July 25, 1933. P. C. SMITH 1,919,963

COIN PACKAGING DEVICE

Filed Feb. 25, 1933

Fig. 1.

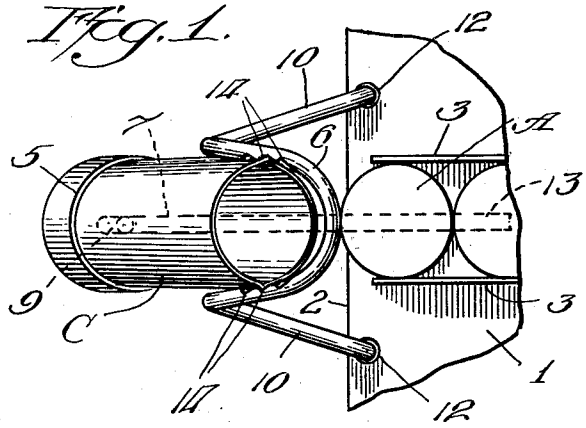


Fig. 2.

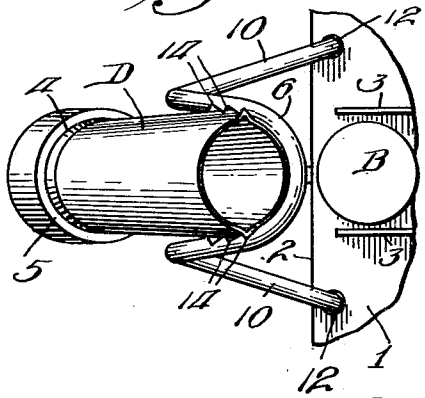


Fig. 5.

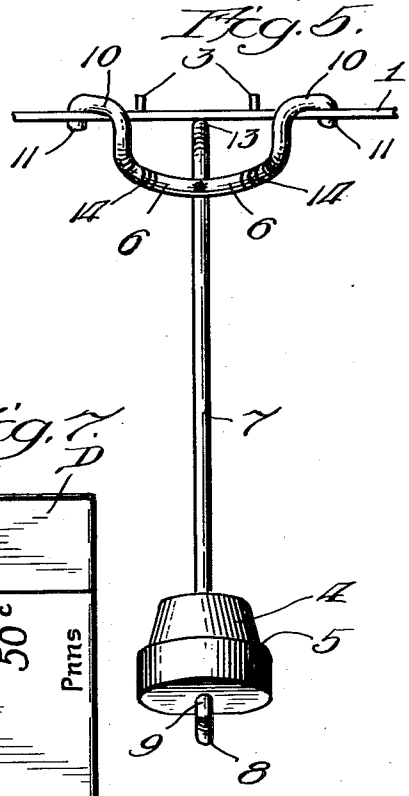


Fig. 3.

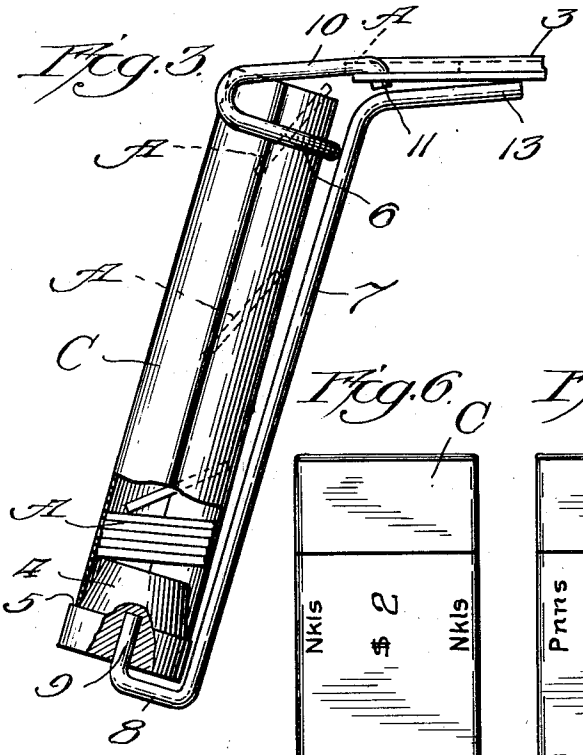


Fig. 6.

