

[54] COIN COUNTING AND ROLLING APPARATUS

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[58] **Field of Search** 133/8 A, 1 R, 1 A, 8 R, 8 C

[56] **References Cited**

FOREIGN PATENTS OR APPLICATIONS

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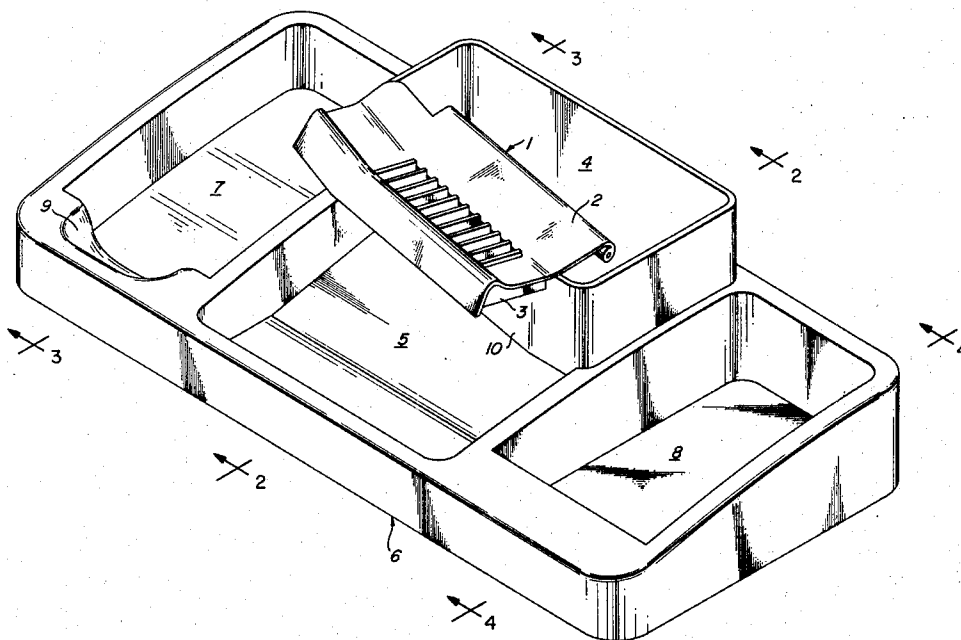
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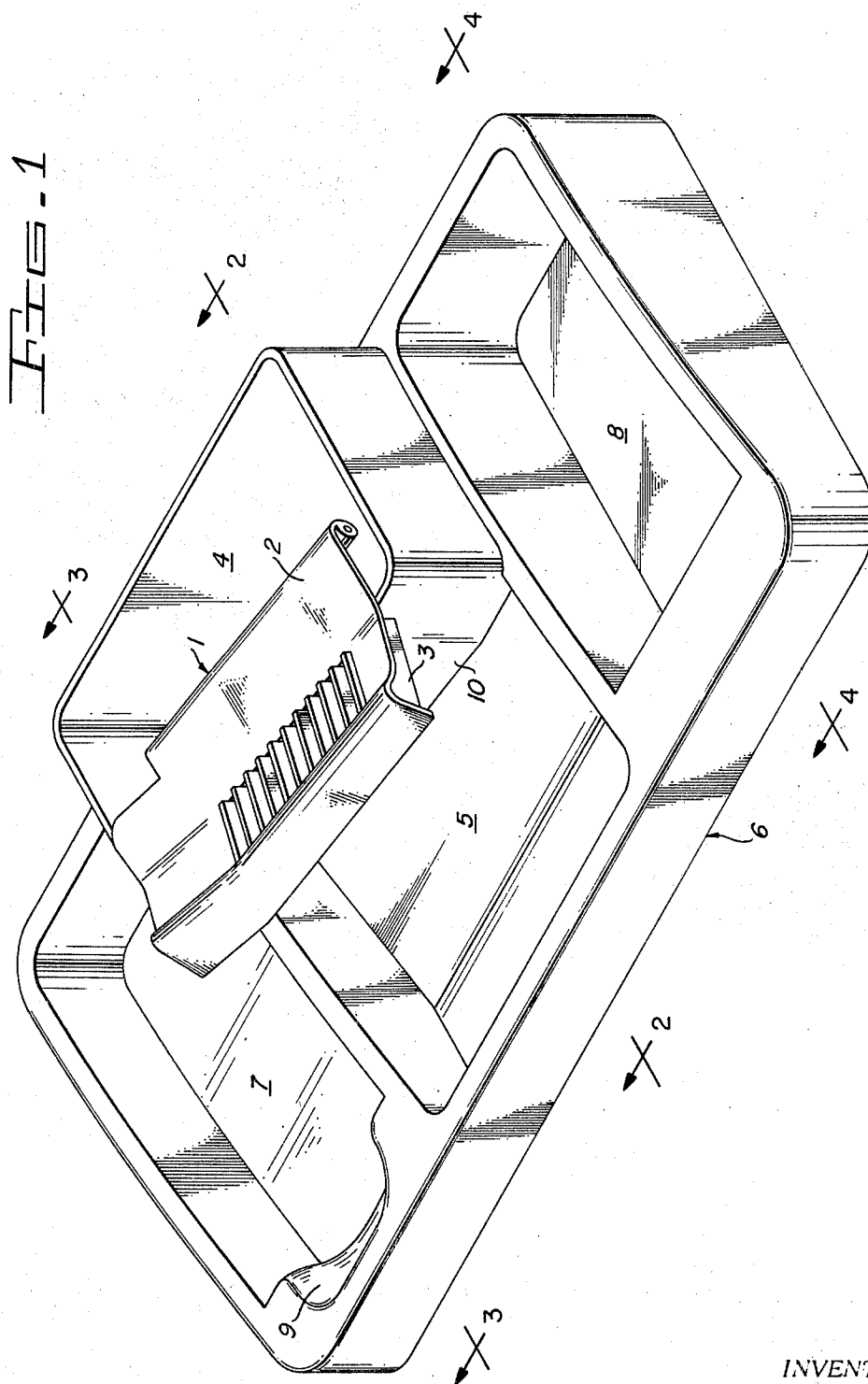
[57] ABSTRACT

