Sept. 11, 1951 F. E. SOUTH 2,567,531

COIN WRAPPER AND COUNTER

Filed April 17, 1948 2 Sheets-Sheet 1

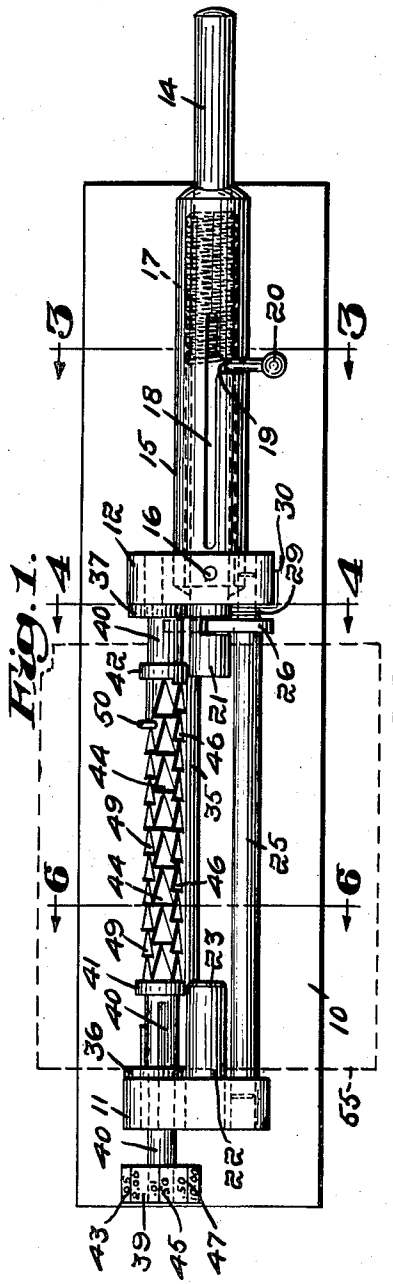


Fig. 1.

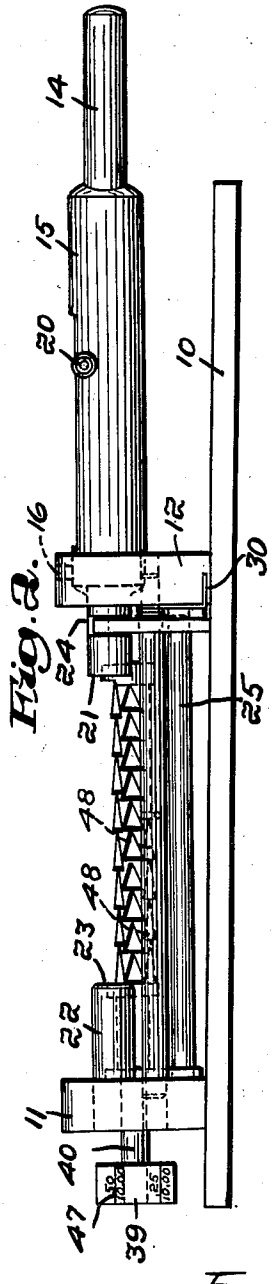


Fig. 2.

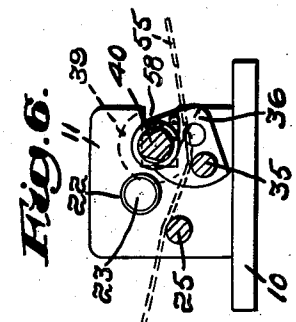


Fig. 6.

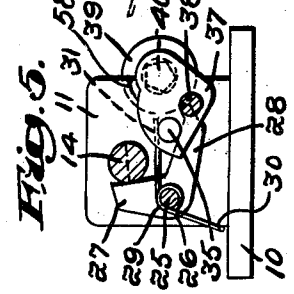


Fig. 5.

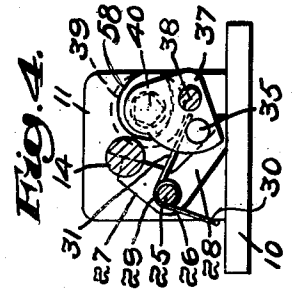


Fig. 4.

