

(No Model.)

2 Sheets—Sheet 1.

L. B. CALDWELL.
STATION INDICATOR.

No. 599,829.

Patented Mar. 1, 1898.

Fig. 1.

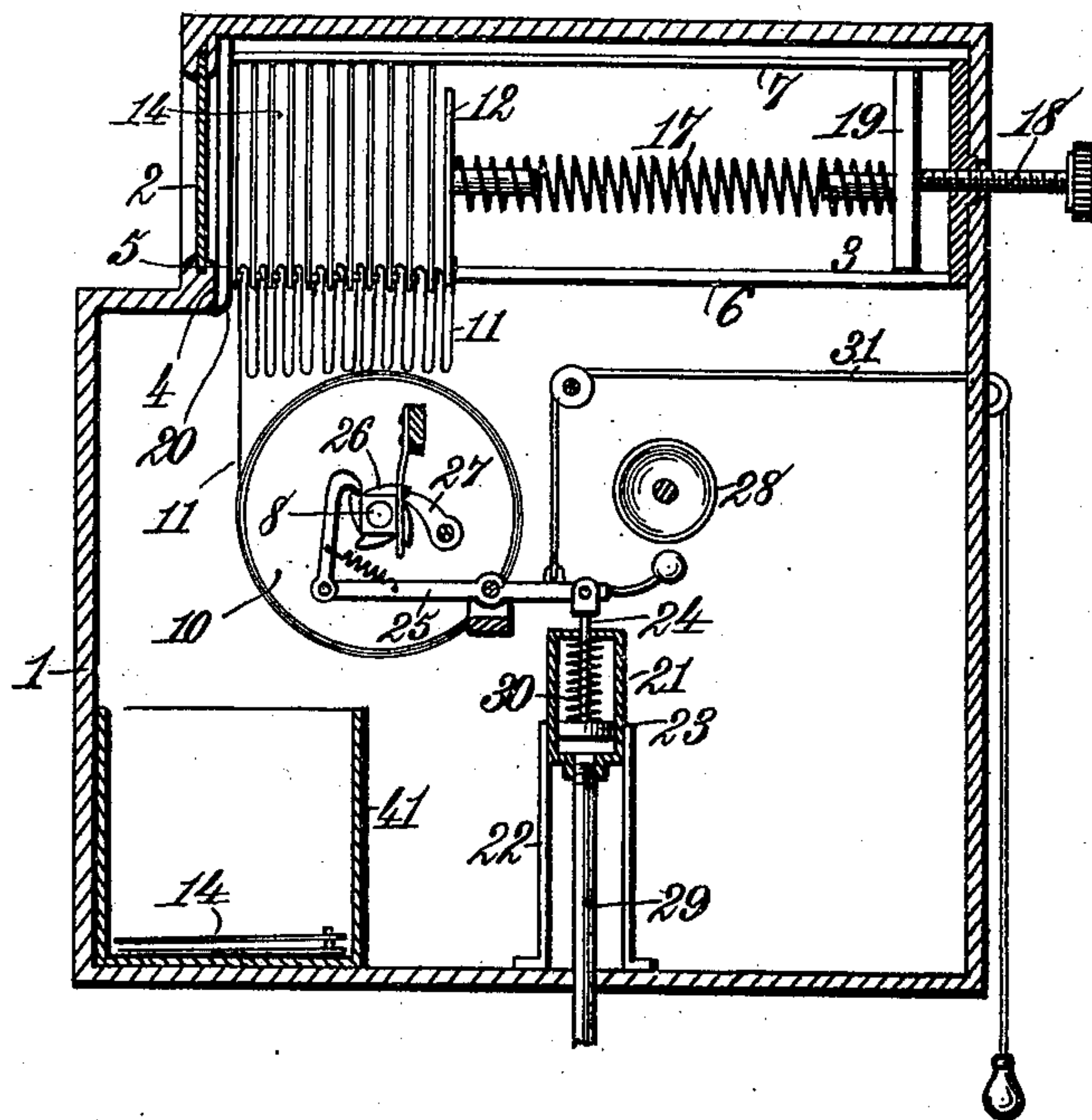


Fig. 2.

