July 25, 1933. L. R. SHERWOOD 1,919,382

DETACHABLE METER DEVICE

Filed Dec. 9, 1932

FIG. 1.

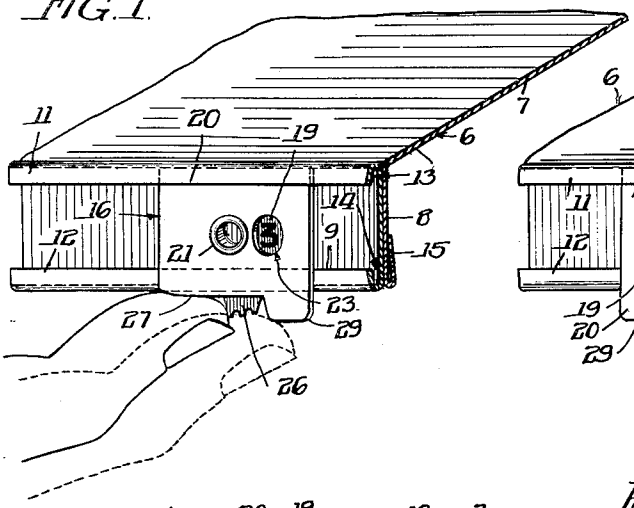


FIG. 2.

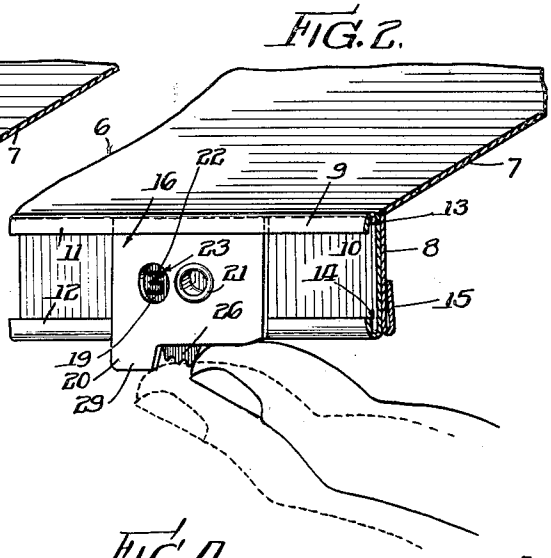


FIG. 3.

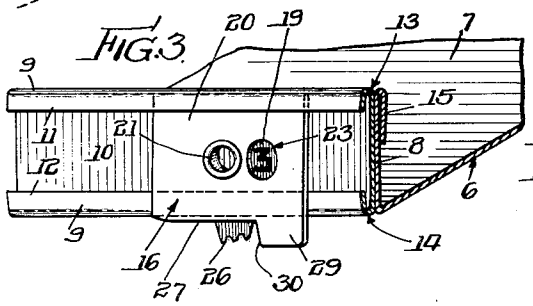


FIG. 4.

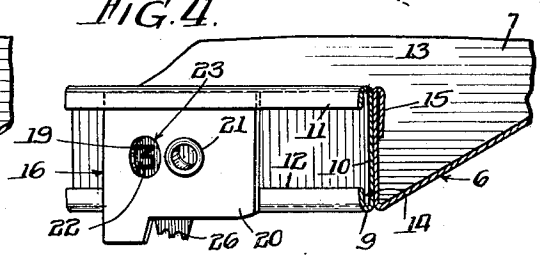


FIG. 6.

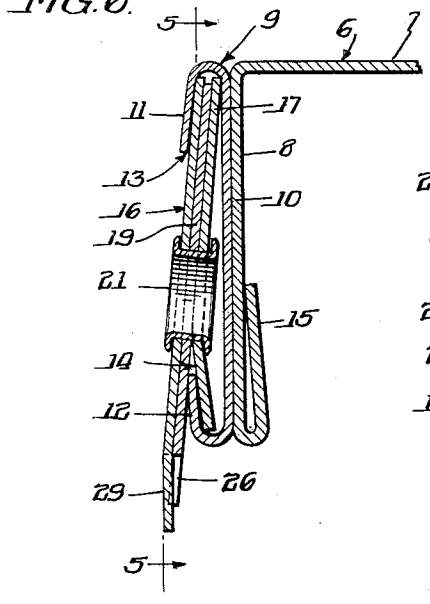
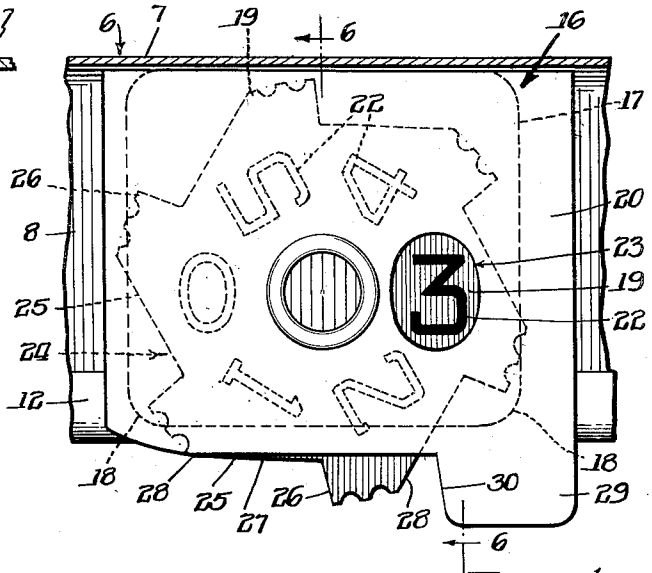


