

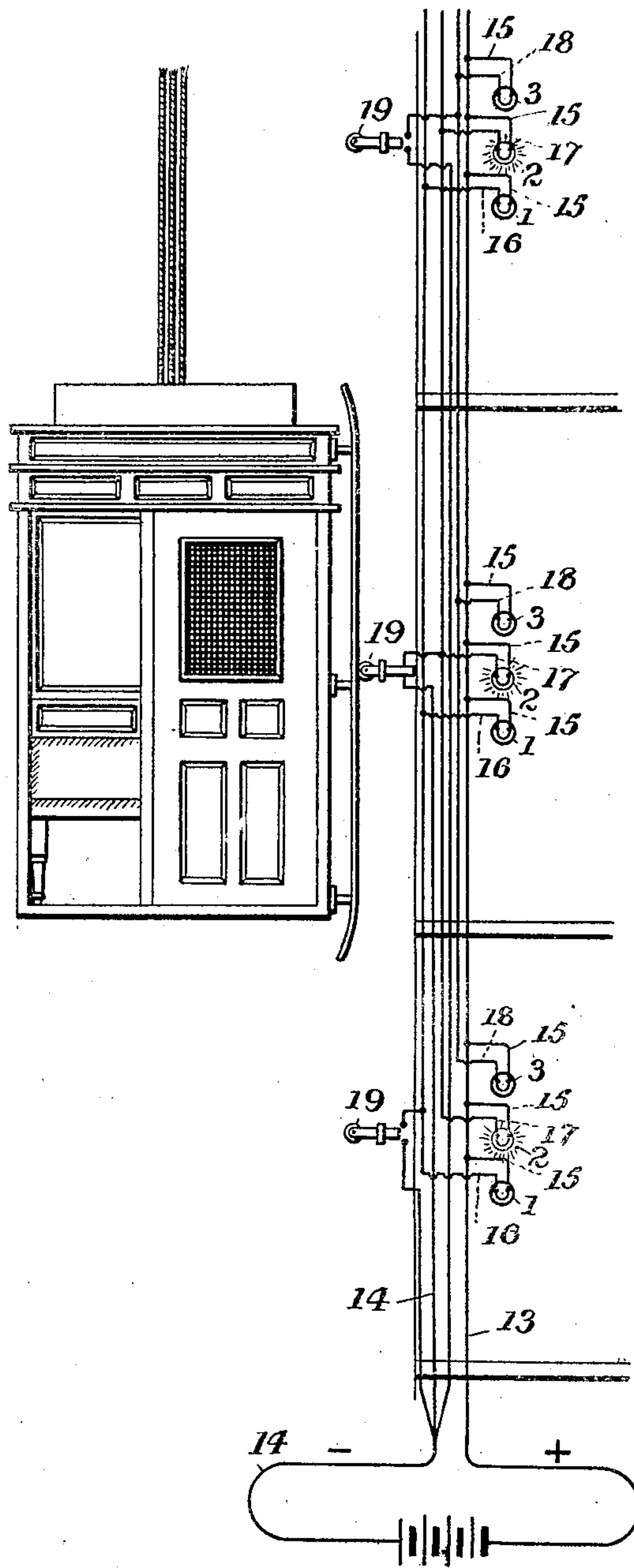
J. D. GRIFFEN.
ELEVATOR INDICATOR.
APPLICATION FILED MAR. 22, 1897.

911,303.

Patented Feb. 2, 1909.

3 SHEETS—SHEET 1.

Fig. 1



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3 SHEETS—SHEET 2.

Fig. 2.