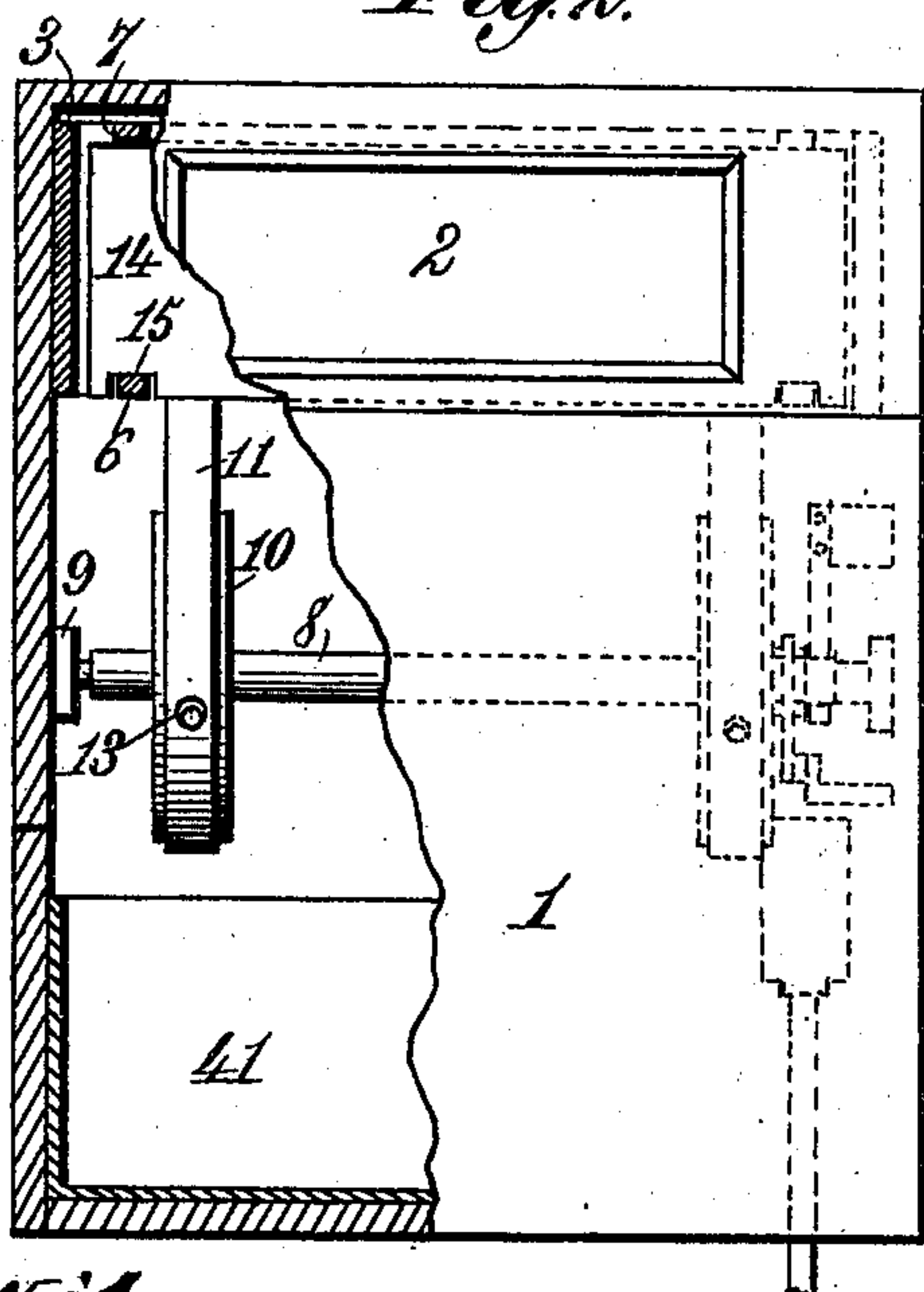


Fig. 3.

