United States Patent

[11] 3,602,562

[72] Inventor **Emil Radelfinger**
Liestal, Switzerland

[21] Appl. No. **779,323**
[22] Filed **Nov. 27, 1968**
[45] Patented **Aug. 31, 1971**
[73] Assignee **Economic Swiss Time Holding**
Basel, Switzerland

[54] **DISPLAY DEVICE FOR WATCHES AND THE LIKE**
7 Claims, 6 Drawing Figs.

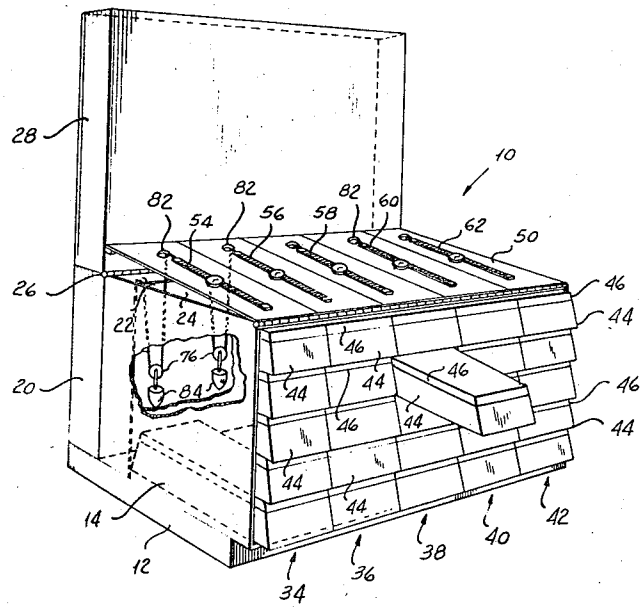
[52] **U.S. Cl.** **312/119,**
116/99, 312/319, 312/234
[51] **Int. Cl.** **A47b 88/00,**
A47f 3/11, G08b 13/17
[50] **Field of Search** 116/75–77,
83, 86, 99; 312/119, 218, 223, 234, 319, 330

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Primary Examiner—Casmir A. Nunberg
Attorney—Shenier & O'Connor

ABSTRACT: A self-service display device for articles such as watches and the like in which respective elongated flexible elements connect actual or dummy display articles to a cabinet for limited movement from home positions on a tray on the cabinet to permit a potential customer to pick up and inspect the articles. Biasing means acting on the cords or chains urge the displayed articles to their home positions. Alarm means signals removal of any one of the displayed articles from its cord or chain by force or otherwise. The cabinet houses a plurality of columns of boxes containing actual articles to be sold below the respective display devices with the articles in the boxes of a column corresponding to the model or style of the article displayed thereabove. A customer having examined the displayed articles and having decided upon a particular style may remove a box from the column therebelow and carry it to the checkout counter. The boxes are sealed to prevent ready removal of articles therefrom and are of such a size as to prevent them from being concealed in a normal pocket or a handbag of usual size.