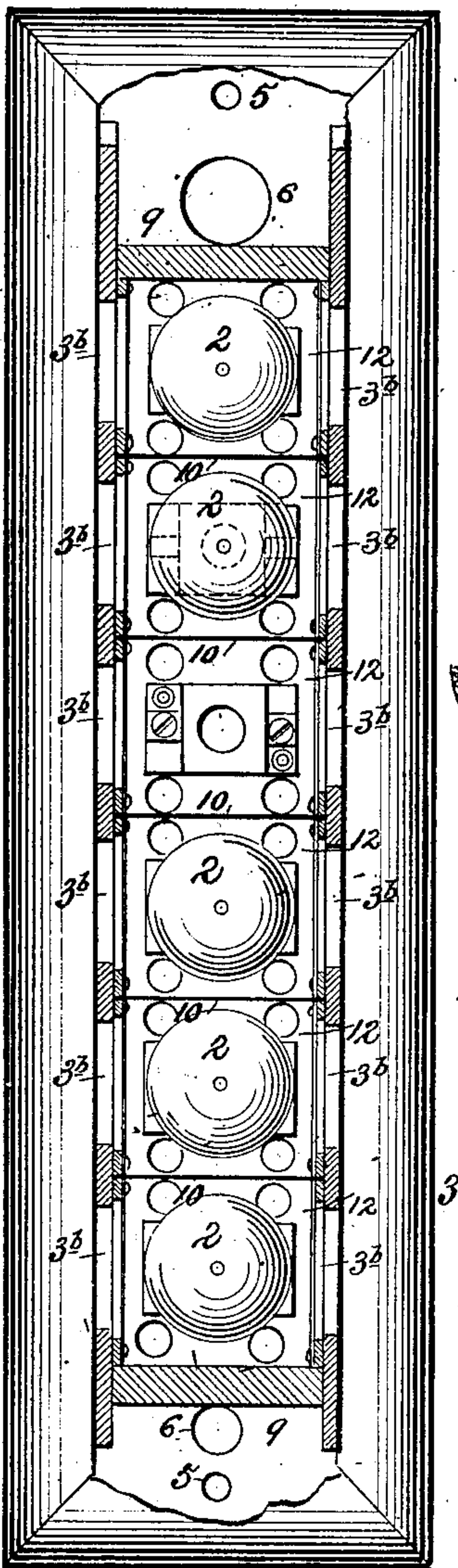


Fig. 3.