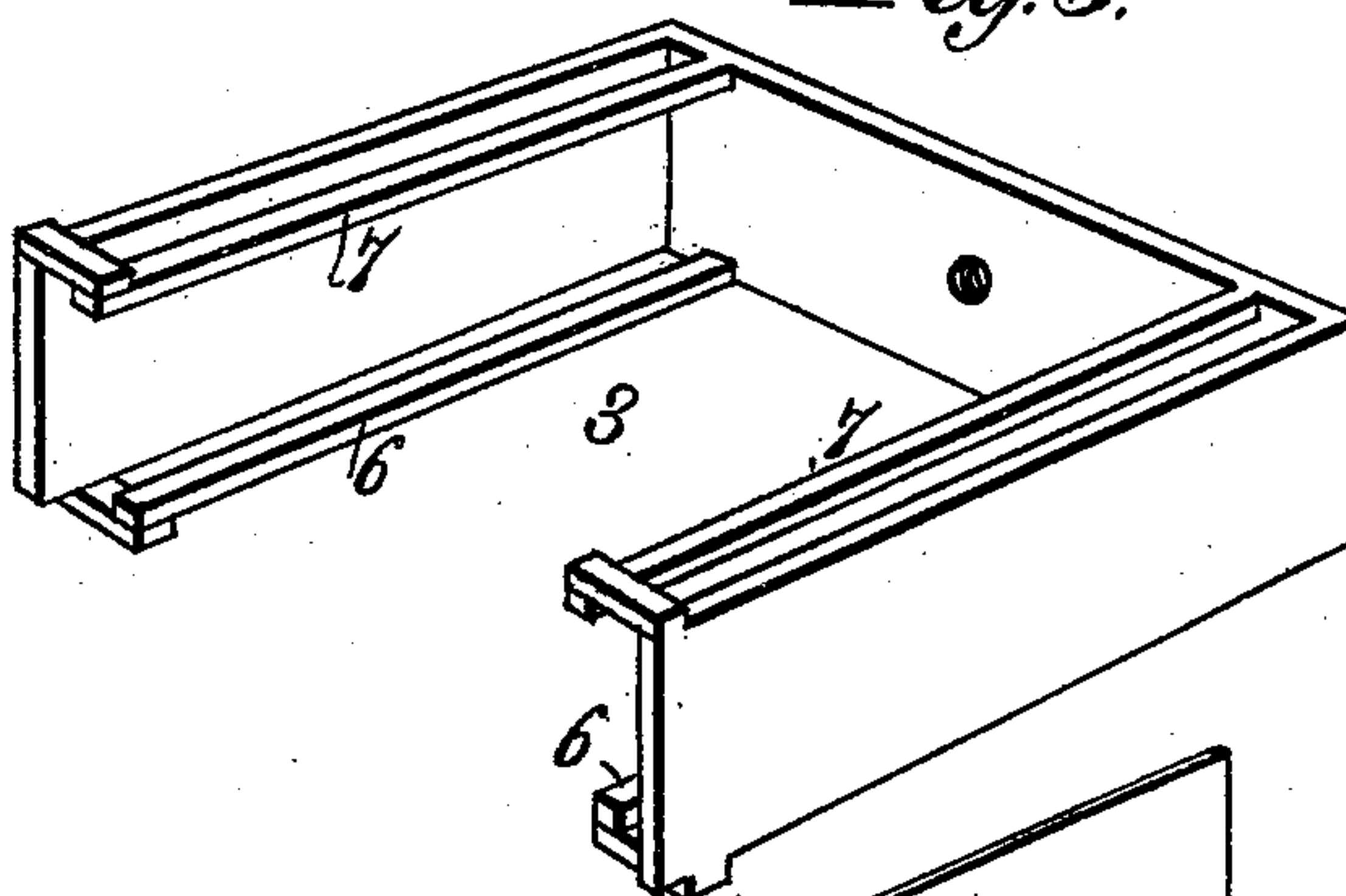