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SHEET 1 OF 2

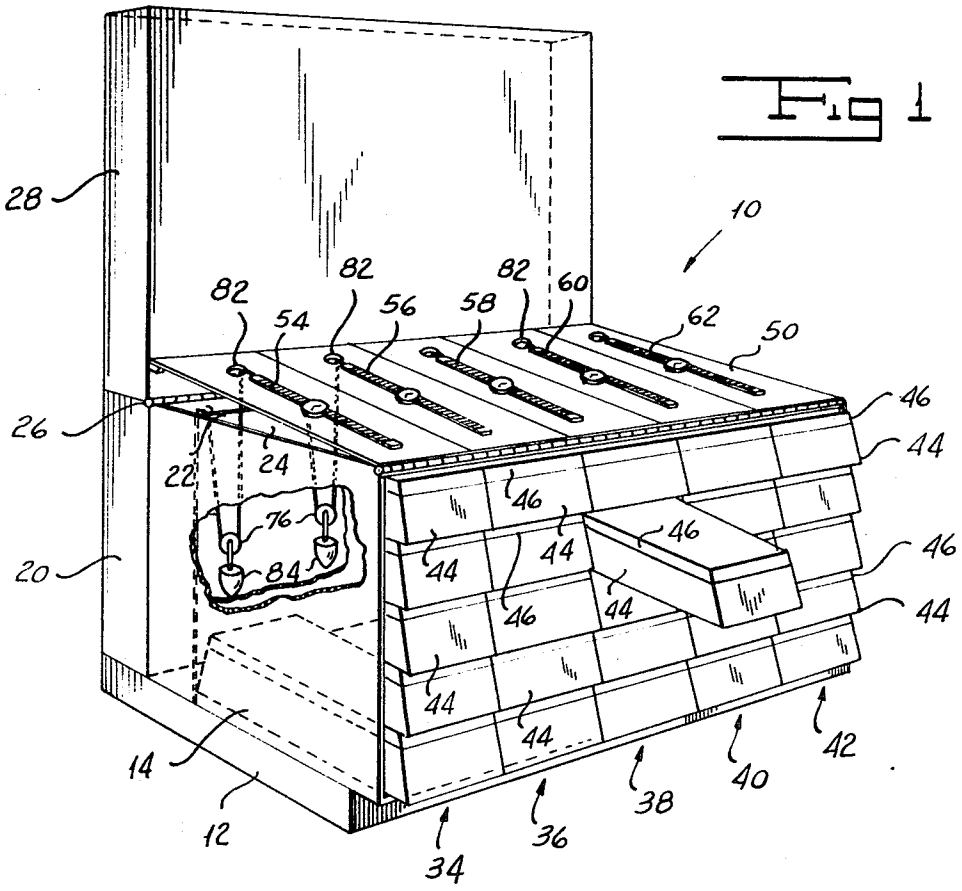


Fig 1



Fig 4

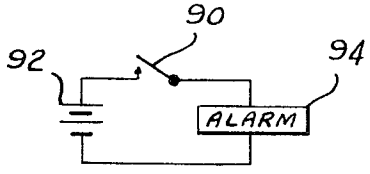
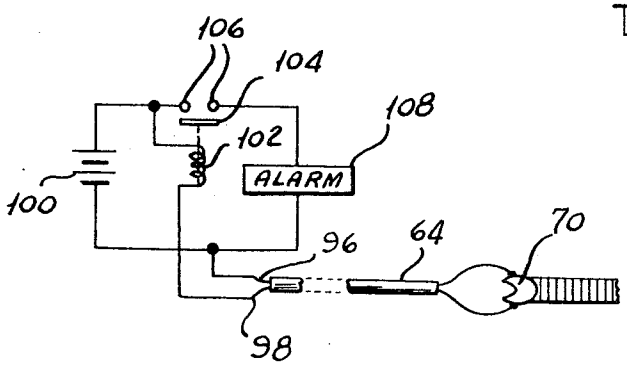
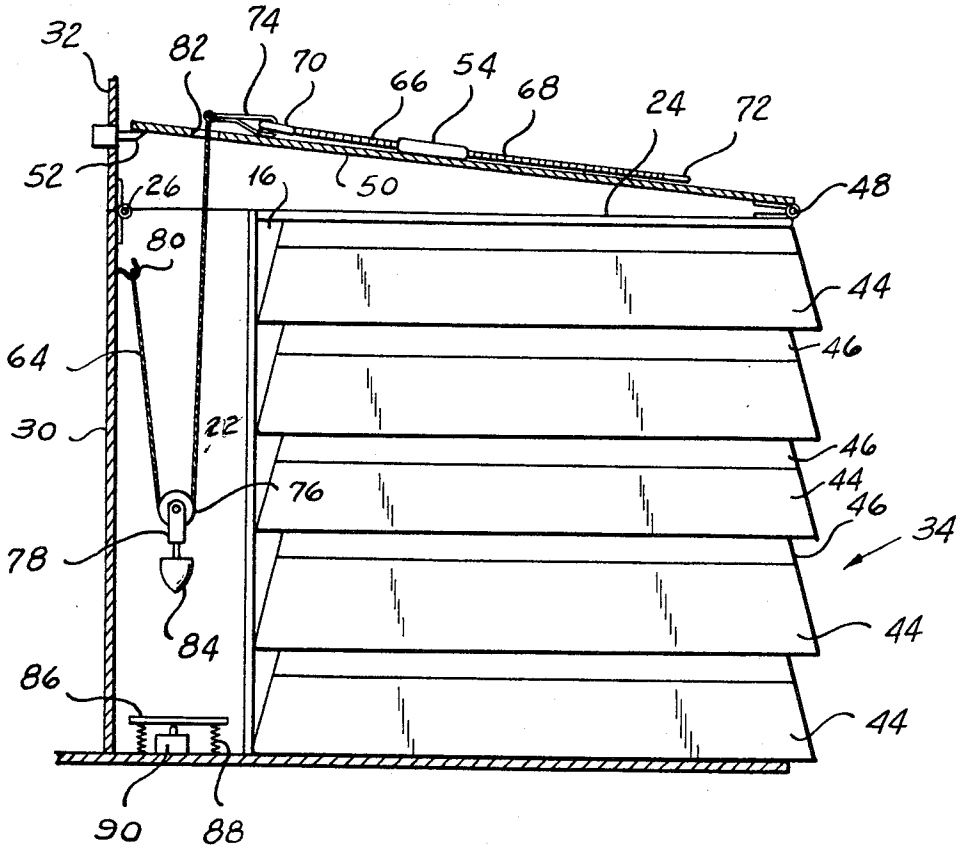