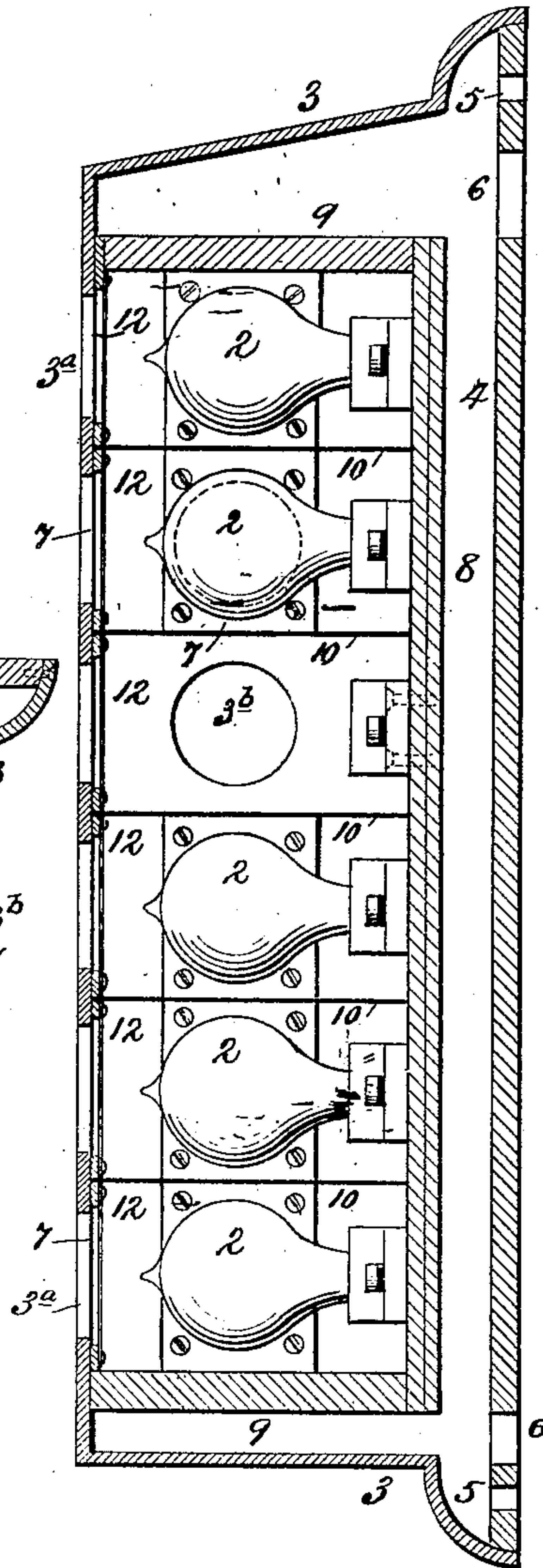
