

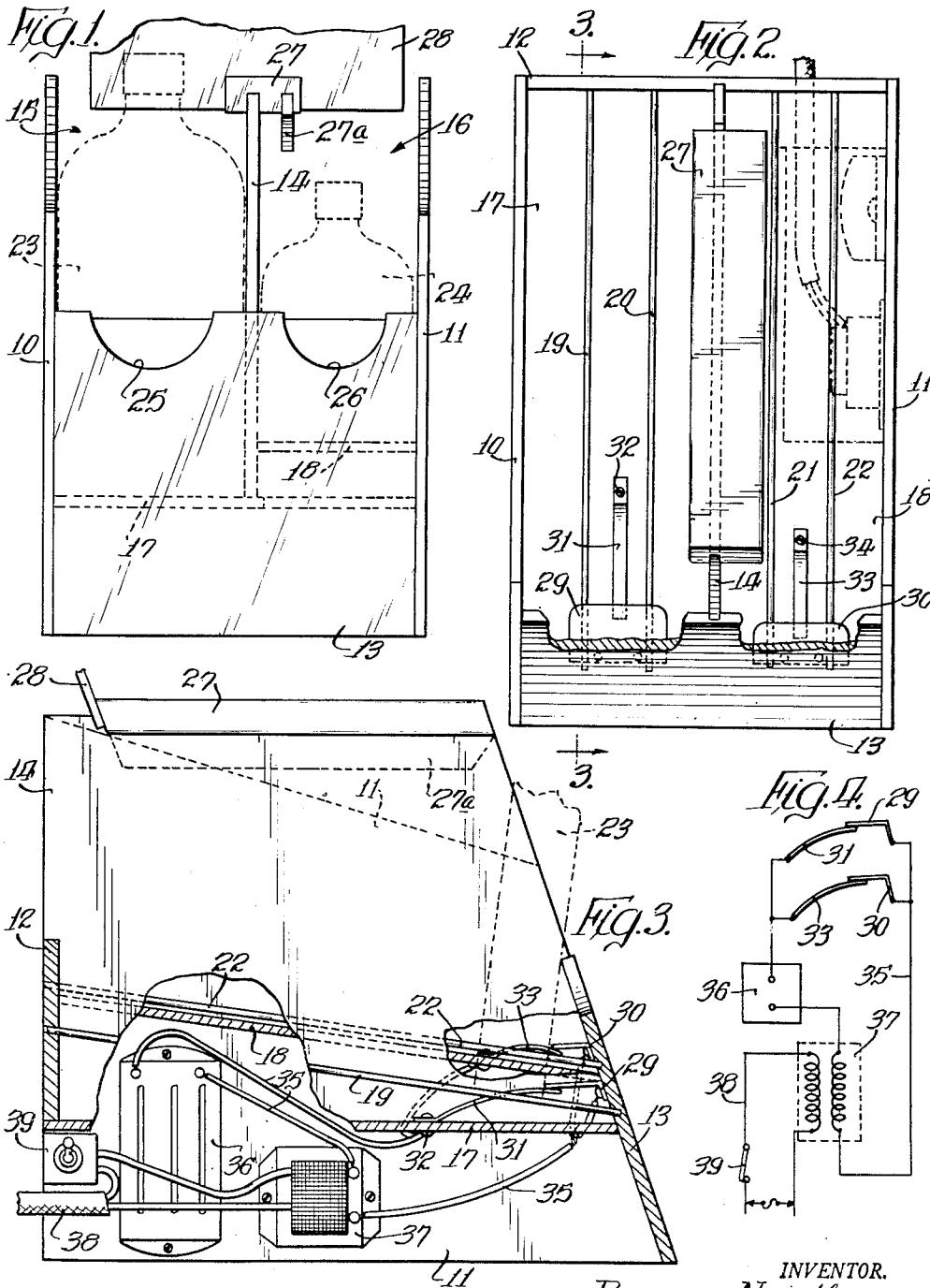
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DISPLAY STAND WITH ALARM SYSTEM

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DISPLAY STAND WITH ALARM SYSTEM

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My invention relates generally to merchandise display stands for articles such as bottles and tin containers, and more particularly to a display stand of the type wherein the signalling device is actuated each time an article or the like is removed.

The principal object of my invention is the provision of a display stand in which a customer can remove only the frontmost article displayed, whereupon a signalling device automatically is actuated.

Another important object of my invention is the provision of a display stand in which the signalling device is concealed from view and cannot be reached except upon removal of the frontmost article in the display stand.

A further object of the present invention is the provision of a display stand which adequately displays and promotes article being sold, yet at the same time prevents unauthorized removal of the article.

Another object of my invention is the provision of a display stand which combines the features of automatically replacing the article removed with another article and at the same time notifying the store attendant thereof.

Yet another object of the present invention is the provision of a signalling device of the kind described, which in addition to its other advantages, notifies the store attendant when the display stand is empty.