Fig 3



INVENTOR
Emil Radelfinger
BY
Shenier & O'Connor
ATTORNEYS

Fig 2



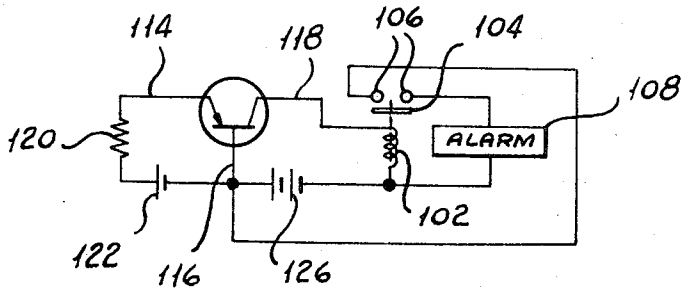


Fig 6

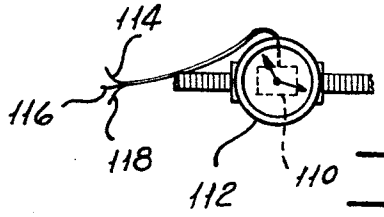


Fig 5

INVENTOR
Emil Radelfinger
BY
Shenier & O'Connor
ATTORNEYS

DISPLAY DEVICE FOR WATCHES AND THE LIKE

BACKGROUND OF THE INVENTION

The trend in modern merchandising is toward self-service wherein the customer selects an article from the displayed supply and carries it to a checkout counter whereat he pays for the article. The principal advantage of the self-service system is reduction in the personnel which is required to operate a store such, for example, as a department store. While the self-service system possesses a great advantage over the old system wherein clerks were stationed throughout the store in the various departments, it creates another problem. Control of merchandise and prevention of pilferage are more difficult since people in the store are not usually observed by store employees. This fact does not seriously affect operations wherein large articles of merchandise which cannot readily be concealed are being sold. It does, however, create a most serious problem where attempts are made to sell by self-service relatively small and expensive articles such as watches and like. In connection with the sale of such articles the problem is so serious that attempts heretofore made to sell such articles have not been successful.

I have invented a display device for self-service selling of relatively small and expensive articles of merchandise such as wristwatches and the like. My device prevents a dishonest person from readily concealing an article such as a wristwatch on his person. My display device permits a prospective customer to handle and inspect a displayed sample or dummy article. My device automatically signals removal of a displayed article.

SUMMARY OF THE INVENTION

One object of my invention is to provide a display device especially adapted for use in self-service selling of small and expensive articles.

Another object of my invention is to provide a display device which displays articles being sold while at the same time permitting a customer to handle and inspect the article.