FIG. 5.



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UNITED STATES PATENT OFFICE

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DETACHABLE METER DEVICE

Application filed December 9, 1932. Serial No. 646,501.

This invention relates to a meter device and particularly to a detachable sales meter which may be applied to a label holder on shelves, trays and other like articles.

The primary object of the invention is to provide a detachable sales metering device for shelves, trays and other similar articles whereby the metering device is slidably positioned in a conventional label holder so that an inventory may be kept of all the articles remaining on the shelf or some record may be had of the number of articles removed from the shelf.

Another object is to provide a metering device having a rear member which is slidably mounted in a substantially channel-shaped label holder, which has a pivotally mounted registering element, and which has a front face pivotally connected to the rear member and to the register member, the front face cooperating with the label holder to prevent rotary movement thereof, and which is provided with operating fingers to revolve the registering device.

A still further object is to provide a sales metering device slidingly or otherwise removably supported to a label holder or other similar element to register the quantities supported by or removed from a shelf or other article, which is provided with a flat or straight portion which, when brought into flush position with the bottom of the drawer, will register a number in regular sequence by the manipulation of a projecting finger, the finger projecting when the straight portion is flush with the bottom of the device or the shelf.

Numerous other objects and advantages will be apparent throughout the progress of the following specification.

The accompanying drawing illustrates a selected embodiment of the invention and the views therein are as follows:

Fig. 1 is a detail perspective view showing the device arranged in a shelf label holder with the indicator wheel movable in one direction.

Fig. 2 is a similar view showing the indicator wheel operable in a reverse direction.

Fig. 3 is a view similar to Fig. 1 showing the device arranged on the upstanding flange of a shelf.

Fig. 4 is a view similar to Fig. 3 showing the device arranged on the upstanding flange of a shelf as set forth in Fig. 3 but operable in a reverse direction.

Fig. 5 is a detail elevation showing the device arranged on a shelf.

Fig. 6 is a detail sectional view through the device arranged in a label holder on a shelf on the line 6—6 of Fig. 5.

Referring to the drawing, 6 designates a shelf having a flat supporting surface 7 and an integral turned flange 8.

A label holder 9 is securely fastened to the flange 8 and comprises a substantially channel-shaped member having a back 10 and upper and lower downwardly and upwardly bent ends 11 and 12 respectively, the ends 11 and 12 forming upper and lower grooves 13 and 14 respectively. The label holder 9 is preferably elongated extending substantially throughout the entire length of the shelf and is preferably made of a width equal to the width or depth of the flange 8. The flange 8 may extend downwardly from the surface 7 of the shelf to provide a substantially flush top as shown in Figs. 1 and 2, or the flange may extend upwardly as shown in Figs. 3 and 4 to provide a rim or support to prevent articles on the shelf from being accidentally removed or knocked off of the shelf. The free edge of the flange may be turned over as indicated at 15.

The particular construction of the shelf does not constitute part of the present invention except in combination including means for slidingly supporting the sales metering device 16.

The sales metering device 16 comprises a rear member or back 17 which fits in the label holder and is substantially as wide as the distance between the grooves 13 and 14 and is so arranged in the grooves so as to be freely slidingly received in the label holder 9. The ends of the backing 17 may be rounded as indicated at 18 to allow for free slidable movement of the metering device in the grooves of the label holder. An indicating wheel or register 19 is arranged for-

wardly of the back and rearwardly of the front face 20. The three members, the back 17, the front face 20 and the centrally positioned wheel or register 19, are pivotally fastened together by pivot means 21 which, in the present instance, comprises an eyelet. The registering device or wheel 19 is provided with consecutively circumferentially spaced numerals 22 which are brought into position so as to be seen through an opening 23 formed in the front face 20. This registering device or wheel 19 is cut away as indicated at 24 to provide straight sides 25 and fingers 26, the fingers 26 providing means for operating the wheel or register 19, while the straight sides provide means for rotating the wheel or register a predetermined distance so that the numerals 22 will always properly be brought into position relative to the opening 23 as the fingers 26 cannot be pushed further than the lower straight edge 27 of the front face 20.

