

(No Model.)

2 Sheets—Sheet 1.

F. STURTEVANT.
SHOPLIFTING DETECTOR.

No. 497,062.

Patented May 9, 1893.

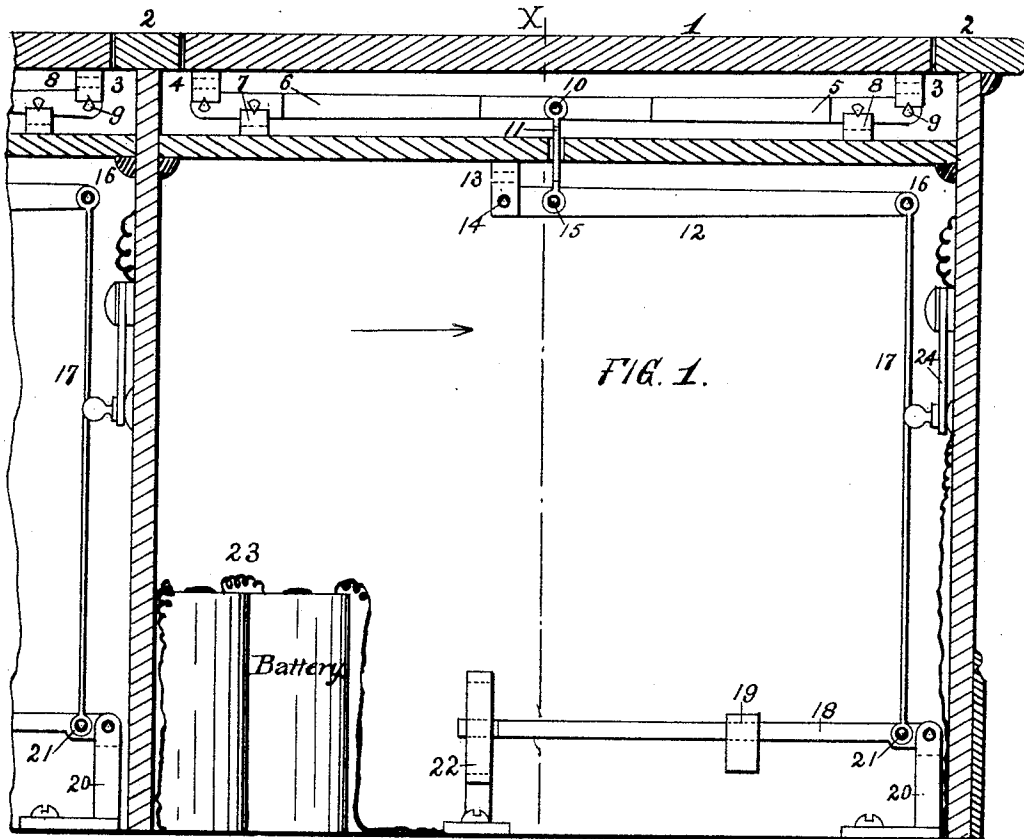


FIG. 2.

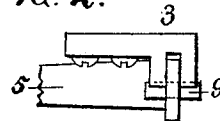


FIG. 3.

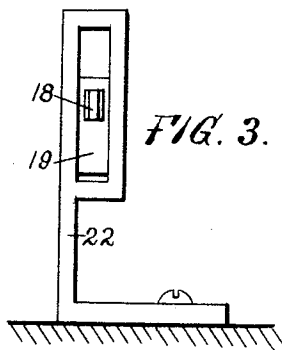
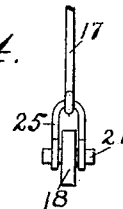


FIG. 4.



WITNESSES:—

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(No Model.)

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FIG. 5.