A further object of my invention is to provide a display device which displays an article being sold while at the same time preventing a dishonest person from removing the displayed article without detection.

Other and further objects of my invention will appear from the following description.

In general my invention contemplates the provision of a display device for articles, such as watches, in which respective flexible cords or the like secure display sample or dummy articles to a cabinet for limited movement relative to a display tray on the cabinet between a position at rest on the tray and a position away from the tray whereat they can be handled and inspected by a potential customer. Biasing means acting on the cords normally positions the articles at rest on the tray. Alarm means signals removal of any displayed article from its cord by force or otherwise. The cabinet houses respective columns of sealed boxes with the boxes of one column containing articles corresponding to the sample or dummy article displayed on the tray thereabove.

BRIEF DESCRIPTION OF THE DRAWINGS

In the accompanying drawings which form part of the instant specification and which are to be read in conjunction therewith and in which like reference numerals are used to indicate like parts in the various views:

FIG. 1 is a perspective view of my display device for articles such as watches or the like. FIG. 2 is a fragmentary sectional view of the display device illustrated in FIG. 1.

FIG. 3 is a simplified schematic of one form of alarm circuit which I may employ with my display device.

FIG. 4 is a schematic view of an alternate form of alarm device which I may employ with my display device.

FIG. 5 is a fragmentary plan view of a further form of alarm system which I may employ with my display device.

FIG. 6 is a simplified schematic of an electrical alarm circuit which can be employed with the form of alarm device illustrated in FIG. 5.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawings, my display device for watches or the like includes a cabinet, indicated generally by the reference character **10**, having a base **12**, sides **14** and **16** and a back **20**. A vertical transversely extending partition **22** and a top **24** form a compartment for the reception of boxes to be described hereinafter containing articles of merchandise. A hinge **26** supports a top **28** for movement between a closed position in which the display cabinet **10** can be transported and an open position illustrated in FIG. **1**. A second vertical transversely extending partition **30** may provide a storage space in the cabinet between the back **20** and the partition **30**. I may also provide the top **28** with a false front **32** which can carry advertising matter and the like.

The compartment formed by partition **22**, top **24**, sides **14** and **16** and the base **12** is adapted to receive a plurality of respective columns, indicated generally by the reference characters **34, 36, 38, 40** and **42**, of boxes **44** having covers or lids **46**. I so construct the boxes **44** as to be of such a size that they cannot readily be slipped into the ordinary pants or coat pocket or into a purse or handbag of the usual size so as to be concealed from view. In addition, I form at least the top **46** from a transparent material, such as a suitable plastic, so as to permit a customer to view the very article of merchandise he is purchasing. As a further precaution against removal of the article from the box by a dishonest person, I seal the lid **46** on the box **44** in such a way that the lid cannot be removed without great difficulty. I may also make the top and the bottom **44** from such a material as cannot be broken up without considerable noise being incident to that operation. Thus, if a dishonest person attempts to break into the sealed box he cannot do so without attracting attention.

Any suitable means such, for example, as a hinge **48** or the like supports a display tray **50** on the cabinet for movement from a position at which it is flat on the top **24** to a position at which it is slightly inclined thereto so as effectively to display sample articles in a manner to be described. In order to support the tray **50** in its display position, I may, for example, mount one or more spring-loaded detents **52** in the false front **32** so that as the tray is raised it rides past the detents and over them until it is supported thereby in its raised position. To lower the tray these detents may manually be pushed inwardly to permit the edge of the tray to ride down below the detents.

I provide a plurality of respective sample or dummy devices **54, 56, 58, 60** and **62** on the tray **50** over the columns of boxes. The displayed article corresponds to the model or style of the articles located in the boxes of the column immediately therebelow. By way of example, if the displayed article **54** is a man's watch of a particular model, all of the boxes **44** of the column **34** disposed therebelow contain identical articles. Preferably I provide the boxes with inclined ends to facilitate withdrawal of the boxes from the columns.