Yet another object is the provision of a display stand with integral signalling means which is inexpensive to manufacture, dependable in use, and which effectively promotes and displays the merchandise.

Merchandise display stands which incorporate my invention comprise, in their broad aspect, a front wall, a pair of article supporting rails inclined downwardly toward said front wall, means for requiring removal of the article at the front portion only of the stand, a switch including a movable contact arm which in the closed position extends upwardly above the supporting rails, said contact arms deflecting below the supporting rails into the open position under the weight of an article, the switch contact arm further being engageable by the frontmost article only on the supporting rails, and a signalling device controlled by the opening and closing of the switch, whereby each time an article is removed (1) the switch is closed and the signalling device thereby actuated, (2) the next article on the rails slides downwardly therealong into view and (3) simultaneously engages and depresses the flexible con-

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tact arm to open the switch and deactivate the signalling device.

In order that my invention may be more fully disclosed, reference is had to the accompanying drawing which illustrates one form of merchandise display stand embodying the foregoing and such other principles, advantages or capabilities as may be pointed out as this description proceeds, or as are inherent in the present invention. For purposes of clarity in exposition, the following description is explicit, and the accompanying drawing is detailed, but it is distinctly to be understood that said exposition is illustrative only, and that my invention is not restricted to the particular details recited in the specification or shown in the drawing.

In the drawing:

Figure 1 is a front view of a merchandise display stand embodying my new invention;

Figure 2 is a plan view of the same, with portions of the front wall being broken away to disclose underlying construction details;

Figure 3 is a left side sectional view taken on the line 3-3 of Figure 2; and

Figure 4 is a diagrammatic view showing the electrical components incorporated in the embodiment of Figures 1-3.

Like reference characters designate like parts in the drawing and in the description of my invention which follows hereafter.

Referring now to the drawing, and more particularly to Figures 2 and 3 thereof, my display stand is shown as including two vertical end walls 10 and 11, a rear wall 12, a front wall 13 and a partition wall 14 which separates the stand into two stalls 15 and 16. As best shown in Figure 3, a base plate 17 is provided in the stall 15, while another base plate 18 delineates the bottom of the stall 16. Positioned above the base plate 17, and supported by the rear wall 12 and the front wall 13, are two article supporting rails 19 and 20, which are inclined downwardly toward the front wall 13. Similarly, two inclined supporting rails 21 and 22 are positioned in the stall 16 between the rear wall 12 and the front wall 13. Articles to be displayed, such as for example the bottles 23 and 24 shown in dotted outline, are loaded on to the corresponding pairs of supporting rails 19 and 20, and 21 and 22. The inclination of the supporting rails 19-22 causes the bottles 23 and 24 to move downwardly therealong until they engage the front wall 13. The cut out portions 25 and 26 in the front wall 13 provide for greater exposure of the labels of the bottles 23 and 24, to facilitate identification of the contents thereof.

My display stand further includes a bar member 27 (see Figure 1) which projects into the stall 15 and engages the shoulder portion of the bottles 23 to prevent removal of said bottles 23 except at the front of the stand, as in the manner shown in Figure 3. Similarly, the bar member 27 projects into the stall 16, and is further provided with a downwardly depending shoulder engaging member 27a, which prevents removal of bottles 24 from the stall 16 except at the front portion thereof. Advantageously, a board may be secured to the partition wall 14 at the back of the bar member 27, both to provide advertising space and to prevent unauthorized removal of the contents of the display stand by reaching along the top of the stand behind the bar member 27.

Referring again to Figures 2 and 3, a fixed contact member 29 extends from the front wall 13 and is positioned between and above the supporting rails 19 and 20. A similar fixed contact member 30 projects from the front wall 13 above and between the supporting rails 21 and 22. In each case, the inclination of the front wall 13 to the rails 19—22 enables the contact members 29 and 30 to project a finite distance without contacting a bottle 23 or 24 which rests against the upper inner edge of the front wall 13. A flexible contact arm 31 secured at one end thereof to the base plate 17 by the fastener 32, projects upwardly between the supporting rails 19 and 20 to engage the fixed contact member 29. A second flexible contact arm 33 is fixed to the base plate 18 by the fastener 34, and projects upwardly between the supporting rails 21 and 22 to engage the fixed contact member 30.

As is best shown in Figure 4, the contact members 29 and 30 and the contact arms 31 and 33 comprise two switches which are connected in parallel in the circuit 35. A signalling device 36, which can be a bell, a gong, a light, or other signalling device, is therefore controlled by the opening and closing the contact arms 31 and 33. Energy for the circuit 35 is provided through the transformer 37 which is energized through the external circuit 38. For convenience in turning off the apparatus, a switch 39 is inserted in the external circuit 38.

To use my novel display stand, the store attendant first loads the bottles or other articles into the two stalls 15 and 16, through the back openings in the stand. As the articles are thus loaded into the stand, they slide forward along the pairs of supporting rails 19 and 20, and 21 and 22, until they engage the front wall 13. Next, the attendant closes the switch 39, to provide a source of electrical energy for the signalling device 36.