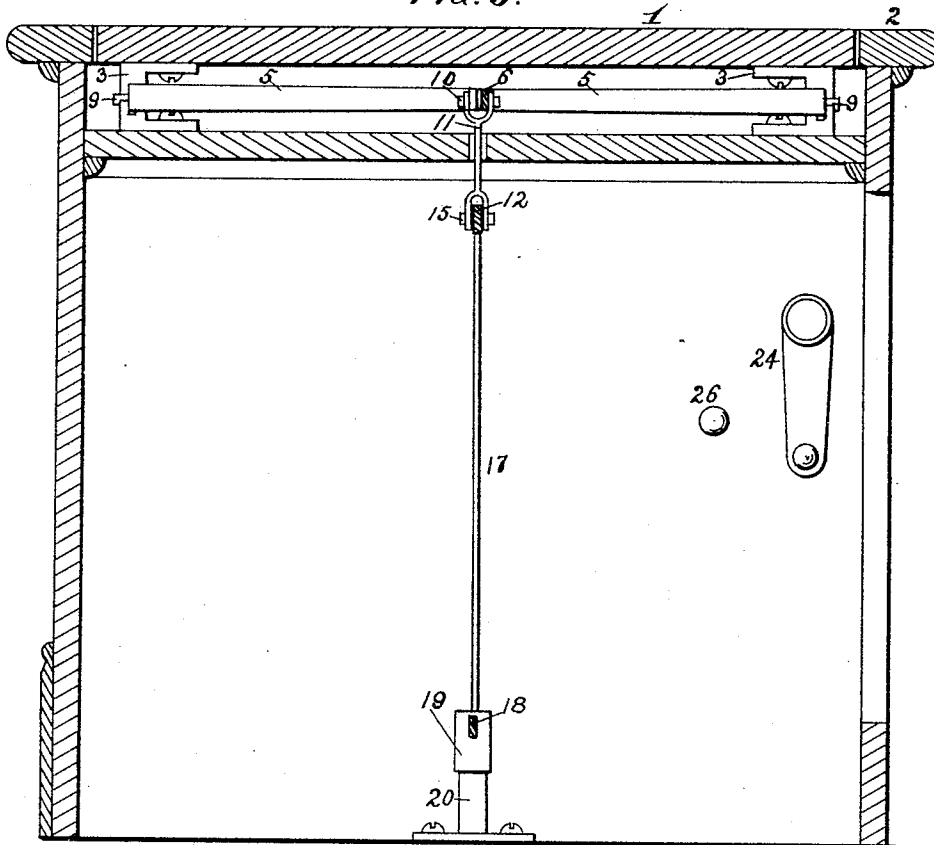
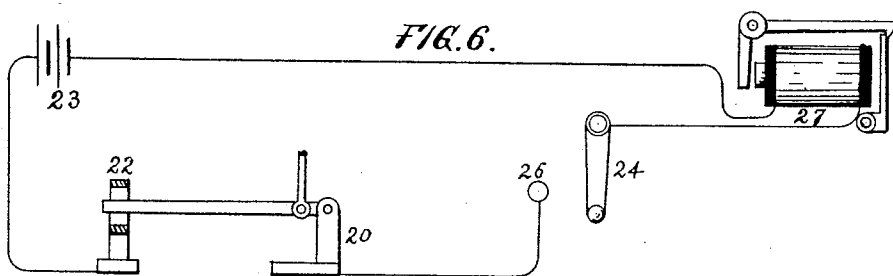


FIG. 6.



WITNESSES:-

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INVENTOR.

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UNITED STATES PATENT OFFICE.

FRED STURTEVANT, OF CHARLESTOWN, MASSACHUSETTS.

SHOPLIFTING-DETECTOR.

SPECIFICATION forming part of Letters Patent No. 497,062, dated May 9, 1893.

Application filed January 17, 1893. Serial No. 458,726. (No model.)

To all whom it may concern:

Be it known that I, FRED STURTEVANT, a citizen of the United States, residing at Charlestown, in the county of Suffolk and State of Massachusetts, have invented a new and useful Shoplifting-Detector, of which the following is a specification.

My invention relates to improvements in shop-lifting detector apparatus in which the top of the counter is made upon the principle of the platform of scales, and whose scale-beam operates to close an electric circuit through an alarm or annunciator or both, and the objects of my invention are first:—to provide a sectional display counter, each section having a movable top-piece set in flush with the top of the frame, fulcrumed and balanced for purposes of operating an alarm or annunciator, when any pressure is applied, or any article taken therefrom in the absence of the attendant;—second: to afford facilities for the proper adjustment of the scale-beam, to compensate for any variation in the weight of the articles displayed;—and third: to provide a means of electrical communication between each section and an annunciator for purposes of locating the particular section operated upon.

Similar marks of reference refer to similar parts throughout the drawings, in which—

Figure 1, is a longitudinal vertical section, looking from the rear of the counter, as will be hereinafter more fully described. Figs. 2, 3 and 4, are enlarged views of details, as will be hereinafter more fully described. Fig. 5, is a vertical section on line *xx*, Fig. 1, looking in direction of arrow, and Fig. 6. is a diagram of the electric circuit as will be hereinafter more fully described.

Referring now to Fig. 1, 1 represents the top of counter, surrounded upon four sides by a guard 2, forming part of frame: In order that the positions of the articles displayed upon the said top-piece, may have no influence on the result, it is necessary that the motion of the said top be as nearly parallel as possible and that each point be guided vertically. To this end I employ the well known principle of platform scales.