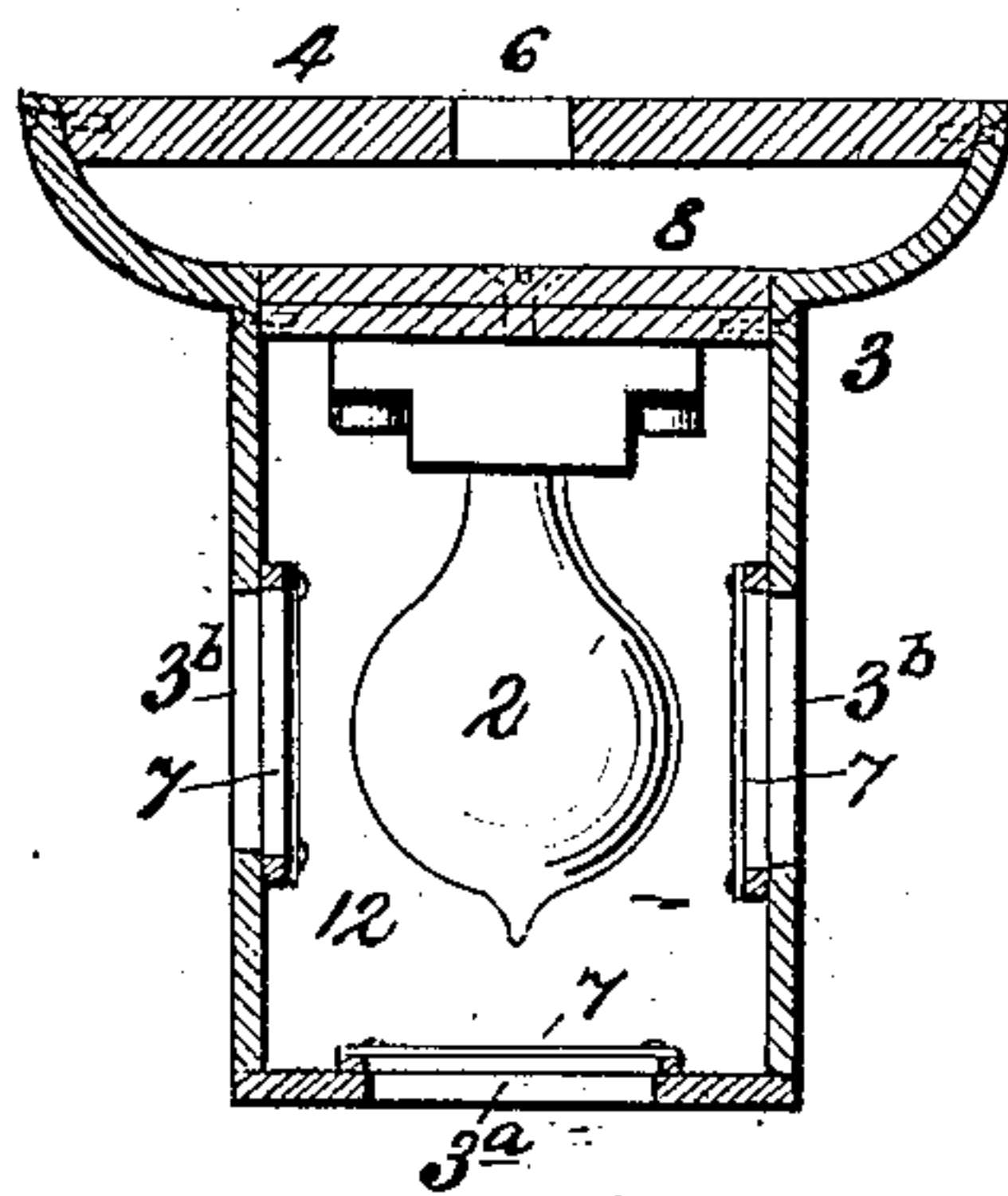