Because of the positioning of the bar member 27 and the shoulder engaging member 27a, only the foremost article in each of the stalls 15 and 16 can be removed, as explained above. When this occurs, the flexible contact arm 31 or 33 immediately flexes upwardly to engage its corresponding fixed contact member 29 or 30. As a result, the circuit 35 is closed and the signalling device 36 energized, to notify the attendant of a sale. The actuation of an alarm whenever an article is removed from the stand also discourages and prevents pilfering of articles from the stand. As soon as an article is removed, the next article slides downwardly along the corresponding supporting rails 19 and 20 or 21 and 22 and in so doing depresses the corresponding contact arm 31 or 33 to open the circuit 35 and deactivate the signalling device 36. This cycle is repeated

until the supply of articles in the stall 15 or 16 is exhausted, whereupon the signalling device 36 is operated until an additional supply of articles is placed in the stall or else the circuit 35 is de-energized by means of the switch 39.

Advantageously, my novel display stand incorporates several important safety features. Primary among these is the fact that the signalling device 36 is actuated regardless of the manner in which the bottle or other article is removed from the stall 15 or 16. Even if an article is removed very slowly, the alarm sounds immediately upon the contact arm 31 or 33 touching the corresponding fixed contact 29 or 30. In addition, the primary actuating devices for energizing the signalling device 36, namely the two switches comprising the contact members 29 and 30 in the flexible contact arms 31 and 33, are completely hidden from view and are not accessible from the outside of the stand except following the removal of a bottle or other article therefrom. Yet in spite of these safety features, the articles are at all times attractively displayed, with sufficient portions of their labels visible for complete identification of the product.

Having thus fully disclosed my novel display stand with integral system, and demonstrated its utility by reference to a specific embodiment thereof, what I claim as my invention is:

1. A merchandise display stand for bottles or the like comprising: a base and two parallel upright side walls forming a stall, a front wall extending upwardly and inwardly to cover the lower front portion of said stall, a pair of bottle supporting rails in said stall positioned substantially parallel to said side walls and inclined downwardly toward said front wall, the included angle between said supporting rails and the upper portion of said front wall being acute, means on at least one of said side walls preventing removal of said bottles or the like except at the ends of said stall, a switch including a fixed electrical contact extending from said front wall above and substantially intermediate said supporting rails and terminating short of a bottle or the like which rests against the upper, inner edge of said front wall, said switch further including a spring finger fixed at one end thereof to said base and extending upwardly between said supporting rails to engage said fixed contact, said spring finger being depressed and held out of engagement with said fixed contact by a bottle or the like which rests against said front wall, and an electrically operated signalling device controlled by said switch, whereby as the frontmost bottle or the like in said stall is removed therefrom, said switch closes to energize said signalling device, said switch thereafter being opened as the next bottle or the like slides down said supporting rails and depresses said spring finger.

2. A display stand for multiple classes of merchandise comprising a substantially rectilinear framework partitioned to afford a plurality of laterally displaced merchandise containing stalls, bottom support rails within each of said stalls positioned angularly in a gravitation conducive slope downwardly and forwardly for holding a series of merchandise articles in alignment, a front panel to said framework sloped recedingly so as to form with said rails an obtuse angle and having cut-away uppermost portions respecting each of said stalls for permitting partial exposure to display foremost ones of said merchandise articles and wherethrough said foremost

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articles may be manually grasped and removed from said stalls, a springable contactor mounted in each of said stalls having a portion extending above the level of its said rails, a fixed contact in each of said stalls for engagement by its said contactor and mounted on the framework within said obtuse angle so as to be physically inaccessible, said contactor being springably overpowered to remain out of electrical communication with its said contact by an article of merchandise in its said foremost position of said alignment, an electrically operative alarm signal device, and an electric power circuit completed by the engagement of any of said contactors with its related contact for actuating said alarm signal device during the interim of engagement by any of said contactors with its contact.

3. An interim alarm signaling device for displaying multiple classes of merchandise comprising a framework which includes space enclosing portions divided into a plurality of stalls, inclined support rails within each of said stalls sloping downwardly and forwardly so as to permit gravitational descent of merchandise placed towards a foremost display position, a front panel to said framework sloping rearwardly so as to form an obtuse angle with said rails and having cut-

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away portions for permitting access to and for displaying said foremost position articles of merchandise, contact pairs mounted in each of said stalls springably held ajar by said foremost position articles of merchandise, an electrically operative alarm device, a circuit connecting the contact pairs of all of said stalls parallelly with said alarm device in series with a source of operating potential whereby said alarm device is actuated upon the removal of any of said foremost position articles of merchandise and until replaced by a succeeding article of merchandise gravitationally descending to said foremost position.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,549,956	Bartlett -----	Aug. 18, 1925
1,584,237	Manning -----	May 11, 1926
1,765,223	Ferris -----	June 17, 1930
2,474,157	Needlman -----	June 21, 1949