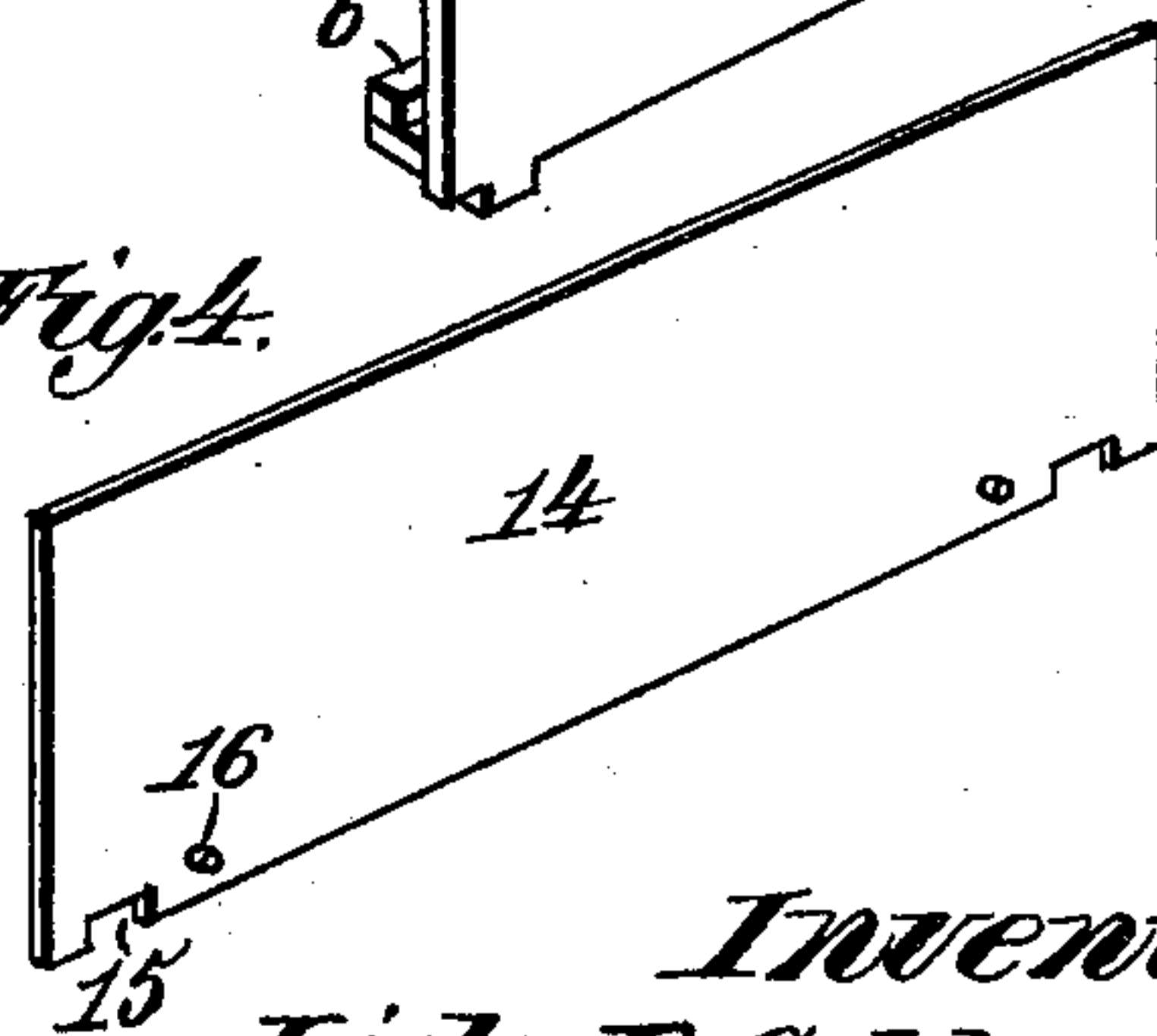