In order to facilitate and expedite manual counting and rolling of bulk coins of a given denomination, apparatus is provided

for semiautomatically grouping bulk coins into small equal groups, each group constituting a predetermined fraction, such as one-tenth of a roll. The apparatus consists generally of two counter-members hinged together with the upper member having a predetermined number of compartment openings dimensioned to accept the number of coins corresponding to the above-mentioned fraction of a roll and the lower member having a channel disposed beneath the compartment openings of the upper member. In operation, bulk coins of the appropriate denomination are manually worked into the compartment openings until all have accepted the maximum number of coins. The upper member is then swung away leaving the number of coins constituting a roll laying in the channel of the lower member from which they may be manually slid into a coin wrapper. To change coin denomination, the unit comprising the upper and lower counter members is removed from a base and replaced with a similar unit with appropriately dimensioned compartment openings for receiving the new denomination to be counted. The base has three compartments including a first, central compartment for storing uncounted coins and including the support for the counter apparatus, a second compartment for storing coin wrappers where they are easily accessible, and a third compartment for storing rolled coins.

3 Claims, 6 Drawing Figures





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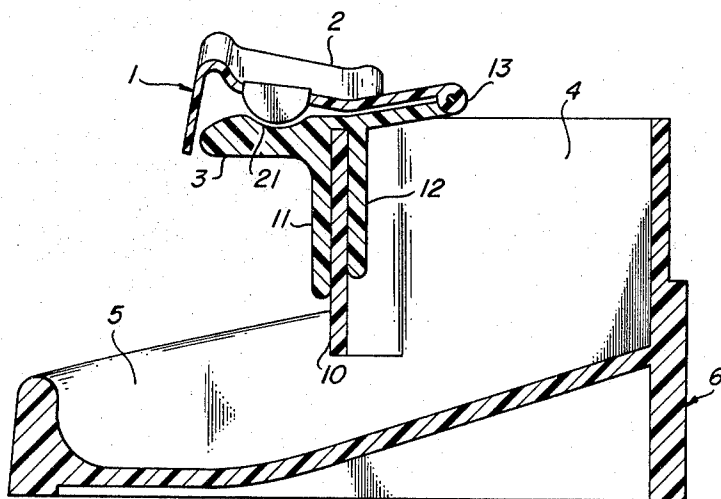


