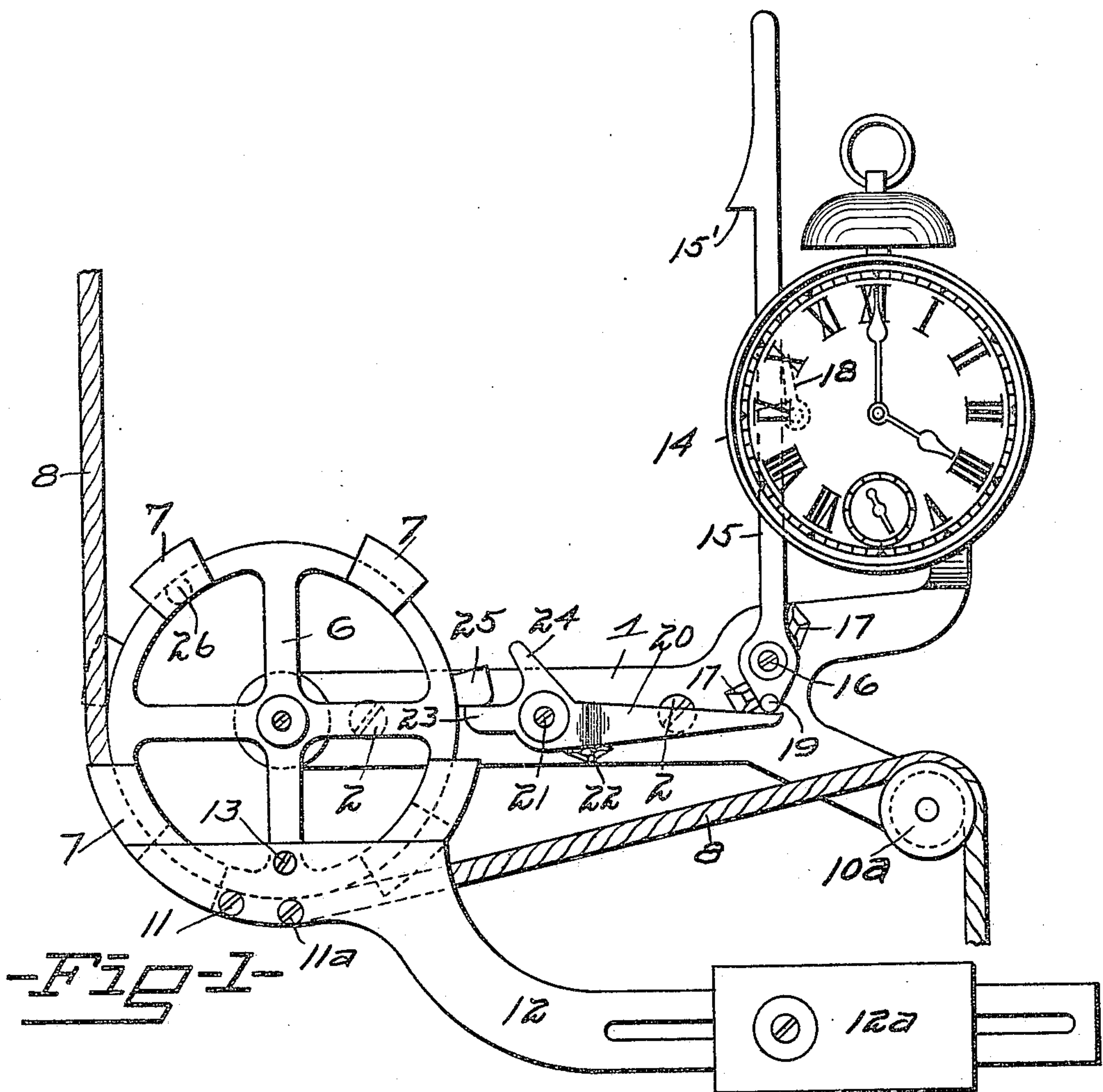
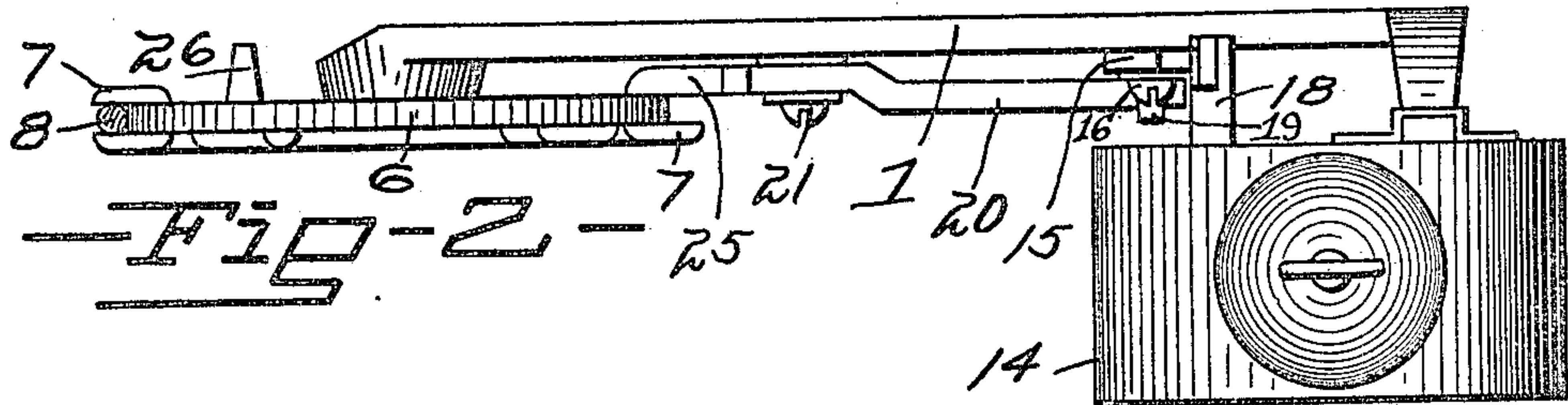