Fig. 7.

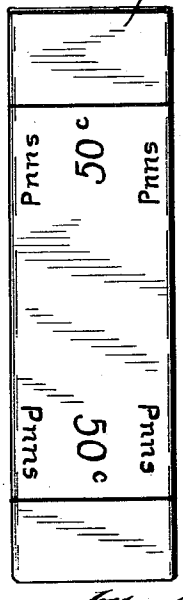
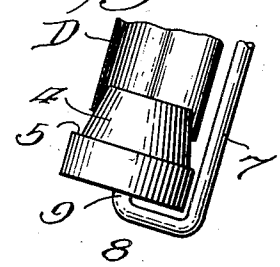


Fig. 4.



Inventor:
P. C. Smith.
by Wm. F. Frundenreich,
Atty.

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UNITED STATES PATENT OFFICE

PERCY C. SMITH, OF CHICAGO, ILLINOIS

COIN PACKAGING DEVICE

Application filed February 25, 1933. Serial No. 658,549.

The present invention relates to the art of packaging coins in wrappers each containing a stack of coins, and has for its object to simplify the packaging process in connection with coins delivered by a coin counting machine.

Coin wrappers are available in the form of open ended tubes and, in order that the work of filling one of these wrappers be simplified as much as possible, it is desirable that the coins be delivered directly from the counting machine to a wrapper so that the only subsequent operation needed is that of closing the ends of the wrapper. However, I am not aware that there has heretofore been devised any means for packaging coins delivered by a counting machine, which does not require the intervention of some additional container or receptacle to receive the coins and from which they must then be removed to the wrapper.

Specifically regarded, the present invention may be said to have for its object to produce a simple and novel means for supporting a tubular coin wrapper in such relation to a counting machine that the coins drop directly into the wrapper and arrange themselves in stack formation, whereby the roll or package may be completed by simply closing the ends of the wrapper.

Some coin counting machines as, for example, the machine illustrated in my prior application, Serial Number 544,299, dated July 31, 1931, now Patent Number 1,908,565, issued May 9, 1933 of which the present application is a continuation in part, will handle coins of different sizes; and, therefore, my invention may be said to have for one of its objects to make it possible for a coin counting machine to deliver coins of different sizes directly into their proper wrappers.

The various features of novelty whereby my invention is characterized will hereinafter be pointed out with particularity in the claims; but, for a full understanding of my invention and of its objects and advantages, reference may be had to the following detailed description taken in connection with the accompanying drawing, wherein:

Figure 1 is a top plan view of one of my improved devices attached to the table of a counting machine and illustrated as supporting a coin wrapper in position to receive coins from the table; Fig. 2 is a view similar to Fig. 1, showing a wrapper for smaller coins; Fig. 3 is a side elevation of the holder, together with the wrapper shown in Fig. 1, parts being broken away to expose interior construction; Fig. 4 is a side view of the lower end of the holder for the wrappers showing, in section, the smaller wrapper of Fig. 2 instead of the larger wrapper appearing in Figs. 1 and 3; Fig. 5 is a front view of the holder and a fragment of the table to which the holder is attached; and Figs. 6 and 7 are elevations showing, respectively, in their flattened conditions, a tubular wrapper for nickels and a tubular wrapper for pennies.

In the drawing I have illustrated my invention, and I shall describe it, as adapted for the packaging of nickels and pennies; but it will, of course, be understood that, so far as the present invention is concerned, it makes no difference what the denominations of the coins are, as long as the coins differ from each other in diameter.