FIG. 2

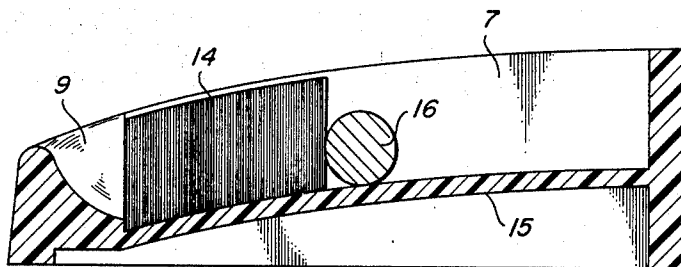


FIG. 3

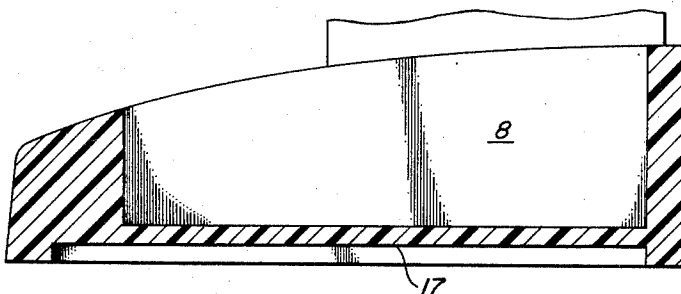


FIG. 4

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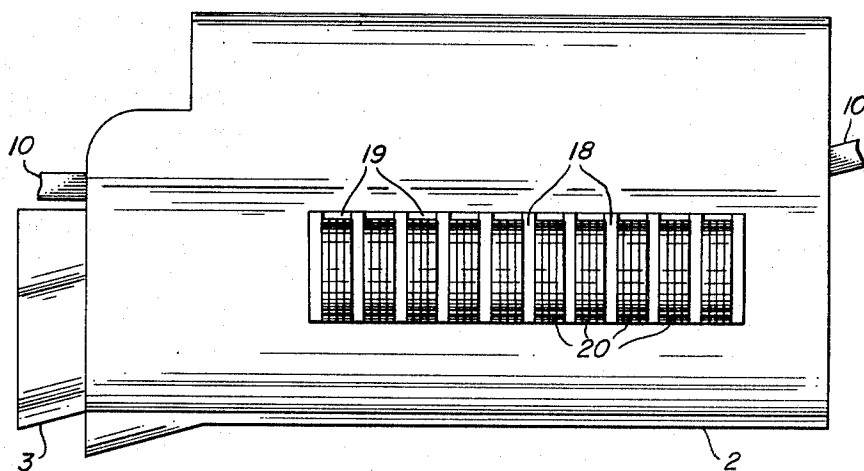


FIG. 5

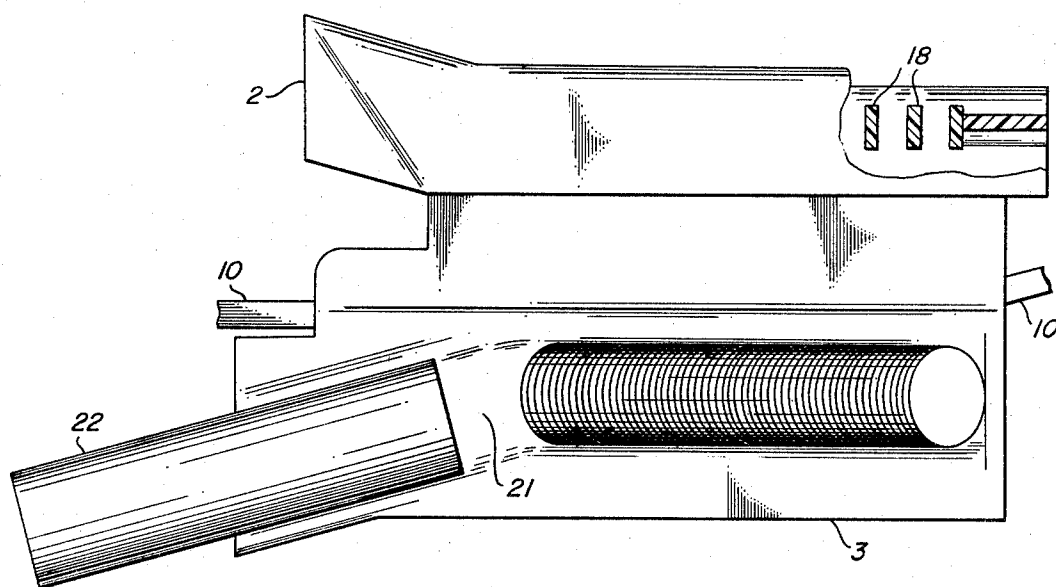


FIG. 6

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COIN COUNTING AND ROLLING APPARATUS

This invention relates to the coin counting arts and, more particularly, to apparatus for facilitating the manual counting and wrapping of coins.