No. 831,587.

PATENTED SEPT. 25, 1906.

J. M. WOLLASTON.  
TIME DAMPER CONTROLLER.  
APPLICATION FILED DEC. 23, 1905.

2 SHEETS—SHEET 1.



Witnesses  
Matthew Liebler  
E. M. Theobald.

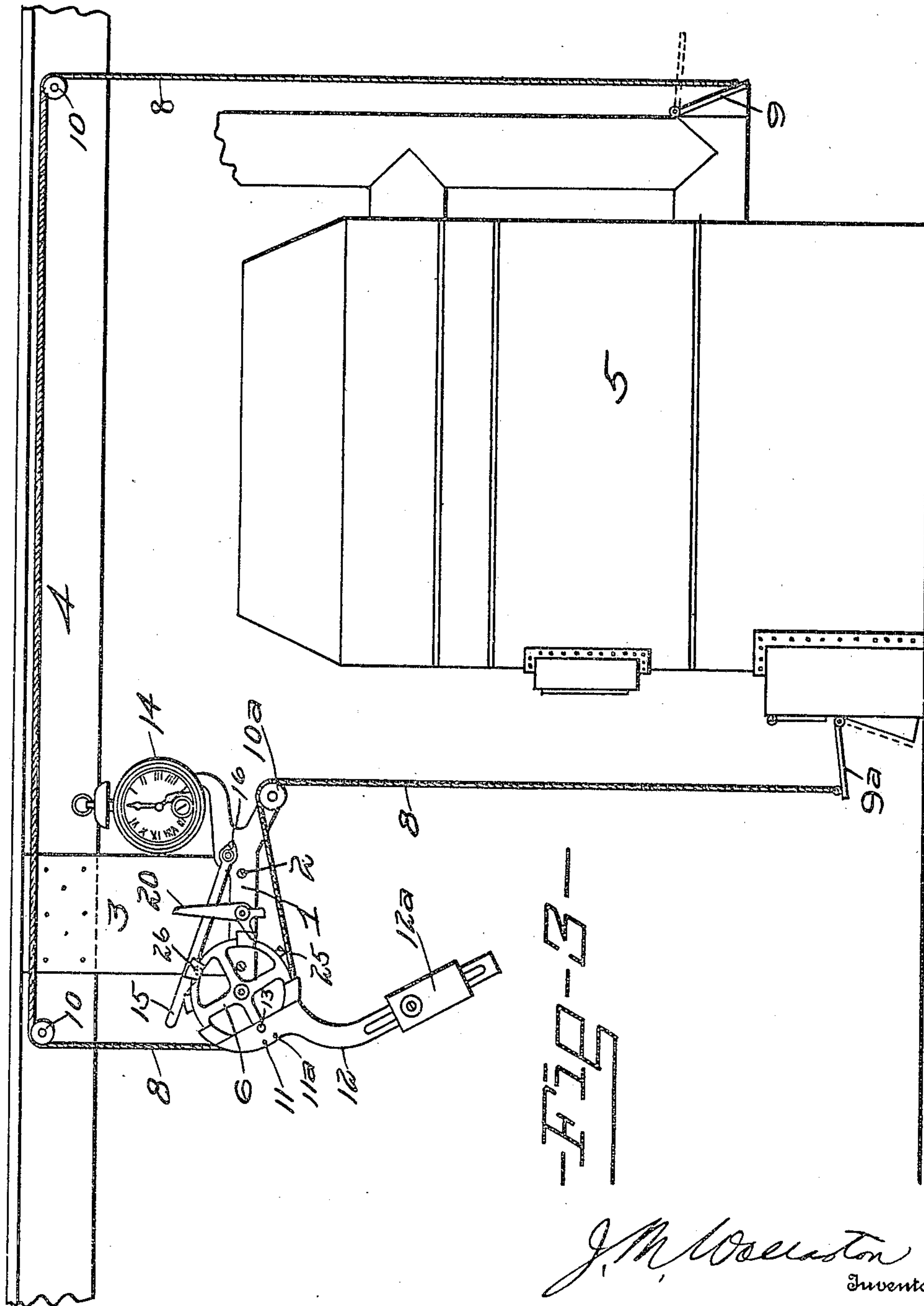
J. M. Wollaston INVENTOR  
By R. J. McCarty, Attorney