Fig. 4.



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3 SHEETS—SHEET 3.

Fig. 5.

Fig. 6.

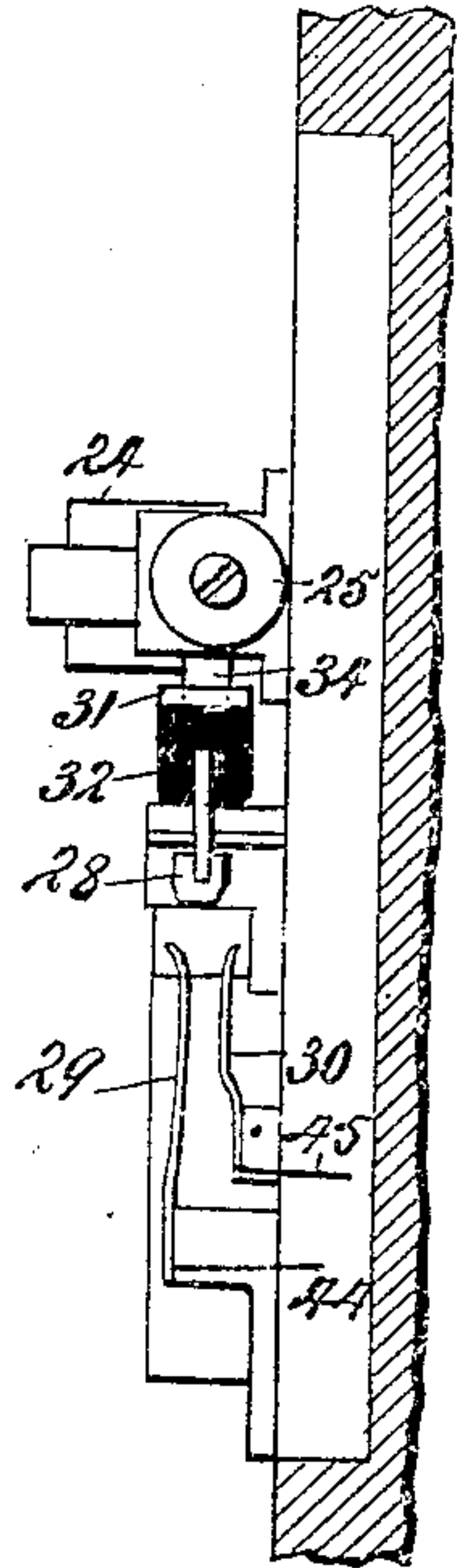
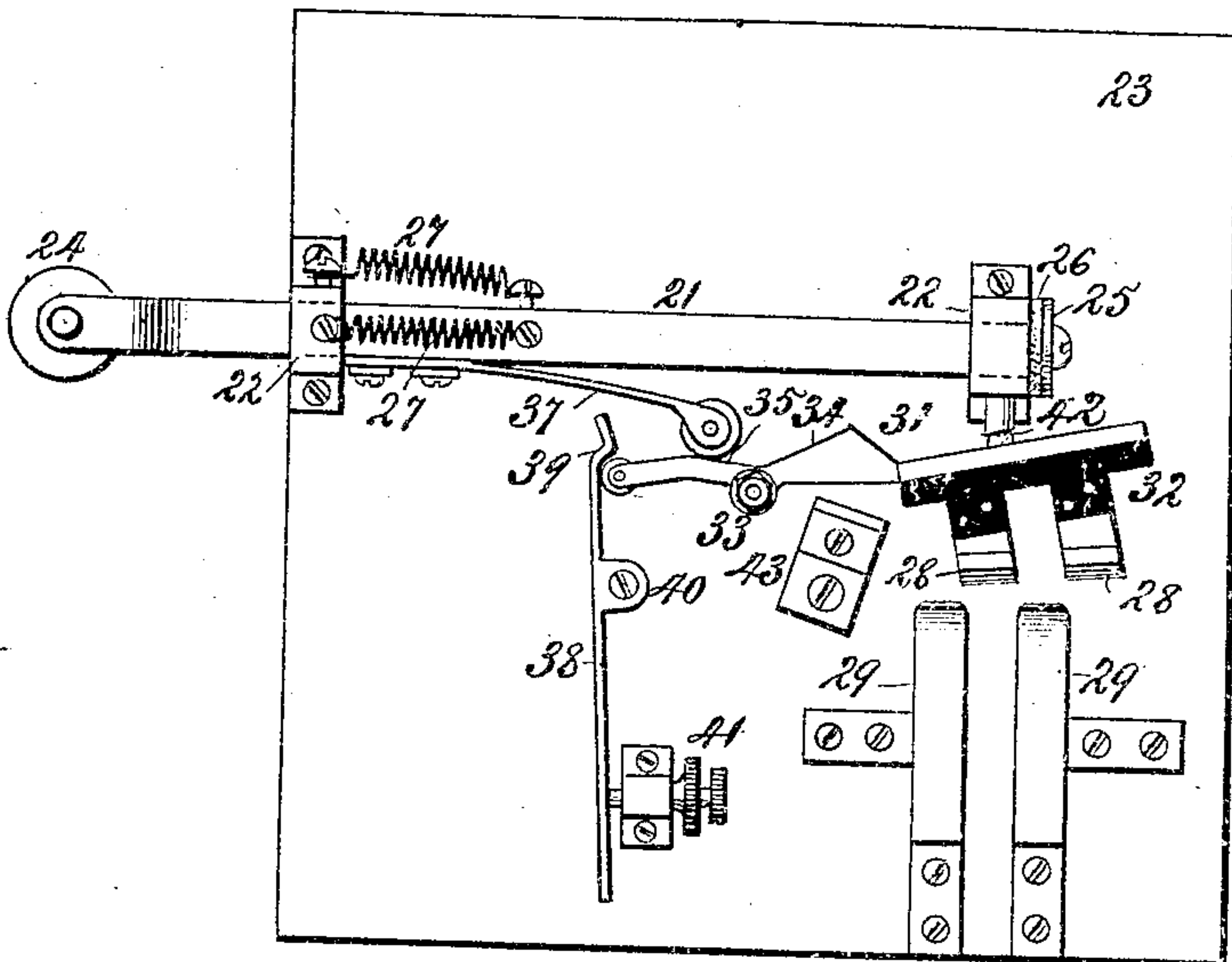