Large commercial concerns, such as large banks, which are required to count and wrap very substantial numbers of coins on a continuing basis generally utilize sophisticated and expensive mechanical counting and wrapping machines. Such machines are very effective for those operations for which their expense can be justified. However, many commercial operations, such as smaller banks, vending machine businesses, coin operated laundry businesses, and the like cannot justify the enormous expense incurred in the installation and operation of the automatic machine. As a result, it is necessary to carry out the counting and wrapping operations completely manually or with the assistance of crude and inaccurate counting apparatus such as tubular counters carrying indicia which indicate the number of coins included in any part thereof. Hence, it will be apparent that it would be highly desirable to provide apparatus which effectively speeds up the manual counting and wrapping of coins and accuracy with which the work is carried out for those operations in which mechanical counters and wrappers cannot be justified, and in which purely manual coin handling is intolerably inefficient.

It is therefore a broad object of this invention to provide an improved coin counting apparatus.

It is a more specific object of this invention to provide apparatus for facilitating manual coin counting.

It is another object of this invention to provide coin counting apparatus in which the wrapping function is also facilitated.

It is yet another object of this invention to provide coin counting and wrapping apparatus to facilitate the manual handling of coins of various denominations.

It is still another object of this invention to provide such apparatus which is simple and reliable in use and economical to fabricate.

The manner in which these and other objects of the invention are achieved will become more readily apparent to those conversant in the art through perusal of the following specification taken in conjunction with the sub-joined claims and the drawing, of which:

FIG. 1 is a perspective view of the coin counting apparatus of the present invention;

FIG. 2 is a cross-sectional view taken along the line 2—2 of FIG. 1;

FIG. 3 is a cross-sectional view taken along the line 3—3 of FIG. 1;

FIG. 4 is a cross-sectional view taken along the line 4—4 of FIG. 1;

FIG. 5 is a detailed view of the coin counting apparatus depicting the upper and lower members in first, coin counting position; and

FIG. 6 is another detailed view of the coin counting apparatus shown in position for loading counted coins into a wrapper.

Referring now to FIG. 1, it will be observed that the counting unit 1, consisting of a first, upper counting member 2 and a second, lower counting member 3, is supported on the forward wall of a dumping compartment 4 which is in communication with a central bulk coin compartment 5 of a base 6. The base 6 is also provided with a second compartment 7 for storing coin wrappers and a third compartment 8 for storing coin rolls. The forward wall of the second compartment 7 is provided with a lip 9 to facilitate removing coin wrappers in a manner which will become apparent as the description proceeds. It will be observed that the forward wall 10 of the dumping compartment 4 is angled with respect to the longer dimensions of the base 6 and that the counting unit 1 is correspondingly angled inasmuch as it is supported by the forward wall 10 of the dumping compartment 4.

The manner in which the counting unit 1 is supported on the forward wall 10 of the dumping compartment 4 may best be understood with reference to FIG. 2 in which it will be ob-

served that the lower counting member 3 includes two downwardly directed projections 11 and 12 forming a fork-like structure to be removably slipped over the forward wall 10. It will further be observed in FIG. 2 that the upper counting member 2 is fixed to the lower counting member 3 by a hinge 13. As will be described more fully below, the counting unit 1 has two working positions, that depicted in FIG. 2 being the counting position and a second position in which the upper counting member 2 is swung upwardly and away from the lower counting member 3 to permit counted coins to be loaded into a coin wrapper.

As shown in FIG. 3, the second compartment 7 is adapted to hold a supply of flattened coin wrappers 14 which may be removed one at a time from the forward end of the compartment 7 utilizing the lip 9. In order to maintain the supply of coin wrappers at the forward end of the compartment 7, the bottom 15 of the compartment 7 slopes downwardly and forwardly such that a cylindrical roller 16 bears against the rear-most of the coin wrappers 14 urging the wrappers forwardly. The cylindrical roller 16 may be of any dense material, and it has been found that a roll of coins is satisfactory although it is desirable that the length of the roller 16 be nearly the full width of the compartment 7.