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2 SHEETS—SHEET 2.



—S—  
—C—  
—H—

J. M. Wollaston  
Inventor

Witnesses  
Matthew Sibley.  
C. M. Sheebald.

By

R. J. M. Party  
his Attorney



# UNITED STATES PATENT OFFICE.

JOHN M. WOLLASTON, OF DAYTON, OHIO.

## TIME DAMPER-CONTROLLER.

No. 831,587.

Specification of Letters Patent.

Patented Sept. 25, 1906.

Application filed December 23, 1905. Serial No. 293,049.

*To all whom it may concern:*

Be it known that I, JOHN M. WOLLASTON, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Time Damper-Controllers; and I do 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 the figures of reference marked thereon, which form a part of this specification.

This invention comprises a device for automatically controlling the draft and check doors of furnaces; and it consists of the novel features hereinafter described and claimed.

Preceding a detail description of my invention reference is made to the accompanying drawings, of which—

Figure 1 is an elevation looking at the front of my improved check and draft door controller. Fig. 2 is a top view of the same. Fig. 3 is a view showing the same in operative position.

In a detail description of the invention similar reference characters indicate corresponding parts.

The frame 1 of the device is attached to any desirable support in suitable proximity to the furnace—for example, a supporting-board 3, which is rigidly attached to a joist 4 in proximity to the furnace 5, two screws 2 being sufficient. On one end of this frame there is a wheel 6, with a suitable number of guide-flanges 7 to maintain the ropes or chains 8 in proper position. One of these ropes or chains—to wit, the one which is attached to the check-door 9 of the furnace—after passing upwardly around a portion of the wheel 6 is carried around a suitable number of guide-pulleys 10. This chain or rope which is connected with the check-door 9 is attached to a swinging arm 12 at 11, said swinging arm being rigidly united to the lower side of the wheel 6 at 13. The other rope or chain 8 is attached to the swinging arm 12 at 11<sup>a</sup> and is carried around a guide-pulley 10<sup>a</sup>, which is mounted on an extended portion of the frame 1 and is connected to the draft-door 9<sup>a</sup> of the furnace. Another extended portion of the frame 1 supports a time-piece 14 in the form of an ordinary clock.