In one form of my display device I provide a respective elongated flexible element **64**, such as a cord or chain, for each of the sample devices. If the displayed article, such as the article **54**, is a watch it may have two band halves **66** and **68**, each of which carries an end connector element **70** or **72**. A snaphook **74** or the like on one end of the cord or chain **64** is secured to one of the end connectors, such as the end connector **70**. I pass the cord or chain around a pulley **76** rotatably supported on a frame **78** and then secure the end remote the snaphook **74** to a hook **80** or the like carried by the partition **30**. It will be understood that the chain or cord **64** passes through an opening **82** adjacent the top of the display tray **50**. The relative size of opening **82** is such that the cord or chain readily passes therethrough but the article cannot.

I secure a weight **84** to the pulley frame **78** normally to draw the chain downwardly through the opening **82** until the article

54 reaches a limit position whereat it is normally displayed. Form this position a potential customer can pick the article up, move it away from the tray and examine it. The distance the article can be moved away from the tray is of course determined by the length of the cord or chain 64. When the customer releases the article weight 84 draws the cord or chain back into the space behind partition 22.

I provide my display device with signalling means which indicates that the article 54 has been removed from cord 64 by either force or by disengaging the hook 74. If that is done, hook 74 will be drawn downwardly under the influence of weight 84 through opening 82 and ultimately weight 84 will strike a plate 86 resiliently supported by springs 88. These springs 88 normally bias plate 86 to a position with relation to a switch 90 below the plate at which the switch is not operated. However, when the article is removed to permit weight 84 to strike plate 86, the plate is moved downwardly to operate switch 90.

As has been explained hereinabove, I provide a cord or chain 64 for each of the displayed articles and each chain or cord has a corresponding weight 84. I may, if desired, provide a separate plate 86 and switch 90 for each of the displayed articles. In the interest of simplicity, however, I preferably provide a single plate and a switch 90 which are common to all of the displayed articles. Thus, when any article is removed from its cord or chain, the corresponding weight strikes plate 86 to actuate switch 90.

Referring to FIG. 3, I connect a normally open switch 90 in series with a source of potential, such as a battery 92, and a signalling device 94. When the switch 90 closes, the device 94 is energized to signal the theft of a displayed article. This device 94 may be of any suitable type known to the art. It might be a bell or a buzzer or a signal lamp. Moreover, the signalling device may be located at a central control or security station rather than at the location of the display device itself.

Referring now to FIG. 4, as an alternative to signalling device illustrated in FIGS. 1 to 3, I may incorporate in the cord 64 respective electrical leads 96 and 98, the ends of which are connected through the metal of an end connector such as the end connector 70. It will be appreciated that leads 96 and 98 can be attached to the material of the band by any suitable means, such as by alligator clamps or the like, to complete the electrical connection between the leads. I connect the other ends of the leads respectively to one terminal of a battery 100 and to one terminal of a relay winding 102, the other terminal of which is connected to the other terminal of the battery 100. It will thus be seen that in the operative condition of this form of my signalling device, the circuit of relay winding 102 is complete to energize the relay to hold a contactor 104 thereof out of bridging engagement with contacts 106 normally engaged by the contactor. If, now, either one of the leads 96 or 98 is disconnected from the end connector 70, winding 102 is deenergized to cause contactor 104 to bridge contacts 106 to connect the alarm 108 across battery 100 to operate the alarm.

In yet another form of signalling device which I may employ, I locate a transistor 110 in the hollow case 112 of a dummy display so that the transistor is concealed by the dial on the face of the dummy. The three transistor leads 114, 116 and 118 are brought out at any suitable point as, for example, through a hole bored in the back of the case and are connected in an appropriate circuit such as that shown in FIG. 6 wherein an emitter resistor 120 and a biasing battery 122 are connected between emitter lead 114 and base lead 116 and wherein the winding 102 and a power supply 126 are connected between the base lead 116 and the collector lead 118.

In use of my self-service display and merchandising device for articles such as watches and the like, a plurality of columns of boxes are placed in the compartment at the front of the device with the boxes of each column containing a particular style or model of the articles to be sold. The shape of the boxes is such that a box can readily be withdrawn from its column. The size of each box is such that it cannot readily be concealed either in the pocket of a customer's garment or in a handbag of the usual size. At least the tops 46 of the boxes are transparent to permit the customer to view the actual article. I so seal the boxes that they cannot readily be broken into without making sufficient noise as will attract attention.

