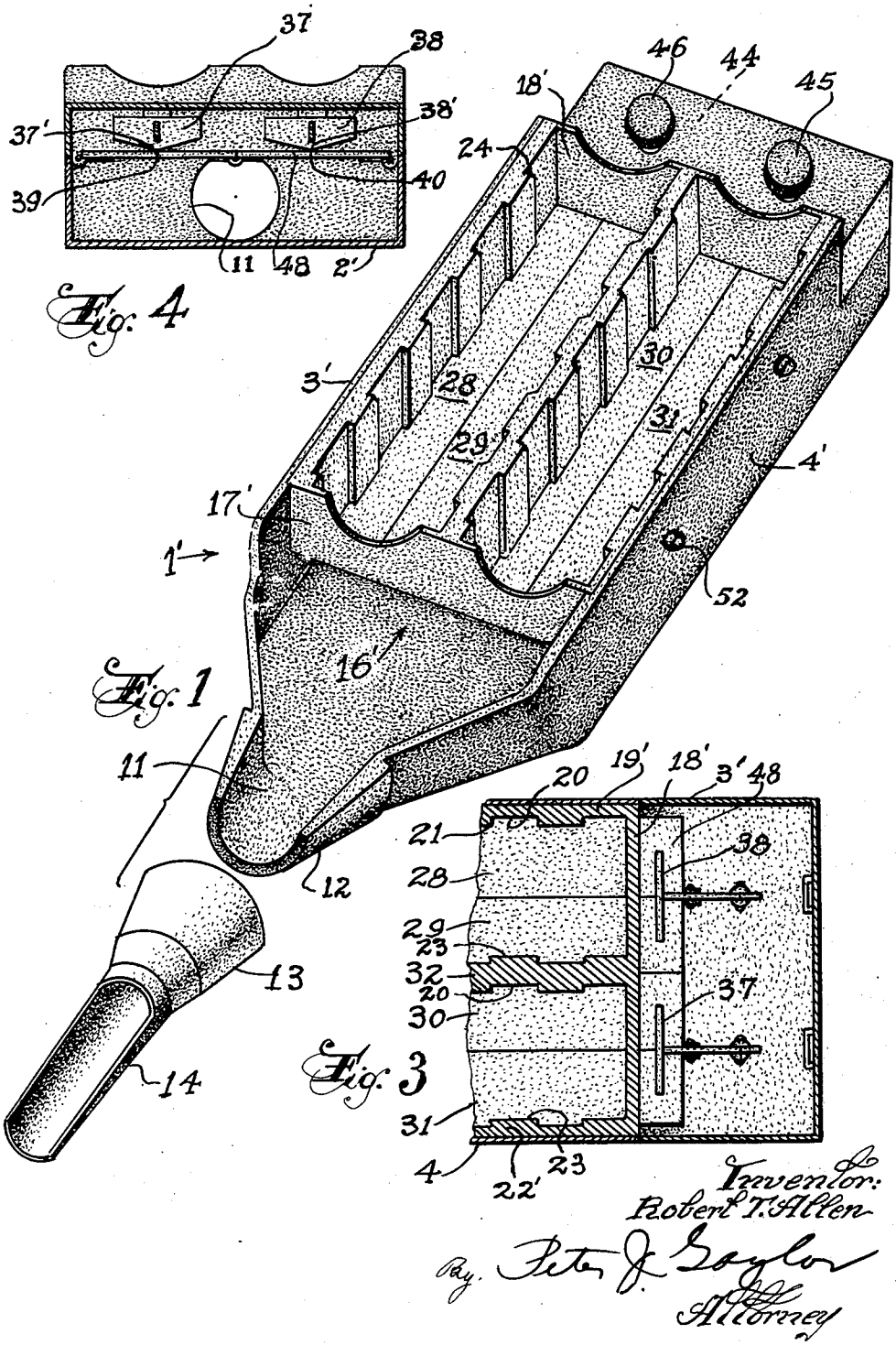
June 21, 1960 R. T. ALLEN 2,941,342

COIN COUNTER AND WRAPPER

Filed Oct. 7, 1958 2 Sheets-Sheet 1



Inventor:
Robert T. Allen
By. Peter J. Gaylor
Attorney

June 21, 1960 R. T. ALLEN 2,941,342

COIN COUNTER AND WRAPPER

Filed Oct. 7, 1958 2 Sheets-Sheet 2

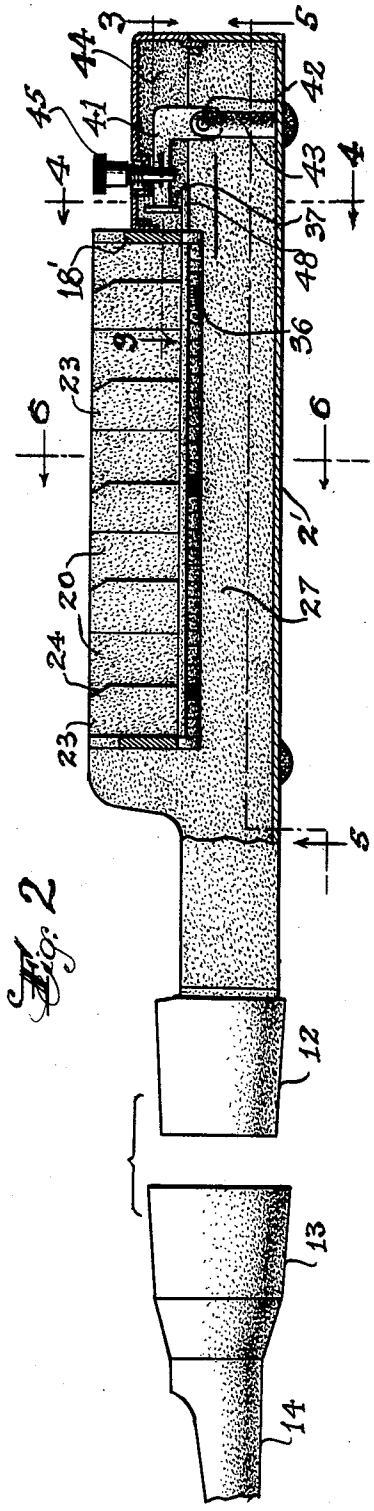