Referring to the drawing, 1 represents a table across the top of which coins lying flat on the table and arranged edge to edge may be moved toward one edge 2 of the table and be allowed to drop by gravity from the table when said edge is reached. In the arrangement shown, the coins are adapted to be fed along the table between separated guides 3, 3 overlying the table and arranged at right angles to the edge at which the coins are discharged. The guides are spaced far enough apart to receive between them the nickels A of Figs. 1 and 3, or the pennies B of Fig. 2. These details form no part of the present invention, however.

Open ended tubular coin wrappers are obtainable in a collapsed or flattened condition, as indicated in Figs. 6 and 7; the wrapper C in Fig. 6 being adapted to hold a stack of forty nickels and the wrapper D of Fig. 7 being adapted to hold a stack of fifty pennies. The present invention con-

templates supporting either of the two such wrappers, with the lower portion thereof opened into the form of a cylinder and the upper end partially open, in such a position that the coins as they drop from the edge of the table will enter the upper end of the wrapper and eventually lay themselves flat in the wrapper; means being provided to prevent the coins from dropping out through the lower end of the wrapper. I prefer that the upper end of the wrapper be only partially opened so that one transverse dimension of the mouth or inlet to the wrapper will be longer than the diameter of the coins to be received. By placing the wrapper in such a position that this long dimension will be parallel with the adjacent edge of the table, each coin as it drops into the wrapper will have a clearance at both ends of the long dimension of the inlet or mouth and will therefore enter the wrapper freely.

The particular holder that I have illustrated includes a frusto-conical plug 4 adapted to enter the lower end of a wrapper and fully expand or open the same; the top of the plug being flat, so that the first coin, which is to form the lowermost element of the stack, may lie flat on the plug or block in a plane at right angles to the long axis of the wrapper. The larger wrapper may slip down on the frusto-conical element until it comes to rest on an annular shoulder 5 at the base of this element, as shown in Fig. 3. In the case of the smaller wrapper, the wrapper will be fully opened or extended before the frusto-conical plug or block has fully entered the same so that, as shown in Fig. 4, the wrapper will not extend down to the shoulder 5. The upper end of the wrapper, which must be left open, is supported by a U-shaped part 6 whose arms are spaced apart a distance greater than the diameter of the larger wrapper when fully opened, and less than the width of the smaller wrapper when that wrapper is fully collapsed or flattened. Therefore, either of the two wrappers may be partially opened at its upper end and be inserted in the U-shaped part 6 with its longer transverse dimension extending across from one arm of that part to the other and be held in a still partially flattened or collapsed condition by the part or member 6. The frusto-conical block lies in front of and is fixed to a long supporting rod 7, the lower end of which is bent laterally, as at 8, and then upwardly, as at 9; the part 9 serving as a finger or pin entered into the plug or block from below and at the axis thereof. Consequently the axis of the block or plug is parallel with the rod. The U-shaped element 6 lies in front of the upper portion of the rod and is welded thereto. The element 6 is also made of a rod or heavy wire and its arms are provided with rearward extensions 10, 10 diverging from each other; the members 10, 10 being long enough to overlie the forward end of the table when the rod 7 is placed below the table in such a position that the closed part of the U-shaped member 6 lies in about the vertical plane of the front edge of the table. The extreme rear ends of the extensions or arms 10, 10 are bent down to form fingers or lugs 11, 11 adapted to enter suitable holes 12, 12 in the table. The upper end of the rod 7 is bent rearwardly, as indicated at 13; the part 13 lying in a plane just below and almost parallel with the plane of the arms or extensions 10, 10.