15 designates a clock-lever, which is piv-

oted to the frame 1 at 16 and is limited in its extent of movement by two stops 17. In its operative position this clock-lever 15 stands upright in the rear of the clock 14 and in a position to be tripped by a hand 18, extending rearwardly from the clock mechanism and controlled by the same. Projected laterally from the lower end of said clock-lever 15 is a lug 19, which is adapted to hold and release a trigger 20, which is pivoted at 21 to the frame 1. This trigger is arrested by a stop 22, projecting from the frame 1 when in its horizontal or operative position. 23 is an extension from said trigger 20, and 24 is a similar extension. The extension 23 engages a projection 25 on the wheel 6, and when so engaged and when the trigger 20 is engaged by the lug 19 on the clock-lever 15 the swinging arm 12 is held in its normal position, as in Fig. 1. In this position the clock-lever 15 is adapted to be engaged by the clock member 18 and tripped sufficiently to release the trigger 20 from engagement with the lug 19. The result is that the swinging arm 12 will drop under the weight 12<sup>a</sup> to the position shown in Fig. 3, which enables the check-door 9 to close and the draft-door 9<sup>a</sup> to be opened. This operation, it will be understood, may occur at any time that it may be desirable to thus close and open said doors according to the time indicated upon the clock. For example, if this automatic operation is desired to take place at four o'clock in the morning or at any other time the contact of the clock member 18 with the clock-lever 15 is arranged to take place accordingly.

The weight 12<sup>a</sup> is adjustable in and out on the swinging arm in order to vary the same. When elevating the swinging arm from the position shown in Fig. 3 to the normal or set position, as in Fig. 1, the lug or projection 25 engages the extension 24 and throws the trigger 20 to the horizontal position. The clock-lever 15 has a shoulder 15' thereon which engages a pin 26 on the rear of the wheel when said lever drops, as in Fig. 3, and the said wheel becomes locked against vibrations, due to the dropping of the swinging arm 12.

While I have shown in the drawings a certain definite way of guiding the ropes or chains to the check and draft doors 9 and 9<sup>a</sup>, it will be understood that this may be done in a variety of ways, depending upon the location of the device relative to the furnace.



Having described my invention, I claim—

1. In a device of the class specified, a wheel, a weighted arm projected from said wheel, check and draft doors of a furnace, flexible connections extending from said doors and connected to and controlled by said wheel and arm, a clock-lever, and a trigger controlled by said clock-lever and when so controlled engaging the wheel to hold the weighted arm in an elevated position.

2. In a device for automatically and simultaneously opening the draft-door of a furnace and closing the check-door, consisting of a stationary frame, a wheel pivoted to said frame, a weighted arm connected to said wheel, draft and check doors of a furnace, flexible connections between said doors and said wheel, a clock-lever standing vertically, a clock-actuated member in the pathway of which, said clock-lever stands to be engaged by said clock-actuated member, a trigger engaged by said clock-lever when the latter stands in a position to be engaged by the clock-actuated member, and a projection on the wheel engaged by said trigger to hold the wheel and the weighted arm during the period in which the trigger and the clock-lever are in their normal position.

3. In a device of the class specified, a wheel, an arm extending from said wheel, a member actuated by clock mechanism, and interlocking members disposed between said wheel and said clock-actuated member for

holding and releasing the wheel for the purposes specified.

4. In a device of the class specified, a wheel, a weighted arm projecting from said wheel, check and draft doors of a furnace, flexible connections extending from said doors and controlled by said wheel and weighted arm, a member actuated by clock mechanism, and interlocking members disposed between said wheel and said clock-actuated member for holding and releasing the wheel for the purposes specified.

5. In a device of the class specified, a wheel, a weighted arm projected from said wheel, check and draft doors of a furnace, flexible connections extending from said doors and controlled by said wheel and weighted arm, a lever, a clock controlling said lever, and a device controlled by said clock-lever, said device engaging the wheel to hold the weighted arm in an elevated position.

6. A device of the class specified, consisting of a wheel, an arm extending from said wheel, a lever actuated by clock mechanism, and interlocking members disposed between said wheel and said lever for holding and releasing the wheel.

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

JOHN M. WOLLASTON.

Witnesses:

C. M. THEOBALD,  
R. J. McCARTY.