Fig. 2

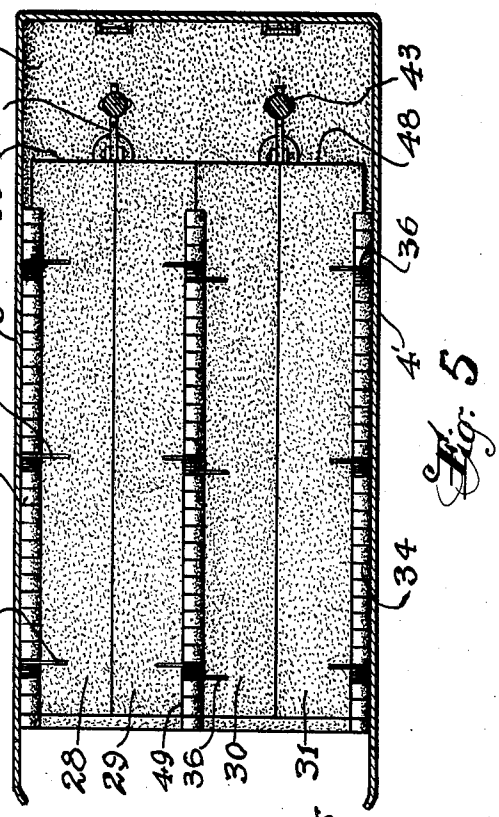


Fig. 5

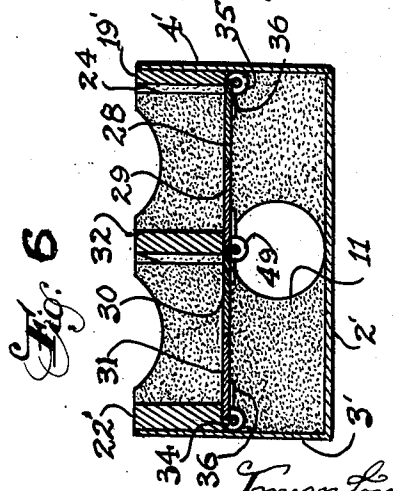


Fig. 6

Inventor:
Robert T. Allen
By Peter J. Taylor
Attorney

United States Patent Office 2,941,342 Patented June 21, 1960

2,941,342

COIN COUNTER AND WRAPPER

Robert T. Allen, 1253 Whelan Ave., Rahway, N.J.