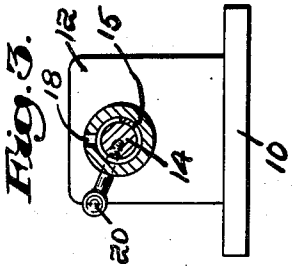


Fig. 3.

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Sept. 11, 1951 F. E. SOUTH 2,567,531

COIN WRAPPER AND COUNTER

Filed April 17, 1948 2 Sheets-Sheet 2

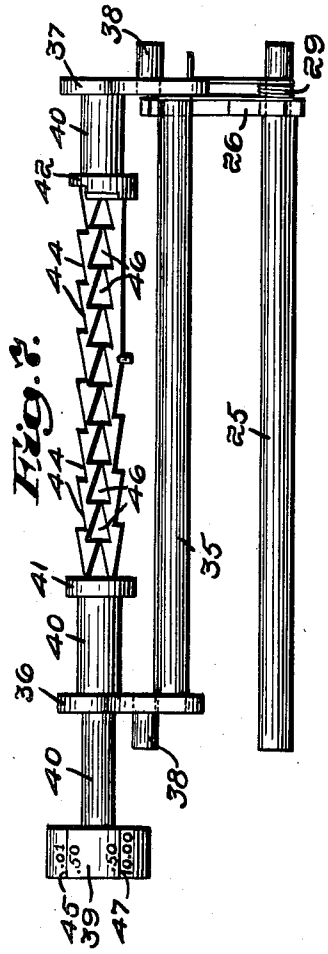


Fig. 7.

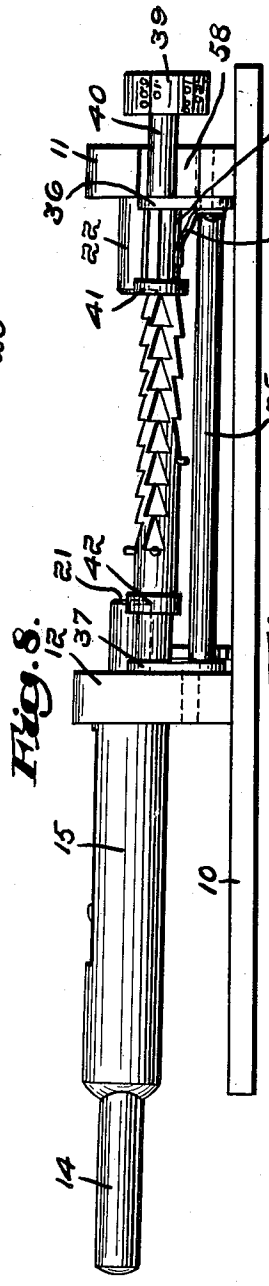


Fig. 8.

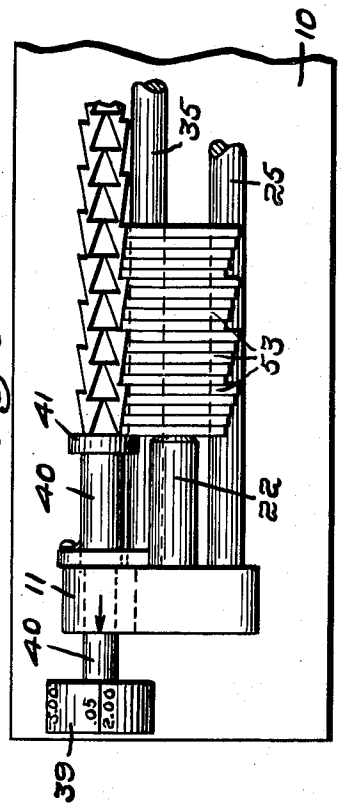


Fig. 9.

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2,567,531

UNITED STATES PATENT OFFICE

2,567,531

COIN WRAPPER AND COUNTER

Frank E. South, Weymouth, Mass.

Application April 17, 1948, Serial No. 21,646

2 Claims. (Cl. 133—8)

1

My present invention relates generally to coin-counting and wrapping devices, and more particularly to a portable unit constructed and arranged to hold, count, and wrap a predetermined number of coins of varying denominations.

My present device is an improvement in coin-counters and wrappers of the general type shown in the copending application of Edward A. Kuban, Ser. No. 686,696, filed July 27, 1946, now abandoned, and includes specifically a novel arrangement to effect accurate counting of coins even though they be of differing thickness and size.