Fig. 4.



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(No Model.)

L. B. CALDWELL.
STATION INDICATOR.

2 Sheets—Sheet 2.

No. 599,829.

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Fig. 5.

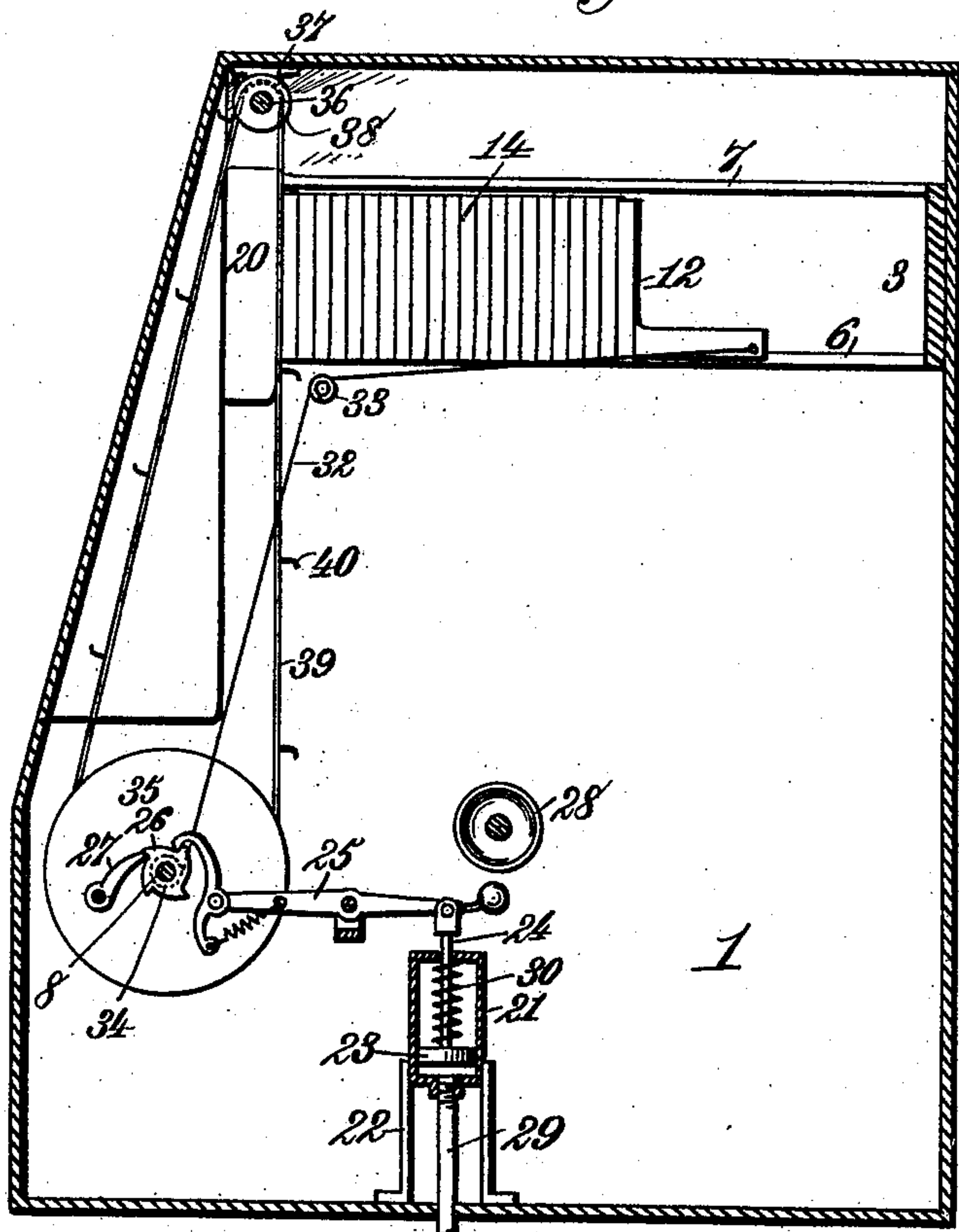


Fig. 7.

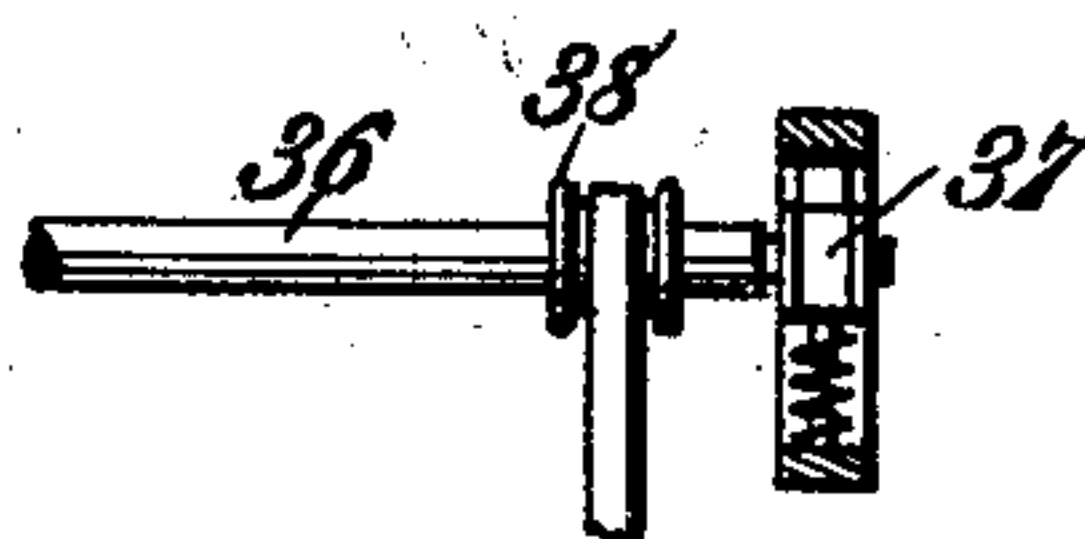


Fig. 8.