Referring to FIG. 4, the bottom 17 of the third compartment 8 may simply be a horizontal plane. The storage of rolled coins in the compartment 8 rather than laying them aside is useful in stabilizing the apparatus as the supply of bulk coins in the central compartment 5 is depleted.

In operation, bulk coins of a given denomination are dumped into the dumping compartment 4 from which they may slide under the forward wall 10 into the forward portion of the bulk coin compartment 5 as best shown in FIG. 2. The apparatus is depicted in the coin counting position in FIGS. 1, 2, and 5 where it will be observed that the upper counting member 2 is hinged into position overlaying the lower counting member 3. As may be seen in FIG. 5, the upper counting member 2 has an elongated cutaway portion divided by a plurality of partitions 18 into a plurality of equal sized compartment openings 19. For each denomination of coins to be counted, the dimensions of each compartment opening 19 are predetermined to receive a maximum number of coins 20 to be counted. Merely by way of example, there are ten compartments 19 illustrated in FIG. 5, and each compartment 19 will receive four and no more coins 20 because of the predetermined distance separating the partitions 18. The width of the compartment opening 19 need merely be slightly in excess of the diameter of the coin denomination to be counted.

Coins are scooped by hand from the bulk coin compartment 5 and are placed onto the upper surface of the upper counting member 2 and then worked into the compartment openings 19. It has been found that the coins have a propensity to fill each compartment 19 very equally to the maximum in a startling manner such that it becomes simple to segregate a roll of coins in a very few seconds with excess coins merely being brushed or rolling into the dumping compartment 4 or the bulk coin compartment 5. The coins are supported by a channel 21 in the lower counting member 3 in order that the upper counting member 2 may be swung upwardly and rearwardly into the position shown in FIG. 6 to facilitate the loading operation.

After a roll of coins has been counted, one of the coin wrappers 14 from the second compartment 7 is withdrawn and opened. Subsequently, as shown in FIG. 6, the selected coin wrapper 22 is positioned in an angled portion of the channel 21, and the coins 20 are then easily loaded by using a finger to slide the entire roll into the coin wrapper 22.

When it becomes necessary to count coins of a different denomination, the counting unit comprising the upper counting member 2 and the lower counting member 3 may be raised off the forward wall 10 and replaced with a similar unit with compartment openings 19 of appropriate dimensions. To facilitate identifying several counting units, each may be color coded according to the standard color code for coin wrappers.

For example, red for United States pennies, green for U.S. dimes, etc.

While the principles of the invention have now been made clear in an illustrative embodiment, there will be immediately obvious to those skilled in the art many modifications of structure, arrangement, proportions, the elements, materials, and components, used in the practice of the invention which are particularly adapted for specific environments and operating requirements without departing from those principles.

I claim:

1. Apparatus for facilitating manually counting a predetermined number of coins comprising:

a. first and second counter members each having two long sides and two short sides, said first and second counter members being hingedly fixed together at corresponding long sides such that said first counter member may be manually pivoted between a first position in which said first counter member generally overlays said second counter member and a second position in which said first counter member is swung upwardly and away from said second counter member;

1. said first counter member having an elongated cutout portion divided into a predetermined plurality of equal sized compartments by a commensurate number of partitions disposed laterally across said cutout portion, said compartments dimensioned to receive a predetermined equal maximum number of single denomination coins disposed on edge with their diameters parallel to said partitions,

2. said second counter member having an elongated channel overlayed by said elongated cutout portion of said first counter member when said first counter member is in said first position, said elongated channel providing support for coins disposed on edge in said compartments when said first counter member is in said first position and providing a guide for removing counted coins from the apparatus when said first counter member is in said second position, said second counter member including downwardly extending support means; and

b. a base for supporting said first and second counter members, said base including upwardly extending support means, said downwardly extending support means and said upwardly extending support means adapted to interlock such that the unit comprising said first and second counter members may be selectively detached from and secured to said base.

2. The counting apparatus of claim 1, in which said base includes first, second and third upwardly opening storage compartments, said unit comprising said first and second counter members being disposed entirely above one of said storage compartments.

3. The counting apparatus of claim 2 in which said upwardly extending support members comprises a portion of the periphery of a funnel-like structure disposed above said one of said storage compartments.

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