Having loaded the box storage compartment, I next connect respective articles to be displayed in the columns of boxes to the cords or chains 64. The biasing means, such as the weights 84, moves the sample articles to display positions at which they rest on the tray 50. In this condition of the parts, a potential customer may pick up and examine any one of the displayed articles. The distance he may move any article away from the tray 50 in accomplishing this operation is governed by the length of the chain or cord 64.

Should a customer remove any one of the displayed articles, the biasing means draws the cord or chain back into the space behind partition 22. In the form of my device shown in FIGS. 1 to 3, upon that occurrence the weight 84 corresponding to the removed article strikes plate 86 to move it against the action of springs 88 to cause switch 90 to connect the alarm device 94 to the battery 92.

In the form of my device shown in FIG. 4, if an article is removed from the cord 64, the connection between leads 96 and 98 is broken, relay winding 102 is deenergized, contactor 104 bridges contacts 106 and the alarm device 108 is energized. The operation of the form of my device shown in FIGS. 5 and 6 is similar in that if any one of the transistor leads is broken, relay 102 is deenergized and the alarm 108 sounds.

It will be seen that I have accomplished the objects of my invention. I have provided a display device which is especially adapted for use in self-service selling of articles such as watches and the like. My display device permits a potential customer to handle and inspect a sample device or dummy while guarding against removal of the same by a dishonest person. My device provides an alarm signal in the event that a sample or dummy article being sold is removed by a dishonest person.

It will be understood that certain features and subcombinations are of utility and may be employed without reference to other features and subcombinations. This is contemplated by and is within the scope of my claims. It is further obvious that various changes may be made in details within the scope of my claims without departing from the spirit of my invention. It is, therefore, to be understood that my invention is not to be limited to the specific details shown and described.

Having thus described my invention, what I claim is:

1. A device for displaying a sample article of a plurality of boxed articles including in combination, a cabinet for storing a plurality of boxes containing said boxed articles of merchandise, said cabinet comprising a member providing an exposed display surface above said plurality of boxes, an elongated element for securing said sample article to said cabinet for movement from an exposed home position on said surface to a position remote from said surface to permit a potential customer to inspect said article, means acting on said elongated element to bias the element to said home position and means responsive to removal of said sample article from said elongated element for producing an alarm signal.

2. A display device as in claim 1 in which said biasing means includes a pulley on said elongated element, a weight on said pulley and means for limiting movement of said article to said home position under the influence of said weight.

3. A display device as in claim 2 in which said signal producing means includes means responsive to movement of said weight upon disengagement of said article from said element for producing an alarm signal.

4. A display device as in claim 1 in which said article includes a conductive portion, and in which said signal producing means includes an alarm adapted to be energized to produce a signal, a pair of conductors, means normally connecting said conductors to said conductive portion and means responsive to disconnection of one of said conductors from said conductive portion for energizing said alarm.

5. A display device as in claim 1 in which said sample article comprises a dummy watchcase, and in which said signal producing means includes an alarm adapted to be energized to produce a signal, a transistor located within said dummy watch case, leads for said transistor extending from said case, and means responsive to rupture of one of said leads for energizing said alarm.

6. In a device for displaying a sample article of merchandise, means providing a surface for supporting an article in a position to be viewed, means normally disposed below said surface for connecting said article to said surface providing means for limited movement from a home position on said surface to permit a prospective customer to handle and inspect said article, means for biasing aid article to said home position, and means responsive to disabling of said connecting means for producing an alarm signal.

7. A display device for showing and merchandising various models of boxed articles of merchandise including in combination, a cabinet for housing a plurality of columns of boxes of articles of merchandise, the boxes of said columns containing respective models of said articles, means providing a display surface over said cabinet, respective sample articles of merchandise corresponding to the articles in the boxes of the respective columns, respective means connecting said sample articles to said cabinet for limited movement from respective home positions on said surface over the columns to which they correspond to permit a prospective customer to pick up and inspect said articles, means for biasing said articles to their home positions, and means responsive to disabling of any one of said connecting means for producing a signal.