Fig. 7.

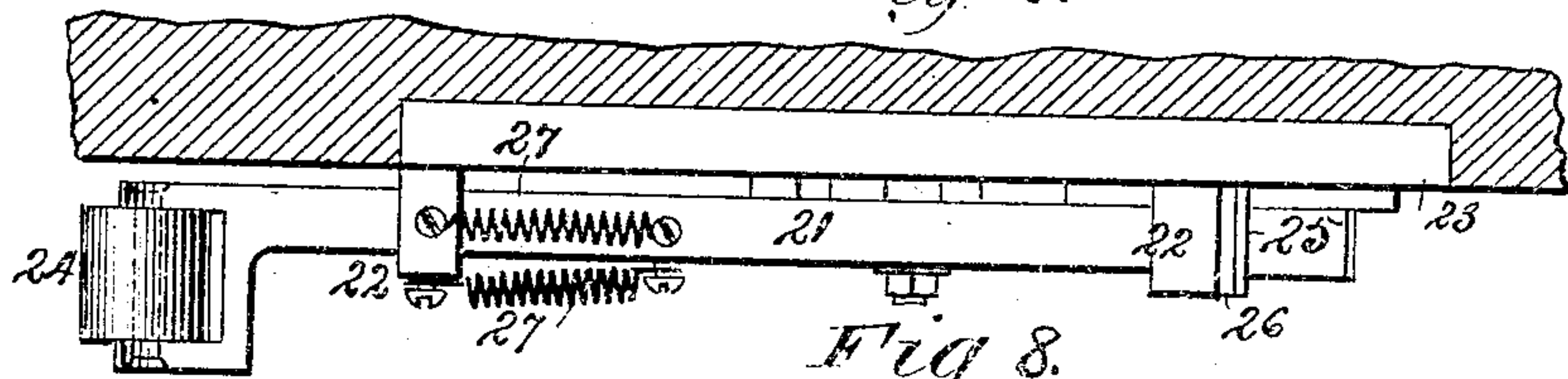
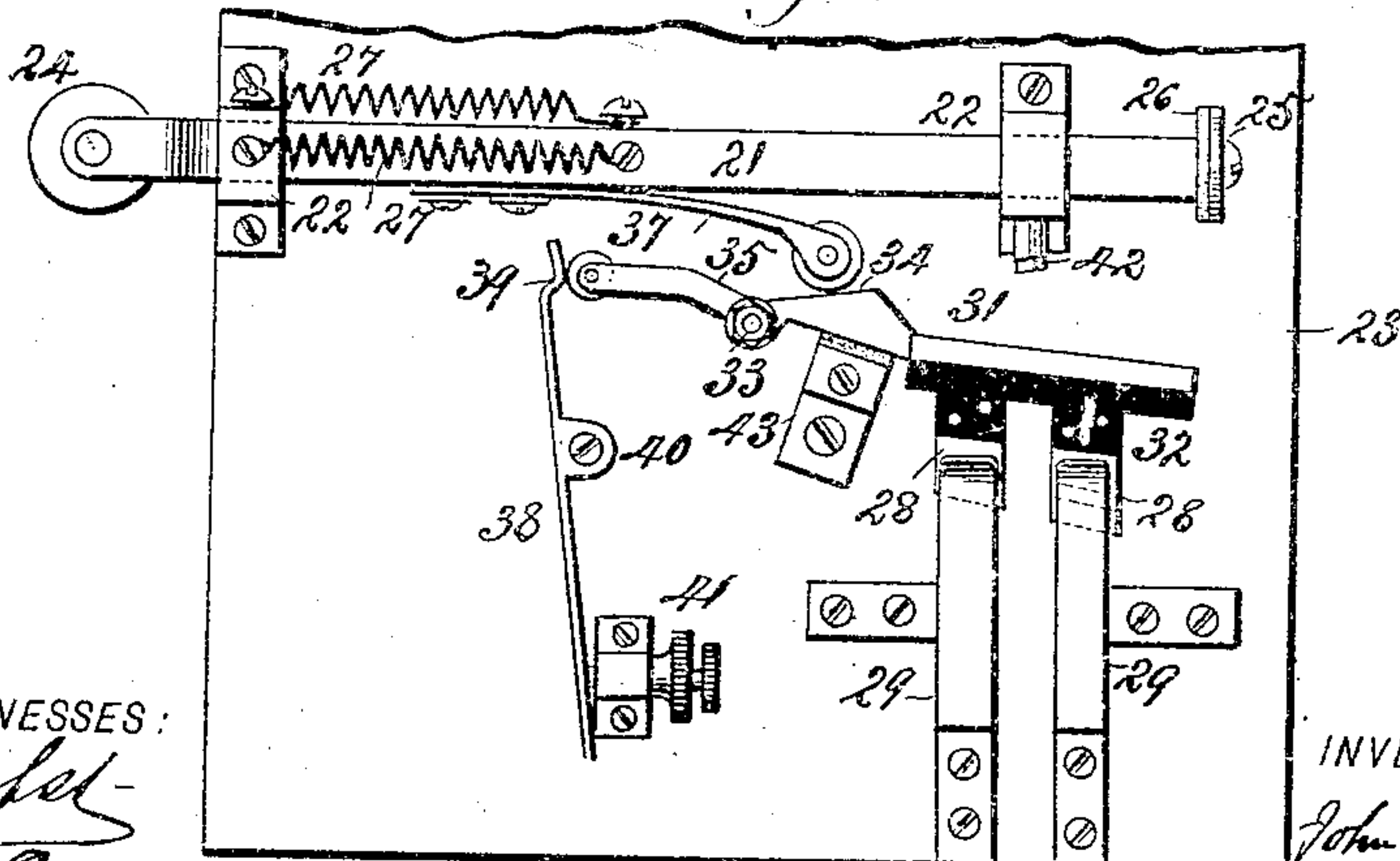