The metering device 16 is arranged in position in the label holder 9 by inserting the complete member 17 within the label holder 27 so that its upper and lower edges will be received in the grooves 13 and 14. The upper edge of the front face is inserted in the upper groove 13 behind the projection or ledge 11 so as to prevent rotation of the front face when the fingers 26 are moved to operate the member 19. Consequently, the upper edge of the intermediate member or registering medium 19 will also have its upper edge arranged in the groove 13. The manner in which the sales metering device is positioned in the grooves and supported by the label holder is clearly shown in Fig. 6. While this latter figure shows the flange 8 as extending downwardly from the shelf support 7, the position of the label holder will be exactly the same even though the flange 8 extends upwardly as shown in Figs. 3 and 4. As previously mentioned, the particular position of the flange relative to the shelf support is of no moment as far as the label holder is concerned just so adequate means are provided on the shelf for supporting any kind of a label holder which will adequately and slidingly support the device.

Operation

When the device is supported in position in the label holder in the manner shown in Fig. 6, a numeral 22 may be brought in position relative to the opening 23 by the manipulation of a finger 26. The fingers 26 are so positioned relative to the numerals so that when the fingers 26 are moved a certain limited or restricted distance, a proper numeral will be in position so that it may be seen through the opening 23. By engaging a finger 26, such as by engaging it with the thumb as shown in dotted lines, and then moving the thumb to the position indicated in full lines, a straight edge 25 on the dial or registering device 19 will be flush with the bottom edge 27 of the front face 20. Therefore, it is impossible to move a finger 26 beyond predetermined limits. The next number 22 will not be brought into position relative to the opening 23 until another finger 26 is moved. The movement of the fingers 26 is limited or restricted when the straight edge 25 of the registering device 19 is flush or even with the lower surface 27 of the outer face member 20. When a finger 26 is moved so that the edge 25 is flush with the edge 27, another finger 26 is brought in position. When the fingers are moved, the edge of the thumb will engage the edge 28 of the finger which is coincident with the side 25. Therefore, the registering device 19 can only be rotated a predetermined distance, which distance is governed by the edge 28 of the finger being moved as far as possible which will be to the edge 27 of the front face.

The device is particularly applicable for inventory purposes to designate either the number of articles left on the shelf or to designate the number of articles removed from the shelf. The operation of the present device shows that by operating a finger 26, a higher consecutive number will be brought into view. Thus, every time an article on the shelf is removed, a finger is operated to move the registering wheel accordingly. In the drawing, the numeral "3" is disclosed through the opening which means that three articles have been removed. Thus, if it is known how many articles were on the shelf originally, and the device operated whenever articles were removed from the shelf which, in the present case indicates "3", it is known that three articles have been removed and the difference remain. However, the reverse is also true. By relocating the numerals, a lower successive numeral may be brought into position. Thus, if there were originally five articles on the shelf and a finger 26 was operated every time an article was taken off, the result, or numeral "3", would indicate that only three articles remain on the shelf. Therefore, a complete inventory is had at all times. Only five numerals have been shown on the registering wheel 19, but more numerals may be added depending upon the size of the articles supported by the shelf and the number of articles supported. That is to say, instead of having the wheel indicate from naught to five, the wheel may carry numerals running from one consecutively on up. Moreover, the same device may be made to operate counter-clockwise as well as in the clockwise direction herein shown. However, it is advantageous that the device operate in one direction only. If the device were free to operate in both directions, an error would be likely to result. To prevent errors caused

by moving the device in one direction the first time and then moving it in an opposite direction the next time, the device is provided with means to prevent it from operating in both directions. This means comprises a tail-piece 29 which may be attached to a lower outer edge of the front face 20. This tail-piece 29 prevents the rotation of the registering wheel 19 from moving in a reverse direction. It is true that the finger 26 could be manipulated a certain distance in a reverse direction, but this distance would be limited by the edge 30 of the tail-piece 29 and would not be of a distance sufficient to bring the next numeral in view through the opening 23. Furthermore, the construction herein disclosed, which construction includes the straight edges 25 and 27, prevents errors as the operator always knows that the edges 25 and 27 must be in flush position, and this flush position is the natural result of moving the finger 26 because the thumb of the operator will come to rest against the surface 27. That is to say, normal operation of the registering dial 19 by the manipulation of the thumb with a finger 26 is limited or made positive due to the fact that the thumb cannot move the finger beyond the straight edge 27.