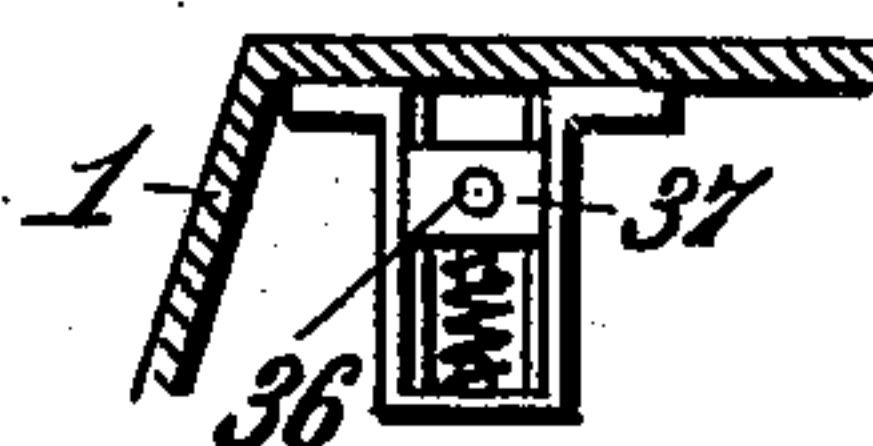
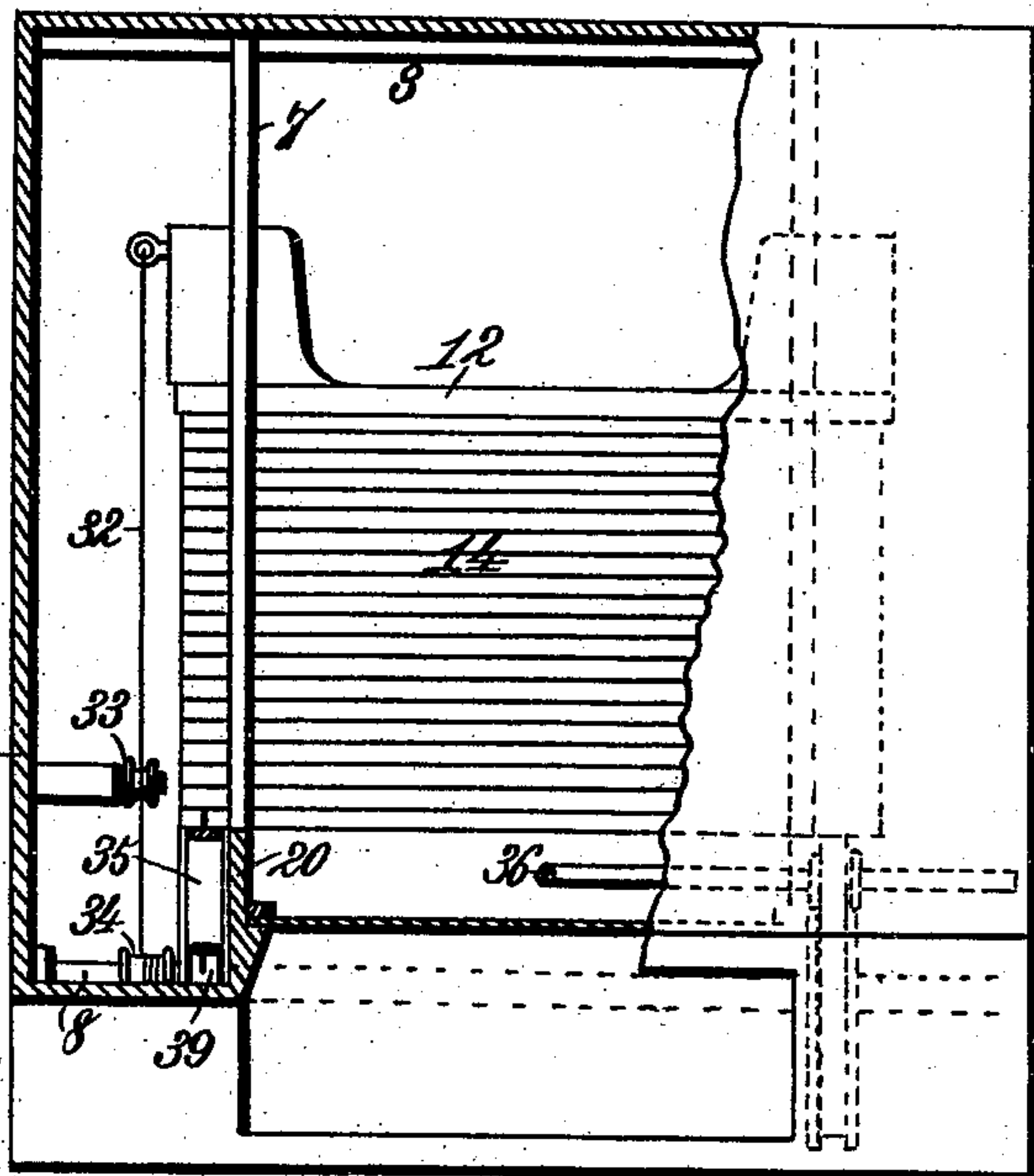


Fig. 6.



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UNITED STATES PATENT OFFICE.

LISLE B. CALDWELL, OF JOHNSON CITY, TENNESSEE.

STATION-INDICATOR.

SPECIFICATION forming part of Letters Patent No. 599,829, dated March 1, 1898.

Application filed April 19, 1897. Serial No. 632,838. (No model.)

To all whom it may concern:

Be it known that I, LISLE B. CALDWELL, a citizen of the United States, residing at Johnson City, in the county of Washington and State of Tennessee, have invented new and useful Improvements in Station-Indicators, of which the following is a specification.

My invention relates to improvements in station or street indicators for cars; and the object thereof is to provide a street or station indicator of novel construction and operation and which is simple, economical, and accurate in operation.

To these ends the invention consists in the new combination, construction, and arrangement of parts hereinafter described and claimed, reference being made to the accompanying drawings, in which—

Figure 1 is a vertical section of a street or station indicator constructed in accordance with my invention. Fig. 2 is a front plan view, partly in section. Fig. 3 is a perspective view of the card-tray. Fig. 4 is a detail view of one of the street or station indicator cards. Fig. 5 is a vertical section of a different form of my invention. Fig. 6 is a plan partly in section thereof. Figs. 7 and 8 are views of details.