Fig. 8.



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UNITED STATES PATENT OFFICE.

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ELEVATOR-INDICATOR.

No. 911,303.

Specification of Letters Patent.

Patented Feb. 2, 1909.

Application filed March 22, 1897. Serial No. 628,791.

To all whom it may concern:

Be it known that I, JOHN D. GRIFFEN, a citizen of the United States, and a resident of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Elevator-Indicators, of which the following is a specification.

This invention relates to floor indicators for elevators, and the invention consists of an indicator for this purpose constructed to simultaneously indicate at each hall or floor of the building and by means of electric lights, the location and the progress up or down of the elevator car or cage.

The invention also consists in the special construction of the electric circuit closer or switch employed and the means for operating the same or any proper type of switch for illuminating the lamps, and the invention also consists in the construction of the exposed portions of the indicators.

The invention also consists in the construction, arrangement and combination of parts all as hereinafter described and claimed.

In the accompanying drawings to which reference is made and which form a part of this specification—Figure 1 shows in diagram the arrangement and method of operation of my new elevator indicators and also the electric circuits. Fig. 2 is an enlarged sectional front elevation of one of the indicators constructed for a six story building. Fig. 3 is a sectional side elevation of the same. Fig. 4 is a transverse sectional plan view of the same. Fig. 5 is an enlarged front view of the electric switch or circuit breaker showing the circuit broken. Fig. 6 is a sectional end elevation of the same. Fig. 7 is a sectional plan view of the same; and Fig. 8 is a front elevation showing the circuit closed.

In the drawings 2, 2, represent a series or group of electric lights, each series comprising as many individual lamps as there are stories in the building, and one of these series or groups of lamps is to be located in each hall of the building near the elevator entrance or in convenient view of persons desiring to take the elevator. The said groups of electric lamps are held by a transparency supported primarily by a back plate 4 which may be secured to the wall or other suitable support by screws or bolts passed through the apertures 5, 5. The apertures 6, 6 in

said back plate 4 are for the passage of the electric wires to and from the electric lamps.

A front casing 3, by preference of metal, is secured to the base plate 4 and is provided with a series of front apertures 3^a one for each lamp and with as many side apertures 3^b in the side walls. These said apertures are closed by panes of glass 7—preferably ground glass—on which numbers appear in series from the bottom upward corresponding to the stories of the building. The lamps 2 are mounted upon an intermediate plate 8, provided with top and bottom pieces 9, 9, which close in the upper and lower side of the outer pair of lamps in the series.

10, 10 are horizontal partitions of wood, metal or other non-transparent substance so that the light of each lamp is confined to its own separate compartment 12 and illuminates only the transparent panes 7 in its own compartment.