The steel bearings 3 and 4, of the top 1, rest upon steel knife-edges, which are attached to the shorter arms of the two levers 5 and 6, as

shown in Fig. 2. These two levers are exactly equal and have the same direction, being horizontal when the top 1, is in a position of equilibrium. If both levers have a slight equal motion the rise and fall at 4, will equal that at 3, and will therefore be the same for all points of the top 1; the points of support describing vertical paths.

To prevent a lateral oscillation of the top 1 the knife edges are either made very long, or preferably in two parts and placed at a considerable distance from each other; the levers 5 and 6, being then fork-shaped and fulcrumed at 7 and 8. That the angle of oscillation of these two levers 5 and 6, may always be the same, a lever 12, fulcrumed at 14 to a suitable post 13, is suspended from the longer arms of the said levers, by a tie-rod 11, terminating at both ends in an eye to engage the steel knife-edges 10 and 15. The scale-beam 18 fulcrumed to its support 20, is similarly suspended from the extreme end of the said lever 12 by a tie-rod 17, engaging knife-edges 16 and 21. This tie-rod may terminate in an eye to engage the knife edges, or in a hook to engage a shackle as shown in Fig. 4.

The scale-beam 18 and its support 20 are made of a suitable metal conductive of electricity, and carries a sliding weight 19, or the said beam and weight may be in the form of a screw and nut respectively. The bracket 22, Fig. 3. is also made of a conductive metal, having an elongated opening to receive the end of the said beam, and designed to limit the oscillations of the said beam and also to afford an electrical contact with it at the slightest disturbance of the equilibrium of the top-piece 1.

One pole of the battery 23, Fig. 6., is connected with one terminal of an electro-magnet 27. of an electric bell or an annunciator, the other terminal of said magnet running to the switch lever 24. The remaining pole of the battery runs to the bracket 22, and the post 20 is electrically joined to the button 26 placed within the radius of the switch lever 24.

The operation of this shop lifting detector apparatus as now described is as follows: Merchandise of various kinds having been placed indiscriminately upon the top-piece 1. The weight 19, is moved along the beam 18 until the said top is in a position of equilibrium as

indicated by the said beam when horizontal, and the switch lever 24 is brought into contact with the button 26. If in this position, the slightest pressure be applied to, or taken from the top as in the lifting of any article displayed, its equilibrium is disturbed. The beam 18, falls, making a contact with the bracket 22, and closing the circuit through the battery to an electro-magnet of an annunciator, releasing a drop and exposing a figure designating by number the section of counter operated upon. Or instead of an annunciator an electric bell or gong may be placed in the circuit under each section of counter. and each section being indicated by a difference of sound in the said gongs.

Having thus fully described my invention, I desire to secure the same by Letters Patent, and therefore claim—

1. In a shop-lifting detector apparatus, the combination of a top piece 1 loosely set in flush with the top of the counter and supported by bearings 3, 4, resting upon knife edges; forked levers 5, 6, supported by bearings 7, 8; a lever 12 fulcrumed to a support and suspended from the said levers 5, 6, by a tie-rod 11; a scale-beam 18, fulcrumed to a post and suspended from the lever 12 by a tie-rod 17; a sliding-weight 19; a "contact-making" bracket 22 having an elongated opening to receive the end of the said beam; a battery 23; a switch 24; and of an electric-circuit to an electro-magnet of an annunciator, for purposes stated.

2. In a shop-lifting detector apparatus, the

combination of a top-piece 1, loosely set in flush with the top of the counter and supported by bearings 3, 4, resting upon knife-edges; forked levers 5, 6, supported by bearings 7, 8; a lever 12 fulcrumed to a support and suspended from the said levers 5, 6, by a tie-rod 11; a scale-beam 18 fulcrumed to a post and suspended from the lever 12, by a tie-rod 17; a sliding-weight 19; a "contact-making" bracket 22 having an elongated opening to receive the end of the said beam; a battery 23; a switch 24; and of an electric-circuit to an electro-magnet or magnets of an electric gong for purposes stated.

3. In a shop-lifting detector apparatus, the combination of a top piece 1 loosely set in flush with the top of the counter and supported by bearings 3, 4, resting upon knife-edges; forked levers 5, 6, supported by bearings 7, 8; a lever 12 fulcrumed to a support and suspended from the said levers 5, 6, by a tie-rod 11; a scale-beam 18 fulcrumed to a post and suspended from the lever 12 by a tie-rod 17; a sliding-weight 19; a "contact-making" bracket 22 having an elongated opening to receive the end of the said beam; a battery 23; a switch 24; and of an electric circuit to the electro-magnets of an annunciator and electric gong, substantially as and for the purposes set forth.

FRED STURTEVANT.

Witnesses:

HERBERT H. STEELE,
JAS. H. PIPER.