My improved street or station indicator is conveniently arranged within the usual toilet-room at the end of a steam-railway car or in a suitable boxing or casing which may be secured in any convenient way or position in a street-railway car. In the drawings this casing or boxing, consisting of the toilet-room or other housing, as stated above, is represented by the reference-numeral 1 and is provided with a window or sight-opening 2, through which the street or station indicating cards may constantly be seen by the passengers. Within the casing 1 is arranged a tray 3, terminating at its front end a slight distance from the front wall 4 of the boxing or casing, a space being left between said wall and the end of the tray for the purpose hereinafter described, whereby the casing or boxing is divided into upper and lower compartments communicating at their front ends. The bottom of said tray is provided with a pair of rails or a trackway 6, upon which the street or station indicating cards travel in the operation of the device, and at the top said tray

is provided with a similar pair of rails or a trackway 7, which bear upon the top edges of the street or station indicating cards. The function of these rails or trackways is to guide the street or station indicating cards in their movement, retain them in proper position, and to minimize friction in the movement of the cards.

The numeral 8 indicates a shaft journaled to rotate in suitable bearings 9, supported by the wall of the casing. Upon this shaft is mounted two rollers or reels 10, arranged a distance apart substantially equal to the width of the tray 3. To each of these rollers or reels 10 is secured one end of a belt or tape 11, the other ends of which are secured to a follower 12, moving in the tray 3. Intermediate their ends said belts or bands 11 are provided with a series of holes or eyes 13, which for strength may be stayed with metal similar to the usual eyelet. These eyes or eyelets are arranged a distance apart on the belts or bands equal to the width of one of the street or station indicating cards.

It is now convenient to describe the construction of one of the street or station indicating cards, of which all have the same construction. The numeral 14 indicates one of these cards, on the front face of which is printed or otherwise suitably inscribed the name of a street or station, it being understood, of course, that a series of these cards are provided corresponding to the number and bearing the names of the several streets or stations at which the car stops during the trip. Each card is provided at its bottom edge with a pair of recesses 15, which take upon the rails or tracks 6, whereby the cards are caused to move accurately in the tray 3. At the back of each card, near the bottom and near each end, is secured a pin 16. The cards are arranged, as shown in the drawings, in the tray in front of the follower 12, the recesses 15 engaging the track or rails 6 and the pins engaging the eyelets 13 in the bands or belts 11, the material of the latter between the eyelets folding up between adjacent or contiguous cards. The follower is forced forward by a pair, preferably, of springs 17, the action of said springs moving said follower and the street or station indicating cards forward intermittingly as the front

card is withdrawn, as hereinafter described.

A set-screw 18 passes through the rear wall of the casing 1 and engages a movable plate 19, against which the ends of the springs 17
5 bear in order that the tension of said springs may be regulated. At the front of the tray 3 pressure-bars 20 are arranged, against which the cards are caused to bear with sufficient force to prevent the front card falling
10 through the passage or space 5 until the mechanism hereinafter described is positively actuated to carry said card through the passage or space 5 into the lower compartment.

The mechanism for intermittently moving
15 the device to cause a card to disappear from the window or sight-opening 2 and permit the springs and follower to present a new card consists of a cylinder 21, supported on a framework 22, arranged on the floor of the casing
20 1, said cylinder being provided with a piston 23, the rod 24 of which is connected at its upper end with one end of a pawl 25, pivoted to the front wall of the casing, the nose of which pawl engages and rotates a ratchet-
25 wheel 26, carried by the shaft 8. A dog 27 is arranged to cooperate with said ratchet-wheel and hold it in position to which it is rotated by the dog.

It may be found desirable to sound an
30 alarm when a street or station card is exposed to view to attract the attention of passengers thereto, and therefore I arrange a gong 28 in juxtaposition to the pawl 25 to be struck thereby and sounded when the pawl
35 is actuated by the piston 23.

The numeral 29 indicates a pipe or tube connecting with the cylinder for conducting air, or steam, or liquid thereto to actuate the piston. Said piston is returned to normal
40 position by the spring 30, arranged in the cylinder and cooperating therewith.

The piston may be actuated by air, steam, or liquid pressure at each station or street by the engineer or other operator thereof by
45 suitable connections to the pipe or tube 29; but as such connections form no part of the present invention they are not shown or described herein.

It is convenient also to provide means by
50 which the device may in case of necessity be operated by hand, and to enable this to be done I provide a pull rope or cord 31, one end of which is connected with the pawl and the handle end of which is located outside of the
55 casing within the reach of an operator. The action of the apparatus when the pull rope or cord is operated is precisely the same as when the piston is actuated.

It will be understood that when the piston
60 is forced upward in the cylinder the pawl is operated to strike the gong and rotate the shaft 8, and consequently the rollers or reels 10, mounted thereon. Thus the bands or belts 11 are wound upon said rollers or reels, during
65 which operation the consecutive cards are carried by the interengaged pins and eyelets 16 and 13 from the tray through the space

5, guiding the cards in their movement and releasing them in the lower compartment, so that they fall in consecutive order and in
70 proper position to be gathered up *en masse* and placed in the tray for the return trip of the car, the follower 12, under the action of the spring 17, forcing a new card into position in front of the window or sight-opening.
75 At the end of the trip the cards are gathered up and properly arranged in the tray for use on the return trip.