With the arrangement just described, when it is desired to attach the coin packaging device to the table, the finger 13 is slipped underneath the table and the arms or extensions 10, 10 are brought on top of the table so that the lugs 11, 11 thereon may enter the holes 12, 12. The device is now firmly supported and, since the plane of the arms or extensions 10, 10, and therefore the finger 13, form an obtuse angle with the body portion of the rod 7 and with the long axis of a wrapper mounted in a device, the device as a whole and the wrapper will stand in a downwardly and outwardly inclined position; the wrapper being held with its mouth or inlet end partially flattened so that the coins will drop freely into the same when pushed off the table, as indicated in Fig. 3. The coins will not tend to stand on edge although the lowermost coin, until a considerable number of other coins have been piled on top of it, will ordinarily not lie flat on the flat upper face of the frusto-conical plug or block, but will tend to lie at a small angle to such face, as shown in Fig. 3. If the coins do not eventually assume positions in which the planes thereof are at right angles to the long axis of the wrapper, the wrapper may be lightly tapped at the side and cause the coins to assume the positions which they are ultimately to have in the wrapper. After the proper number of coins has been deposited in a wrapper, the wrapper with its contents is lifted out of the holder and the ends are folded in tightly against the stack or roll of coins.

The arms of the U-shaped elements 6 proper are preferably not parallel with each other but diverge somewhat; thereby permitting a small wrapper to enter farther between the arms than will a large wrapper, and make it possible for each of these two wrappers to be satisfactorily held. In order to ensure that the upper end of each wrapper will be positively held in place so as not to be jarred out of position by coins dropping into the same, I prefer to provide the arms of the U-shaped elements 6 proper with

ratchet teeth or saw teeth 14 on their inner sides. The wrappers are, of course, longitudinally creased at two diametrically opposed points through the flattening operation in the manufacture thereof. Therefore, when a wrapper is opened up or expanded it will have sharp corners or ridges extending longitudinally of the same at diametrically opposed points; these corners or ridges remaining until the wrapper is stressed sufficiently to make them disappear. In partially opening that end of the wrapper which is at the top when placed in position to receive coins, the material of the wrapper is not stressed sufficiently to smooth out the corners or ridges at the creases, and therefore these corners or ridges, when engaged with the ratchet teeth or saw teeth, will not only properly align the mouth of the wrapper with respect to the edge of the table, but will yieldingly lock the wrapper against displacement.

It will thus be seen that I have produced a simple and novel device for causing coins dropping from a table to enter directly into a wrapper and pile up therein in perfect stack formation without requiring the user of the device to do anything more than lift out the wrapper and its contents and close the ends of the wrapper. It will, of course, be understood that when I refer to a table, I mean simply any support over an edge of which coins may be fed and allowed to drop. It will also be seen that the same device may successfully be employed for the packaging of coins of a plurality of sizes and that the device may be a permanent part of a counting machine or table or be a removable attachment thereto.

While I have illustrated and described with particularity only a single preferred form of my invention, I do not desire to be limited to the exact structural details thus illustrated and described; but intend to cover all forms and arrangements which come within the definitions of my invention constituting the appended claims.

I claim:

1. In combination, a table, and means to support a tubular coin wrapper with its open upper end in a partially flattened condition in the vicinity of the plane of and near an edge of the table and the body portion extending down below the table, the long transverse dimension of the partially flattened upper end of the wrapper being approximately parallel to said edge.

2. In combination, a table, and means to support a tubular coin wrapper with its open upper end in a partially flattened condition in the vicinity of the plane of and near an edge of the table and the body portion extending outwardly and downwardly in an inclined position from the table, the long transverse dimension of the partially flattened upper end of the wrapper being approximately parallel to said edge.

3. In combination, a table, a member extending downwardly from the table at an edge thereof, a frusto-conical plug at the lower end of the support of a size to enter and expand any one of a plurality of tubular coin wrappers, said plug lying outwardly from the table and the long axis thereof being inclined upwardly and inwardly so that the upward extension thereof passes the table a short distance from said edge, and means at the upper end of said support to hold the upper end of a wrapper on said plug.

4. In combination, a table, a member extending downwardly from the table at an edge thereof, a frusto-conical plug at the lower end of the support of a size to enter and expand any one of a plurality of tubular coin wrappers, said plug lying outwardly from the table and the long axis thereof being inclined upwardly and inwardly so that the upward extension thereof passes the table a short distance from said edge, and means at the upper end of said support to hold the upper end of a wrapper on said plug in a partially flattened condition and with the long transverse axis of said upper end approximately parallel to said edge.