In actual practice it has been found that a very economical and readily seen device may be made by making the members 17, 19, and 20 from thin white celluloid, fastening the same together by the metal ring or eyelet 21 with the numerals printed in black on the intermediate member 19. However, the parts may be made of other material such as stamped metal, bakelite, or from any other composition or material which is capable of being successfully used in a device of this character.

The invention provides a sales metering device removably and slidingly positioned in the label holder of a shelf so that the number of articles remaining upon or removed from the shelf may be readily ascertainable at all times. The sales metering device is maintained and removably supported by the label holder so that while the registering or indicating wheel or dial moves freely, the outer front face will not rotate and the entire device will be rigidly and properly supported in the grooves in the label holder. The registering device is efficient in operation, and may be readily and economically manufactured.

Changes may be made in the form, construction, and arrangement of the parts without departing from the spirit of the invention or sacrificing any of its advantages, and the right is hereby reserved to make all such changes as fairly fall within the scope of the following claims.

The invention is hereby claimed as follows:

1. The combination with a shelf label holder, of a sales metering device engageable with the holder and comprising a rear member supported by the holder, a rotary element carried by the rear member, and a front member in front of the rotary element and fastened to the rear member.

2. The combination with a shelf label holder, of a sales metering device engageable with the holder and comprising a rear member removably and slidably supported by the holder, a front member pivoted to the rear member and having a part thereof engageable with the holder, and a third member arranged between the said two members and pivoted thereto.

3. The combination with a label holder, of a sales metering device engageable with the holder and comprising a rear member supported by the holder, a rotary element carried by the rear member, a front member in front of the rotary element and fastened to the rear member, and fingers carried by the rotary member and successively adapted to extend below the bottom of the front member to operate the rotary member during rotation thereof, said fingers when extending below the said bottom lying outwardly of the holder.

4. The combination with a label holder having upper and lower grooves, a sales metering device carried by the holder and comprising a rear member arranged in the grooves and supported by the holder, a front member spaced from the rear member and having a side engageable with one of said grooves, and a rotary member between the front and rear members and pivotally connected thereto, said rotary member having fingers for rotating the rotary member, the fingers projecting below the bottom of the device during operation of the rotary member, said fingers when projecting below said device being outside of the groove.

5. The combination with a label holder having upper and lower grooves, a sales metering device carried by the holder and comprising a rear member arranged in the grooves and supported by the holder, a front member spaced from the rear member and having a side engageable with one of said grooves, a third member arranged between the front and rear members, and means passing through said three members and pivotally connecting the same together, said third member having its lower end arranged outside of the holder and face of the groove.

6. The combination with a label holder having upper and lower grooves, a sales metering device carried by the holder and comprising a rear member arranged in the grooves and supported by the holder, a front member spaced from the rear member and having a side engageable with one of said grooves, a third member arranged between the front and rear members, means passing

through said three members and pivotally connecting the same together, and means on the third member and adapted to extend beyond an edge of the front member for operating the third member, said means being free of the lower groove.

7. The combination with a label holder having upper and lower grooves, a sales metering device carried by the holder and comprising a rear member arranged in the upper and lower grooves and supported by the holder, a front member spaced from the rear member, a third member arranged between the front and rear members, means passing through said three members and pivotally connecting the same together, said front and third members having their upper edges arranged in the upper groove and their lower edges arranged outside of the holder and free of the lower groove, means on the third member and extending beyond an edge of the front member for operating the third member, and a tail-piece on an end of the front member adjacent the last named means.

8. A registering device comprising a rear member, an intermediate member, a front member, said three members being pivotally connected together, said intermediate member having spaced numerals, said front member having an opening through which a numeral may be seen, fingers on the intermediate member and adapted to be brought successively to operable position beyond an edge of the front member, and a tail-piece on the front member arranged to be adjacent a finger.

9. The combination of a holder, a metering device removably supported by the holder and comprising an indicator member, a supporting member to which the indicator member is pivoted, and a front member fastened to the supporting member.

10. The combination of a holder, a metering device removably supported by the holder and comprising a supporting member carried and supported by the holder, an indicating member, a front member, connecting means passing through the three members and pivotally connecting the three members together, means for rotating the indicating member, said front member having a part thereof engaging the holder to prevent rotation thereof during operation of the indicating member.

11. The combination with a label holder having upper and lower grooves, a metering device carried by the holder and comprising a supporting member movably arranged in the grooves and supported by the holder, and an indicator member pivoted to the supporting member, said indicator member having means thereon extending beyond an edge of the supporting member to permit manual operation of the indicator member.

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