The electric lamps are connected in multiple-arc to a main circuit comprising a plus wire 13 and as many return wires 14 as there are lamps in each bank or group of lamps. Each lamp in the system is connected by a wire 15 with the plus wire 13 and the lamps in each group which indicate the separate stories in the building are connected to one of the return wires 14 each by a wire say 16 for the first story lamps, 17 for the second story lamps, 18 for the third story lamps and so on so that when, by means of the switch 19 operated by the car, any particular circuit is closed say circuit 13, 14 and 17 at the second story through the switch at that story, the lamp in each group corresponding to that story will glow as clearly indicated in Fig. 1.

It will be seen that there is combined with the series of groups of indicators, which may be lamps or other indicators, and with the main wires of the circuit, a switch device at each floor, and that the branch connections are so made between the different wires that each group of indicators indicating the same floor completes its circuit through the switch at that floor when that switch is closed and that therefore the closing of this switch will cause the illumination throughout the whole series of indicators corresponding to the floor at which the switch is closed.

The switch or circuit closer at each story is preferably constructed as shown in Figs. 5, 6, 7 and 8 next to be described with its connections and is operated to make and break

the circuit by means of a cam 20 secured to the body of the elevator cage or car the circuit being closed during the progress of the car past each circuit closer and open at all other times.

The switch or circuit closer comprises a sliding bar 21 mounted to slide in bearings 22, 22 and held by a frame or back plate 23 to take the thrust of the cam 20 on the car. Its outer end is by preference provided with an anti-friction roller 24 while its inner end is provided with a limit or stop flange 25 faced with a cushion 26 to obviate noisy contact with the adjacent bearing 22. The bar 21 is normally held thrust out into the path of the cam 20 by one or more springs 27 preferably two. When in this position the contacts 28, 28, preferably two, are swung out of contact with the stationary terminals or contact plates 29, 30 as shown clearly in Fig. 5. The inward thrust of the bar 21 by the cam 20 closes the contact points into contact with and between the terminals 29, 30 as shown clearly in Fig. 8.

In order to obviate sparking a sudden action of the contact points 28 is desirable. This I accomplish by a peculiarly constructed lever 31 to which the said contact points are fastened by a piece of hard india-rubber or other suitable insulating material 32. The said lever 31 is pivoted at 33 and between this pivot and the insulation the said lever is formed with an incline or cam 34. On the opposite side of the pivot 33 the lever is formed with another incline 35. These two inclines 34, 35 are operated upon by an arm 37 attached to the bar 21 so that when the said bar is thrust inward the arm 37 will strike the incline 34 and force that end of the lever suddenly downward and make the contact as shown in Fig. 8. And when the bar 21 is returned by the springs 27 the said arm 37 will act on the incline 35 and elevate the opposite end of the lever and break the contact as shown in Fig. 5.

To augment the sudden upward movement of the lever and contact points, I employ a spring 38 which is bent to form a cam 39 which is so arranged that a slight downward movement of the lever will carry the

end of the lever against the slope of the cam whereupon the spring and cam will act to lift the opposite end of the lever so suddenly that sparking between the contact points and terminals is practically obviated.

The spring 38 is pivoted at 40 and its lower end rests against an adjusting screw 41 by which the pressure or tension of the spring may be regulated.

The upward movement of the lever 31 is limited by a stop 42 and its downward movement is limited by another stop 43.

The terminals 29 and 30 are suitably connected to the wires 16, 17, 18, and 14 according to the location of the parts in the shaft of the elevator.

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

1. An elevator indicator comprising several groups of electric lamps located one in each story of the building, an electric switch or circuit closer for each group of lamps, a cam on the elevator car for operating the said switches or circuit closers, and electric circuits each including one of the circuit breakers and one lamp in each group of lamps, substantially as described.

2. In an elevator indicator, the combination with a series of switches and a series of groups of indicators at different floors of main circuit wires, and branches arranged to complete the circuit of each group of indicators indicating the same floor through the switch at that floor, and means for operating the switch to complete the circuit upon the approach of a car.

3. In an elevator indicator, the combination with a series of switches and a series of groups of indicators at different floors, of main circuit wires, and branches arranged to complete the circuit of each group of indicators indicating the same floor, through the switch at that floor, and means for operating the switch to complete the circuit upon the approach of a car.

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