the draft-door, and thereby regulates the amount of draft.

In operation the amount of draft desired being determined by the adjustment of the weight 28 the same is held suspended by the arm 22, said arm being locked in its operative position by the bell-lever 8. The alarm mechanism is set for the predetermined time for starting the draft, at which time the con-

nection 9, winding on the shaft 11 of the winding mechanism 10, will trip the lever 8, which will release the arm 22, and thus allow the weight 28 to fall upon the shelf 31. The weight by means of the flexible connection 24 opens the draft-door D. It may be observed that an alarm is not essential and may be omitted, the feature required being a shaft that is caused to rotate at a predetermined time. Formed on the bracket 7 is an inwardly-extending lug 32, which is adapted to limit the upward movement of the arm or lever 15, and thus hold it in operative position.

From the foregoing description the construction and operation of the invention is thought to be clearly apparent, it being noted that all changes may be resorted to that fairly fall within the scope of the claim annexed hereto.

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

In combination a furnace having a draft-

opening, a door therefor, a weight, a connection between the door and weight, whereby the drop of the weight will open the door, a suitably-supported shelf, a bracket secured to one end of the shelf, a bell-lever pivoted to the upper portion of the bracket, a lug on one end of the bell-lever, bearings carried by the bracket beneath the bell-lever, a shaft mounted therein, a lever carried by the shaft, an end of the lever being engaged by the lug of the bell-lever, a stop on the bracket for limiting the movement of the lever in one direction, an arm carried by the shaft and adapted to engage the connection and suspend the weight, a time-controlled apparatus on the shelf, a flexible tripping connection between the end of the bell-lever and the apparatus, and means for holding the time-controlled apparatus against displacement.

JOHN H. THOMPSON.

Witnesses:

O. A. TAFT,
KATE S. TAFT.