It is a well established fact that coins of like denomination vary materially in thickness as a result of constant handling and extensive use, so that any accurate coin-counting machine must provide for such discrepancies of this nature in order to effect satisfactory results.

Heretofore, numerous types of portable coin-wrapping devices have been developed, some of which include counting mechanisms consisting of a gauged area that purports to represent a predetermined number of coins, but as far as I am aware none of these prior machines can effect accurate counting where coins of varying dimensions are involved. And as the prime function and practical value of such devices pertains to their expediting the coin-counting and -wrapping operations, the inaccuracy of such prior units due to individual coin differences has presented a serious difficulty to their efficiency.

The main object of my invention, therefore, is to obviate the difficulties above briefly outlined by providing a combination coin-counting and wrapping device which includes means for accurately counting each denomination of U. S. currency, irrespective of the dimensional inconsistencies of each or any of said coins, as well as simplified means for wrapping the same.

In carrying out my invention and in order to accomplish the desired accuracy in counting, I prefer to incorporate in my device, in association with a pair of wrapper-holding rods, a unique counter bar which is so constructed and arranged that specific numbers of coins may be easily assembled and accurately counted thereon, and further provided with a visual checking means which is quickly effective for accurate counting, particularly when thin, bent, or otherwise irregular coins become mixed with those of normal thickness.

As will be hereinafter more fully pointed out, my novel counter bar comprises a plurality of notches arranged in series or units accurately spaced to accommodate in closely assembled re-

2

lation a predetermined number of each denomination of the most commonly used coins. Each notch is of appropriate length to locate the edges of a stack of five full-dimensioned coins, and is preferably inclined toward each succeeding notch, thus permitting each sixth coin to be prominently indented and likewise positioned against the shoulder formed by the end of one notch and the beginning of the succeeding notch.

Other objects of my invention pertain to the handy and convenient size of the unit to enhance the portability thereof, the simplicity of design, and the small number of parts involved, and the efficiency of its operation.

Further features, advantages, and details of construction will be hereinafter more fully pointed out in the accompanying description and in the appended claims.

Referring to the drawings, wherein I show a preferred embodiment of my invention:

Fig. 1 is a plan view of my novel coin-counter and wrapper;

Fig. 2 is a side elevational view of the same;

Fig. 3 is a cross-sectional view on the line 3—3 of Fig. 1;

Fig. 4 is a cross-sectional view on the line 4—4 of Fig. 1;

Fig. 5 is a cross-sectional view similar to Fig. 4 but showing the mechanism in the alternate position;

Fig. 6 is a cross-sectional view on the line 6—6 of Fig. 1;

Fig. 7 is a sub-assembly view illustrating the coin-holding mechanism and control details associated therewith;

Fig. 8 is a rear elevational view of my invention, and

Fig. 9 is a fragmentary detail view showing the relative coin edge arrangement of four units of coins in assembled counting position.

As indicated in the drawings, 10 designates a rectangularly shaped base, the under surface of which is preferably provided with a suitable covering of any type of non-slipping material (not shown). Suitably spaced and positioned on the upper surface of said base 10 and secured thereto, by welding or other desired means, are a pair of upstanding supports or standards 11 and 12, both of which base and standards may be made of any desired material such as steel, brass, synthetic plastic or the like.

The standard 12 is bored centrally on its inner face and counterbored on the opposing face to support the assembly of a plunger 14 and its encircling cylinder 15. One end of the cylinder 15

is secured to the standard 12 by being swaged in said counterbore and held in position therein by means of a locking pin 16; while the other end of the cylinder 15 is partially closed to form a closely fitting collar about the plunger 14 near the extended end thereof and also to provide a bearing for one end of an expansible spring 17 loosely encircling the plunger 14 within said cylinder. Milled thru the top of the cylinder 15 is a longitudinal slot or groove 18 opening into a transverse locking notch 19, such groove and notch being of suitable width to allow movement therein of a finger lever 20 fitted or threaded into the plunger 14 and, thus, providing a bearing for the other end of said spring 17. The inner end of the plunger 14 extends beyond the swaged end of the cylinder 15 thru the bored opening in the inner face of the standard 12 to provide an adjustable coin-supporting surface 21.