In Fig. 5 of the drawings I have illustrated a different arrangement for withdrawing the
80 cards from the tray consecutively and bringing a new card into position to be seen by the passenger, and this I will now describe. The parts shown in this arrangement are the same as those above described, except as will now
85 be particularly set forth. Instead of the springs 17 for moving follower 12 and the cards 14, I provide cords or tapes 32, one end of each of which is secured to the follower 12 and which pass over friction-rolls 33, ar-
90 ranged at the front end of the tray 3, their opposite ends being secured to reels or rolls 34, fixedly mounted on the shaft 8. I also substitute for the eyeleted belts or bands 11
95 and the pins upon the indicating-cards mechanism for withdrawing the cards from the tray, arranged as follows: Upon the shaft 8 are mounted a pair of sprocket-wheels 35,
adjacent the rolls or reels 34. A shaft 36 is mounted in bearings 37 above the tray 3, and
100 upon this shaft are mounted a pair of pulleys 38. Over the said pulleys 38 and the sprocket-wheels 35 are trained a pair of endless sprocket-chains 39, provided at intervals
105 corresponding in distance apart to the width of the indicating-cards with hooks or fingers 40, which when the shaft 8 and the sprocket-wheels 35 are rotated by the mechanism here-
110 inbefore described with reference to Fig. 1 successively engage consecutive indicating-cards, remove them from the tray, and drop them into the casing, as will be readily understood by reference to the drawings. The
115 bearings 37 on the upper shaft 36 are provided with springs acting upon the shaft to place a uniform tension upon the sprocket-chains 35. It will be understood, of course, that instead of the sprocket-wheel 35 and the
120 endless sprocket-chain 39 a pulley and an endless belt may be substituted, being mechanically the equivalent of the sprocket wheel and chain.

By my invention I provide a street or station indicator which is of novel and simple construction and which is economical, cer-
125 tain, and accurate in operation.

I prefer to provide a box, tray, or other receptacle 41, as shown in the drawings, to receive the street or station indicating cards when they are withdrawn from the tray 3, so
130 that they will be received in said tray in consecutive order and at the end of the trip may be taken in bulk from the tray and placed back in the delivery-tray 3, the cards being

properly marked on both sides with the names of the streets or stations.

Having thus described my invention, what I claim is—

5 1. In a station-indicator the combination with a casing, a tray arranged therein and dividing the same into upper and lower compartments communicating by a passage at their front ends, a series of street or station
10 indicating cards arranged in said tray, a follower, and means for operating said follower to move the cards successively to the front of said tray, of a shaft arranged beneath said tray, means for intermittingly rotating said
15 shaft, and a belt operatively connected to said shaft and provided with devices to engage and positively withdraw the street or station indicating cards successively from the tray when the shaft is rotated and carry and guide
20 them through the communicating passage into the lower compartment of the casing where the cards are released and fall to the bottom of the casing in consecutive order and in position to be inserted *en masse* in the tray
25 for the return trip, substantially as described.

2. In a station-indicator the combination with a casing, a tray arranged therein and dividing the same into upper and lower compartments communicating by a passage at
30 their front ends, a series of street or station indicating cards arranged in said tray, a follower, and means for operating said follower to move the cards successively to the front of said tray, of a shaft arranged beneath said
35 tray, a cylinder and piston, mechanism connecting said piston with said shaft for rotating the shaft intermittingly, and a belt operatively connected to said shaft and provided with devices to engage and positively with-
40 draw the street or station indicating cards successively from the tray when the shaft is

rotated and carry and guide them through the communicating passage into the lower compartment of the casing where they are released and fall into consecutive order in po- 45
sition to be inserted *en masse* in the tray for the return trip, substantially as described.

3. In a station-indicator the combination with a casing, a tray arranged therein and dividing the same into upper and lower com- 50
partments communicating by passage at their front ends, a series of street or station indicating cards arranged in said tray and provided each with a projecting pin, of a follower for moving said cards successively to the front 55
of the tray, a shaft arranged beneath the tray, means for rotating said shaft, and a belt one end of which is secured to said shaft and the free end of which is provided with a series of eyes for engaging the pins on the cards for 60
positively withdrawing said cards from the tray, substantially as described.

4. In a street or station indicator, the combination with a tray and a series of street or station indicating cards arranged therein, of 65
a follower, a shaft and means for rotating the same, a connection between said shaft and said follower for operating the latter to move the cards to the front of the tray, a shaft ar-
70 ranged above said tray and an endless belt provided with card-engaging fingers trained over said shafts and operated by the first-named shaft to withdraw said indicating-cards from the tray, substantially as de-
75 scribed.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

LISLE B. CALDWELL.

Witnesses:

J. C. CAMPBELL,
FOY W. DULANEY.