5. In combination, a table, a member extending downwardly from the table at an edge thereof, a frusto-conical plug at the lower end of the support of a size to enter and expand any one of a plurality of tubular coin wrappers, said plug lying outwardly from the table and the long axis thereof being inclined upwardly and inwardly so that the upward extension thereof passes the table a short distance from said edge, the distance of the plug below the table being such that a coin wrapper fitted on the plug extends up into the vicinity of the top of the table, and means at the upper end of said support to hold the upper end of a wrapper on said plug.

6. In combination, a table, a member extending downwardly from the table at an edge thereof, a frusto-conical plug at the lower end of the support of a size to enter and expand any one of a plurality of tubular coin wrappers, said plug lying outwardly from the table and the long axis thereof being inclined upwardly and inwardly so that the upward extension thereof passes the table a short distance from said edge, and a U-shaped element projecting outwardly from the said member near its upper end, the arms of said element being spaced apart a distance less than the width of the largest of said wrappers in a fully collapsed or flattened condition and greater than the diameter of the latter wrapper when in its tubular form.

7. A device of the character described,

comprising a supporting rod, a frusto-conical block fixed to the lower end of the supporting rod and lying in front of and with its axis parallel to the same, the upper end of the supporting rod being extended rearwardly at an obtuse angle to the main portion of the rod, a U-shaped rod lying in a plane at right angles to said axis in front of the upper end of the supporting rod and fixed thereto in such a position that the arms of the U lie on opposite sides of the aforesaid axis extended, extensions on the arms of the U-shaped rod extending rearwardly and diverging from each other, and the rear ends of said extensions being bent downwardly.

8. In combination, a table, a member extending downwardly from the table at an edge thereof, a frusto-conical plug at the lower end of the support of a size to enter and expand any one of a plurality of tubular coin wrappers, said plug lying outwardly from the table and the long axis thereof being inclined upwardly and inwardly so that the upward extension thereof passes the table a short distance from said edge, and a U-shaped element projecting outwardly from the said member near its upper end, the arms of said element being spaced apart a distance less than the width of the largest of said wrappers in a fully collapsed or flattened condition and greater than the diameter of the latter wrapper when in its tubular form and each having a plurality of notches on the inner side thereof.

9. A device of the character described, comprising a member for supporting the lower end of a tubular coin wrapper in an expanded condition, a U-shaped member adapted to embrace the upper end of said wrapper, and means connecting said members together, said U-shaped member having on the inner side of each of its arms a plurality of notches, and the distance between two corresponding notches being greater than the distance between two other corresponding notches.

10. In combination, a table, a member extending downwardly from the table at an edge thereof, a frusto-conical plug at the lower end of the support of a size to enter and expand any one of a plurality of tubular coin wrappers differing in diameter, said plug lying outwardly from the table and the long axis thereof being inclined upwardly and inwardly so that the upward extension thereof passes the table a short distance from said edge, and means at the upper end of said support to hold the upper end of such a wrapper on said plug.

11. In combination, a table, a member extending downwardly from the table at an edge thereof, a frusto-conical plug at the lower end of the support of a size to enter and expand any one of a plurality of tubular coin wrappers differing from each other in diameter, said plug lying outwardly from the table and the long axis thereof being inclined upwardly and inwardly so that the upward extension thereof passes the table a short distance from said edge, and means at the upper end of said support to hold the upper end of any such wrapper on said plug in a partially flattened condition and with the long transverse axis of said upper end approximately parallel to said edge.

12. A device of the character described comprising a support adapted to be clamped upon a table and project downwardly therefrom, means at the lower end of the support for engaging with the lower end of any one of a plurality of tubular coin wrappers differing from each other in diameter to hold the same expanded, and means at the upper end of said support to hold the upper end of any such wrapper in a partially exanded condition, with the long dimension of the open mouth or upper end of the wrapper arranged parallel with and slightly below the said edge of the table.

PERCY C. SMITH.