Fixed in the inner surface of the other support 11, of like diameter and opposite to the plunger 14, is a stud 22 having a coin-engaging surface 23 duly positioned to support the end or initial coin as the coins are being assembled.

My coin-counting and coin-rolling mechanism consists in a novel arrangement comprising a pair of rods 25 and 35 and a counter bar 40, one of said rods 25 being fixed while the other rod 35, as well as the counter bar 40, are readily movable in and out of operative position, as desired, depending upon whether the coin-stacking and counting or the coin-wrapping operation is being performed.

The counter bar 40 is formed with a plurality of notches, as shown, arranged in series with each notch being of proper length to hold the edges of five coins of a particular denomination in nested relation and slightly inclined in the direction of the succeeding notch, so that a shoulder is provided by the end of one notch and the beginning of the succeeding notch, whereby each sixth coin may be prominently indented, as clearly shown in Fig. 9.

The fixed rod 25 is loosely mounted in each of the inner opposing faces of the supports 11 and 12, and adjacent said latter support 12 carries a latch member 26 pivoted on the rod 25. The latch 26 has an upper arm portion 27 adapted to engage a small slot 24 cut in the rod 14 near its end surface 21, and also a lower arm portion 28 which extends downwardly and centrally to be held against said base 10 under tension of a contractile spring 29, the body portion of which is coiled about the rod 25 as a fulcrum, one end of which spring is bent to be tensioned against the support 12, as at 30, and the other end tensioned upon the movable rod 35, as at 31.

Positioned closely approximate each opposing face of said standards 11 and 12 are a pair of quadrants 36 and 37, each quadrant pivoted on a fixed pivot pin 38—38 set in to a suitable recess in each respective standard, and each quadrant further having therein a formed recess in which is securely mounted each respective end of said rod 35. One end of said counter bar 40 is rotatable in an appropriately bored opening in said quadrant 37, while the other end extends thru both a hole in the quadrant 36 and thru and beyond an enlarged notch 58 cut in the standard 11 to carry a counter or index knob 39 suitably keyed thereon. Between the collar 41 and the quadrant 36, the counter bar 40 is provided with a plurality of grooves 59 synchronized with grooves on the index knob 39 and adapted to co-

operate with a spring member 60 suitably attached to the quadrant 36.

My novel counter bar 40 is preferably formed with a pair of collars 41 and 42; and positioned therebetween throughout the circumference of the bar 40 are a plurality of milled notches substantially as shown, inclined from left to right, viewing Figs. 1 and 2, and sized in series in accordance with predetermined dimensions, the length of each notch representing the width of a stack or unit of five coin edges of a respective denomination. Thus, for example, if it is desired to stack and count two dollars' worth of nickels for wrapping, the index knob 39 is turned, as shown in Fig. 1, until the

$$\frac{.05}{2.00}$$

designation 43 is positioned at the top of said knob 39, which will automatically bring the appropriate series of notches into operative position, here indicated at 44—44 and being eight in number, each notch accurately measured to represent the space required by a stack of five full-sized nickels.

Similarly, the designation

$$\frac{.01}{.50}$$

45 is synchronized with a series of ten notches 46—46; the index

$$\frac{.50}{10.00}$$

47 with a series of four notches 48—48; the index

$$\frac{.10}{5.00}$$

(not shown) with a series of ten notches 49—49; and any other combinations desired.

Each series of notches, such for example as 49—49, which does not extend the complete length between the collars 41 and 42 is formed with a suitable stopping lug indicated generally as 50, each of which lugs 50 being adapted to perform a similar function to that of said collar 42.