Filed Oct. 7, 1958, Ser. No. 765,779

1 Claim. (Cl. 53—154)

This invention deals with a device for counting and wrapping coins. More specifically, it relates to a unit having a coin counting section and a wrapping section coactable therewith. Other novel features include an elevated coin counting section having means for discharging coins therefrom into a collecting chamber disposed therebelow and connectable with coin wrapping means.

Although costly electrically-operated coin counting and wrapping machines are available on the market, there is a need for a low-priced unit for use in small banks, supermarkets and similar business establishments wherein expensive units would not be warranted. The units of the present invention provide suitable counting and wrapping means for such businesses and they are compact, efficient, relatively inexpensive and are capable of being manufactured readily in quantity.

The invention will be more readily understood by reference to the accompanying drawings in which a preferred embodiment is depicted. Figure 1 illustrates a top perspective view of a two-compartment coin counting and wrapping device of the present invention. A side view, partially in cross-section to show the beveled tips of projecting side surfaces of the unit depicted in Figure 1, is illustrated in Figure 2. Figure 3 presents a cross-sectional top view of a whole end portion taken along line similar to line 3—3 of Figure 2. Figure 4 illustrates a cross-sectional end view taken along line 4—4 of Figure 2. Figure 5 shows a cross-sectional bottom view taken along line 5—5 of Figure 2, while Figure 6 presents a cross-sectional end view taken along line 6—6 of Figure 2. Similar numerals refer to similar parts in the various figures.

Referring again to the drawings, numeral 1' represents generally a coin holder or tray made of plastic, metal or similar material, having bottom 2', side walls 3' and 4'. Bottom 2' of tray 1' leads to circular funnel 11 having end 12 connectable with overlapping tubular portion 13 of coin counting tube 14, over which may be disposed a paper coin wrapper (not shown) in which the counted coins may be wrapped.

A counting frame 16' (Fig. 1) is fitted between the upper portions of sides 3' and 4' of tray 1' and is fastened thereto by means of screws 52 so as to leave an open space 27 (Fig. 2) below said frame to permit opening therein of trap doors 28—29 and 30—31 which form the bottom of frame 16'. Trap doors 28 and 29 serve to discharge the contents of frame 16' contained in the compartment between sides 19' and 32 (Fig. 6), while trap doors 30 and 31 serve to discharge the contents contained in the compartment between sides 22' and 32. Ends 17' and 18' complete the enclosure of frame 16'.

As is apparent from Figure 3, side 19' of counting frame 16' has an inner wall provided with a series of projecting and recessed portions 21 and 20, respectively, spaced so as to contain a fixed number of coins (say, 5 coins) which are stacked edge down perpendicular to compartment sides 19' and 32 of frame 16'. Projecting surfaces 23 of wall 32 are disposed in opposite relation to the recessed surfaces 20 in wall 19', so that the series of (say, 5) coins are stacked in axially staggered relation in frame 16.

The staggered sections (e.g., those between walls 20 and 23) of frame 16' are of such length that the loss in thickness of the coins (as compared to newly minted coins) in each staggered section is less than the thickness of an average (run-of-the-mill) coin. Thus, such staggering at these intervals in the stack of coins "absorbs" the thickness loss for each section, whereby additive accumulation of thickness loss is avoided. "Thickness loss" is defined herein as the loss in thickness suffered by the coin during use since coinage. It has been found that, even with such a staggered section arrangement, there is a tendency for extra coins (i.e., coins over the number intended to be contained per section), to jam into the free space provided by "thickness loss" of the already stacked coins.

