M. TAIGMAN.

STARTING BOX.

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1,155,290.

Patented Sept. 28, 1915.

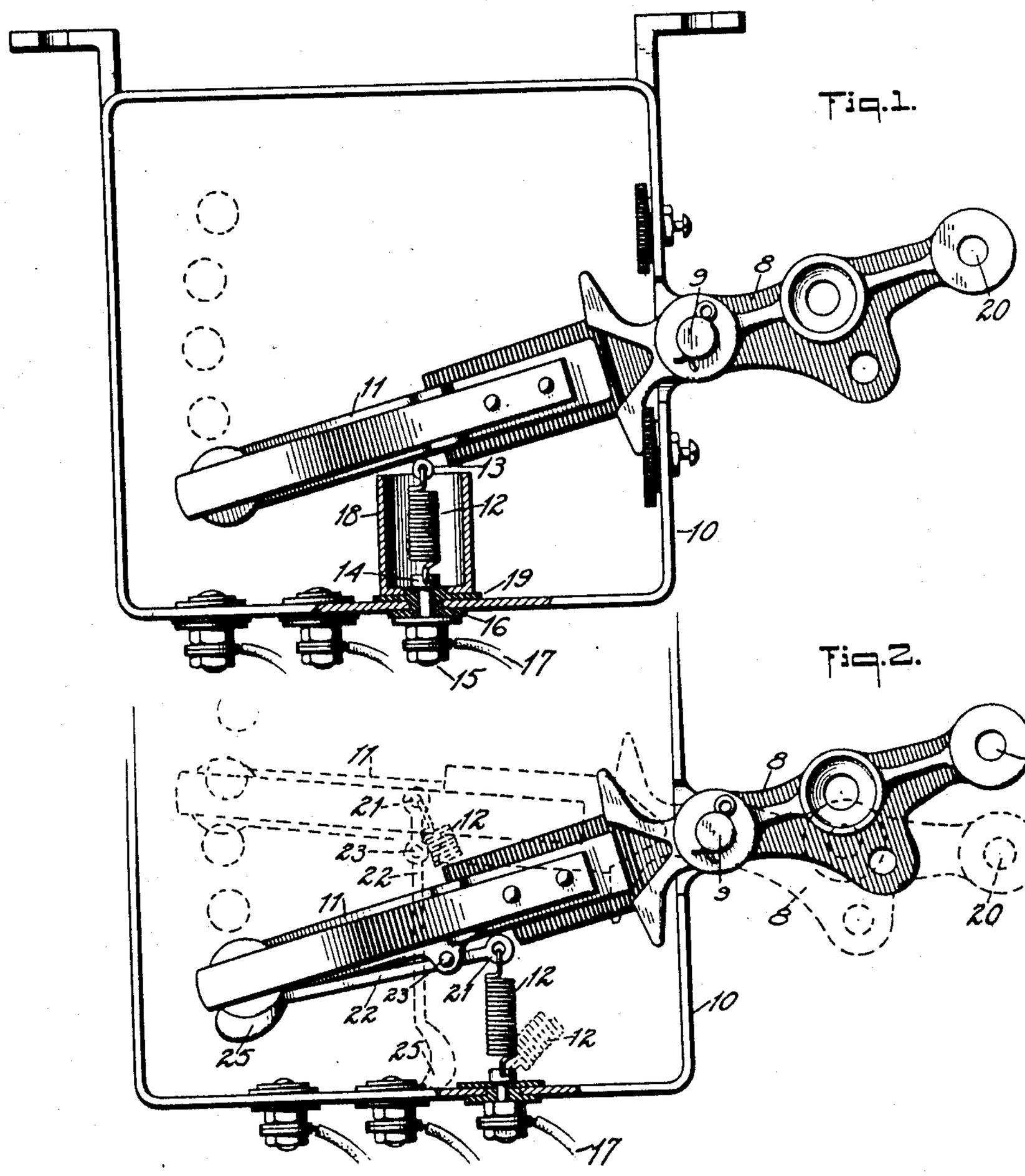

Fig. 1.

Fig. 2.

Fig. 3.

WITNESSES

INVENTOR

Max Taigman

BY Munn & Co.

ATTORNEYS

UNITED STATES PATENT OFFICE.

MAX TAIGMAN, OF NEW YORK, N. Y.

STARTING-BOX.

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Application filed July 6, 1914. Serial No. 849,178.

To all whom it may concern:

Be it known that I, MAX TAIGMAN, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Starting-Box, of which the following is a full, clear, and exact description.

Among the principal objects which the present invention has in view are: To provide means for discontinuing the electric-current supply to a box of the character mentioned when the retracting spring becomes broken; to provide means for preventing the fragment end of a retracting spring from energizing the structural parts of the box; and to provide means for preventing movement of the switch lever of the starting box after the breakage of the retracting spring.

Drawings:—Figure 1 is a top plan view of a starting box constructed and arranged in accordance with the present invention, the top cover of the box being omitted, and a portion of the structure being cut away to show the interior construction of a portion thereof; Fig. 2 is a similar view of a fragment of the box, showing a modified form of the invention and the means for securing the retracting spring, the dotted lines being used in this figure to show the position assumed by the switch lever when the retracting spring is broken; Fig. 3 is a side view of a switch lever constructed and arranged in accordance with the present invention, showing a prop therefor arranged as per the modified form shown in Fig. 2.