In utilizing my unit as a coin-counting and wrapping device, I first slide the finger lever 20 in the groove 18 against the spring 17 and into the notch 19, partially rotating the rod 14 and thus locking the rod 14 with its coin-supporting end 21 appropriately positioned and automatically causing the upper arm 27 of the latch 26 to register with and be forced by the contractile action of the spring 29 into the slot 24 in the rod 14 and enabling the spring end 31 to bear against the rod 35 mounted in the pair of quadrants 36 and 37, thereby rocking the quadrants downwardly and moving the counter bar 40, carried by the quadrants, upwardly into operative counting position. Thus the spring 29 (see Figs. 4 and 5) exerts tension on the top of the rod 35, which rod bears against the lower arm 28 of the latch and, also, said rod 35 being fitted in the quadrant 37, the spring 29 thus tends to rock said quadrant on its pivot 38, which rocking is controlled by the rotative action of the rod 14 and its engagement on the arm 27 of the latch 26. Thus the rocking action of the quadrant 37 is under the control of the spring 26 and the notched end of the rod 14 and, consequently, the counter bar 40 and the rod 35 are alternately moved into and out of coin-contacting position.

I then slide a properly inscribed paper coin-

wrapping blank 55 under the bar 40 to rest upon the rods 25 and 35 and turn the index knob 39 to the desired designation, as for example here shown at 43, thus automatically rotating the counter bar 40 so that the corresponding notched series 44—44 will be brought into coin-engaging position, and a groove 59 will be in contact with the spring member 60, thus preventing movement of the bar 40 during the coin-assembling operation.

As thus arranged, I place a plurality of coins 53, in this instance nickels, on the rod 25 between the faces 23 and 21 and with the back edges of said coins 53 leaning against the notches 44—44, until forty coins have been thus positioned between the collars 41 and 42.

As each notch 44 is accurately cut to hold exactly five full-dimensioned nickel edges, eight of such notches will determine the necessary space for the desired forty coins to fit between the collars 41 and 42. And as the notches 44—44 are arranged in stepped relation, each notch being inclined toward the succeeding notch, each stack of five nickels will be displayed as a distinct unit with the initial coin of each unit prominently indented from the last coin of the preceding unit, thus producing the slanting and staggered effect clearly illustrated in Fig. 9, and providing a quick and accurate counting check which is essential for accurate counting results where thin, bent, or other irregular coins are included among those assembled for wrapping.

Upon completing the counting operation, I release the hand lever 20 from the locking notch 19, and the spring 17 acting on said lever 20 forces the end 21 of the rod 14 inwardly against the stack of coins, which action disengages the upper arm 27 of the latch 26 from the slot 24 and forces the lower arm 28 to bear upwardly against the rod 35, thereby rocking both quadrants 36 and 37 so that automatically and simultaneously the rod 35 will be swung into coin-supporting position and the counter bar 40 moved out of coin-engaging relation, thus facilitating and expediting the ensuing operation.

The coins now being in readiness for wrapping, I remove the plunger 14 from the stack of coins 53, roll the paper 55 on the rods 25 and 35 about such stack of coins 53, remove the same and finally complete the wrapping by the usual crimping of the paper about each end of the coins.

If desired, and as shown in the drawings, I may arrange the coin-receiving and counting elements in an inclined or slanting position relatively with the base 10 and toward the fixed stud 22. Thus, as the coins 53 are being assembled, they will tend to remain in closely compacted association, particularly as the counter bar 40 is being swung out of supporting position and the rod 35 into supporting position.

As applied to coin-counting devices, I believe my novel and unique counter bar arrangement to be a distinct improvement in the art, and I wish to claim the same herein broadly.

I claim:

1. A portable coin-counting and -wrapping device of the kind described, comprising a base, a pair of supports upstanding therefrom and carrying opposingly positioned members to engage the opposite ends of a roll of coins to be counted, one of said members being fixed and the opposing member being sliding and rotatable, a fixed idler rod mounted between said supports, a pair of quadrants each pivotally attached to its adjacent support, a second rod and a coin-counter bar extending between said quadrants, and means actuated by said movable member to swing said quadrants with said attached idler rod and coin-counter into and out of coin-counting position.

2. A portable coin-counting and -wrapping device of the kind described, comprising a base, a pair of supports upstanding therefrom and carrying opposingly coin-engaging members, one of said rods being fixed and the opposing member sliding and rotatable, a fixed rod mounted between said supports, a spring and a latch associated therewith to move said quadrants on their respective pivots, a pair of quadrants each pivotally attached to its adjacent support, a movable rod and a coin-counter carried by said quadrants, and manually operated means comprising said latch and spring actuated by said movable member to partially rotate automatically said quadrants with said attached idler rod and coin-counter into and out of coin-counting position.

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