An important feature of the frame of the present invention is the means employed for preventing this jamming effect. It will be noted from Figure 2 that an upper corner of each projecting surface 23 in the frame is cut to form a bevel 24. This provision of bevel 24 on sides 19', 22' and separating strip 32 has been found highly useful in preventing jamming of coins into the "thickness loss" space of each staggered section, this bevel serving to guide excess coins into the next succeeding staggered row.

Trap doors 31 and 28 are hinged by hinges 34 and 35, respectively to sides 22' and 19' (Fig. 6), respectively, of frame 16', while trap doors 29 and 30 are hinged by hinge 49 to center wall 32. Springs 36 mounted on the hinges keep all trap doors normally closed. As is apparent from Figure 3, all trap doors have extensions 48 projecting beyond end 18' of frame 16'. The trap doors are provided with opening means, such as spreader plates 37 and 38 which are disposed vertically so that the apexes 37' and 38' of their spreading angles rest at the junctures 39 and 40 of the trap doors (Fig. 4). These spreader plates are mounted on lever 41 which swivels at the top 42 of post 43 mounted in end section 44 of holder 1'. Spring loaded finger button 45 is mounted on lever 41 in a manner (Fig. 2) so as to depress lever 41 when it is pushed down. This depresses spreader plate 37 and its lower angular portion 37' opens trap doors 30 and 31 (via extensions 48), enabling discharge of coins from the counting frame onto tray bottom 2', whereupon the coins may be funneled into wrapping tube 14 for the wrapping operation.

When in operation, the counting frame 16' of the unit depicted in Figures 1–6 is filled with coins by inserting the coins with the fingers in a manner so that the coins rest between and at right angles to walls 19' and 32 and 22' and 32 with their edges resting on trap doors 28—29 and 30—31, respectively. The coins become automatically counted (say, by 5's) as they are inserted in axially staggered groups in each compartment of the frame, the bevels 24 serving to guide extra coins (say, over 5) into the next succeeding section. When all sections are filled, frame 16' then contains a counted number (say, 50, 100, 200, etc.) of coins. When the frame contains the desired number of counted coins, finger buttons 45 and/or 46 are depressed. For example, when button 45 is depressed (Fig. 2), the end lever 41 is moved downwardly, as is spreading plate 38 attached thereto. Apex 38' of the triangular bottom of plate 38, being disposed over juncture 40 of extensions 48 of trap doors 30 and 31, will spread apart doors 30 and 31 as plate 38 is depressed. This will cause the coins in that compartment of frame 16' to discharge onto bottom 2' of tray 1' (Fig. 7),

whereupon the counted coins may be funneled through opening **11** into a wrapping tube disposed around tube **14** and wrapped in a conventional paper wrapper.

Although a two-compartment counting and wrapping device has been disclosed herein, it is understood that a single compartment or multiple compartments (over two) may be employed.

I claim:

A coin counting and wrapping device comprising a tray for holding counted coins, a wrapping tube for holding said coins stacked in a single row for wrapping, funneling means connectable to said tube and said tray for funneling said coins from said tray into said tube, a coin counting frame disposed in the upper portion of said tray and having two short ends and two long sides between which a row of coins may be stacked axially to rest on end, one side of said frame having an inner surface consisting of a lineally disposed series of joined alternately recessed and projecting flat surfaces, the other side having an inner surface consisting of a series of alternately projecting and recessed flat surfaces of the same length as those of the corresponding oppositely-disposed surfaces,

whereby a series of staggered sections is formed wherein the coins may be stacked axially in an alternately staggered section relationship, the length of each section being predetermined to include only that number of coins for which the cumulative thickness loss is less than that of a single run-of-the-mill coin, a bevel cutting off a corner of each said projecting surface and serving to prevent jamming of coins in each section and to guide extra coins into the next succeeding section, spring-hinged trap doors serving as a bottom for said frame and adapted to be opened downwardly into the lower part of said tray for discharge therein of counted coins, and means mounted on said tray for opening said tray doors after the coins have been counted.

References Cited in the file of this patent

UNITED STATES PATENTS

961,473	Abbott	June 14, 1910
2,302,861	Hinkel	Nov. 24, 1942
2,620,109	Smathers	Dec. 2, 1952
2,864,386	Allen	Dec. 16, 1958