Description:—As shown in the drawings, the switch lever 8 is pivotally mounted by means of a pin 9 on the containing-box frame 10. Current is supplied to the extension 11 of the lever 8 through a coil spring 12, which spring is anchored by an eyelet 13 to said extension 11, and to a flanged head 14 of a binding post 15. The binding post 15 passes through an insulating washer 16, and is electrically connected with an electric current supply main 17. Surrounding the spring 12 is a metal cup 18, which is held by the head 14 of the post 15. Between the body of the frame 10 and the bottom of the cup 18 is an insulating pad 19. By reason of this construction, the cup 18 is held firmly in position, and is completely insulated from the frame 10. When thus constructed, the lever 8 is to all intents and purposes operated in the same manner as is usual with boxes of conventional type. Should, however, the coil spring 12 be broken, the weight of the treadle or other operating device which is connected at the eyeleted end 20 of the lever 8, carries the same to the position as shown in dotted lines in Fig. 2 of the drawings. The live end or fragment of the spring 12, being unsupported, might in this condition fall upon, and form an electrical connection with the frame 10, or energized part of the box, such as the resistance coil, and thereby injure an attendant or the standing structure on which the box is mounted, or damage the interior construction of the box. It is to prevent this that the cup 18 is provided. It is obvious that with such an installation as the cup 18 surrounding the coil spring 12, when said spring parts, the vitalized or energized fragment will be drawn into the cup and thereby prevented from contacting with either the frame 10 or the energized parts above referred to.

In Figs. 2 and 3 of the drawings, a modified form of the invention is disclosed. The modification consists in anchoring the spring 12 to the eyeleted end 21 of a strut 22. The strut 22 is pivotally mounted by the pin 23 on the extension 11 of the lever 8. The pin 23 is elongated to accommodate the hub 24 of the strut 22, it being the purpose of the construction to swing the strut 21 below the lever 8, so as to avoid contact therewith, the extension 11 and parts connected therewith being electrically charged. The strut 22 has a weighted end 25, which normally rests against the collared end of the extension 11, which collared end forms a stop to regulate the working position of said strut. When thus equipped, the lever 8 is supported in the position shown by the dotted lines in Fig. 2 of the drawings, the strut 22 falling to the upright position shown in said Fig. 2 on the parting or separation of the spring 12. This is the natural position assumed when the spring parts, as the force being exerted to expand the spring carries the lever 8 to the extremity of its lift within the box. The interposition of the strut 22 prevents the consequent lowering of the end of the lever carrying the extension 11, and thereby avoids any possibility of the fragment of the spring 12 adhering to the eyelet 21, coming in contact with the fragment of spring anchored in the head 14. It also prevents the

mischievous or idle rocking of the lever 8 after an accident such as described.

Claims:

1. A starting box, comprising a rocking switch lever; an electric current supply; a metal coiled spring electrically connecting said supply and said lever, said spring operating to normally retract said lever to its off position; and means for supporting said spring to prevent the same from falling in the event of its parting.

2. A starting box, comprising a rocking switch lever; an electric current supply; a metal coiled spring electrically connecting said supply and said lever, said spring operating to normally retract said lever to its off position; and a tubular inclosure for said spring to confine the same in the event of its parting.

3. A starting box, comprising a rocking switch lever; an electric current supply; a metal coiled spring electrically connecting said supply and said lever, said spring operating to normally retract said lever to its off position; a metal cup permanently surrounding said spring to confine the same when broken; and means for insulating said cup from the surrounding members of said box.

4. A starting box, comprising a rocking switch lever; an electric current supply; a metal coiled spring electrically connecting said supply and said lever, said spring operating to normally retract said lever to its off position; means for supporting said spring to prevent the same from falling in the event of its parting; and means for locking said lever in fixed position consequent upon the breaking of said spring.

5. A starting box, comprising a rocking switch lever; an electric current supply; a metal coiled spring electrically connecting said supply and said lever, said spring operating to normally retract said lever to its off position; means for supporting said spring to prevent the same from falling in the event of its parting; and means for locking said lever in its raised position in said box consequent upon the breaking of said spring, to prevent the approximation of the broken fragments of said spring.

6. A starting box, comprising a rocking switch lever; an electric current supply; a metal coiled spring electrically connecting said supply and said lever, said spring operating to normally retract said lever to its off position; means for supporting said spring to prevent the same from falling in the event of its parting; and a strut pivotally mounted on said lever, adapted for engagement to support the end of said lever within said box, said strut having a short end operatively connected with, to form the anchorage of said spring.

7. A starting box, comprising a rocking switch lever; an electric current supply; a metal coiled spring electrically connecting said supply and said lever, said spring operating to normally retract said lever to its off position; means for supporting said spring to prevent the same from falling in the event of its parting; a strut pivotally mounted on said lever, adapted for engagement to support the end of said lever within said box, said strut having a short end operatively connected with, to form the anchorage of said spring; and means mounted on said strut for moving the same into position to support said lever consequent upon the relaxing of said spring.

8. A starting box of the class described comprising a containing box frame; a pivotally mounted switch lever; a binding post carried by the frame; a spring within the frame electrically connecting said lever and said binding post and acting on the lever to move the same into a set position; and means within the box frame for preventing short circuiting in the event of a broken connection between the lever and binding post.

9. A starting box of the class described including in combination, a contact; a movable switch having a terminal designed to be moved relative to said contact to complete the circuit therethrough; a means for conducting the current from the source to said terminal, said means including a spring operatively connected to said switch normally to draw said terminal in one direction into a position inoperative relative to said contact, said switch provided with means for engaging the same to place the terminal under restraint thereby to move the same from its inoperative position, into engagement with the contact against the action of said spring, said combination designed, so that, in the event the spring breaks while the terminal is held in engagement with the contact, the passage of the current to said contact will be intercepted simultaneously with the breaking of the spring.

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

MAX TAIGMAN.

Witnesses:
E. S. MURDOCK,
G. H. EMSLIE.