Dec. 2, 1952 H. A. SMATHERS 2,620,109

COIN WRAPPING DEVICE

Filed July 27, 1950 2 SHEETS—SHEET 1

Fig. 1

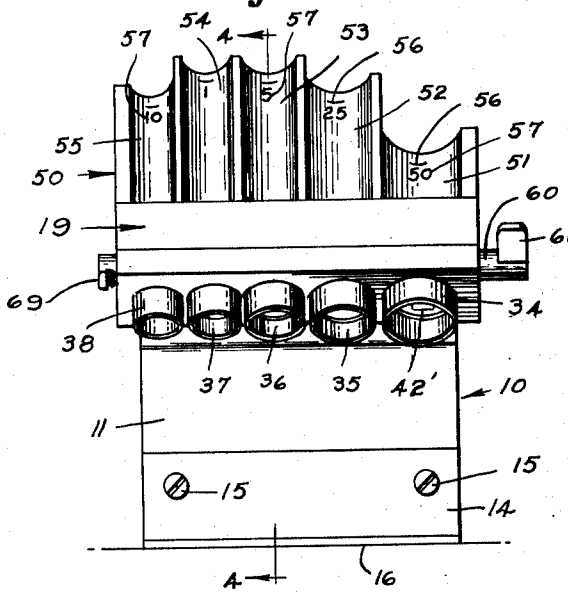


Fig. 2

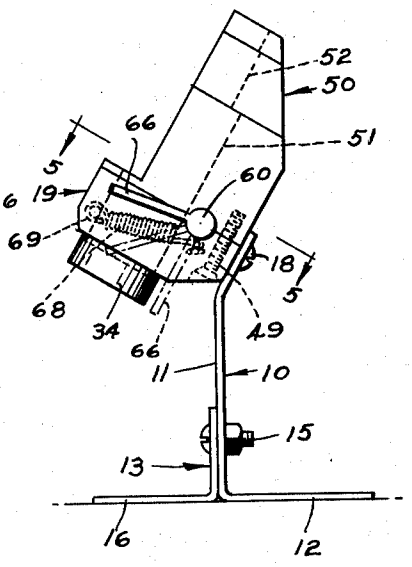


Fig. 3

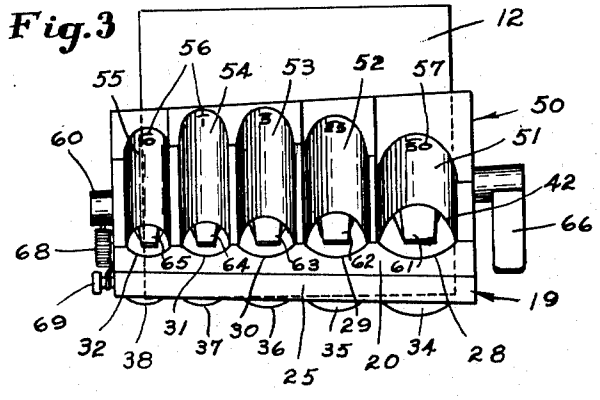


Fig. 6

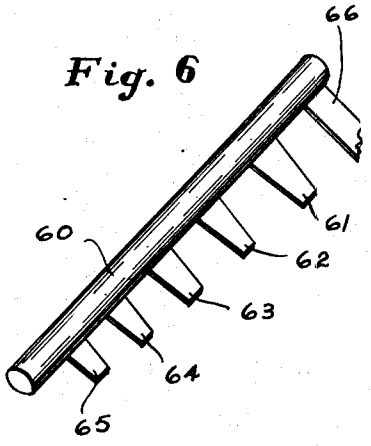
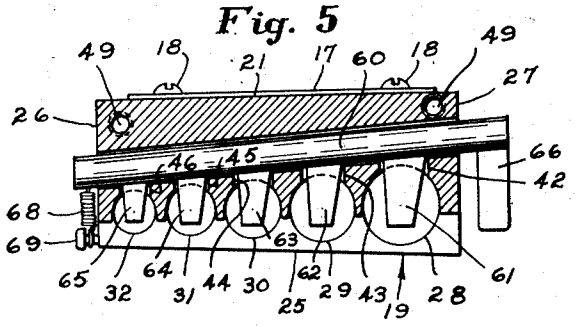


Fig. 5



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Fig. 4

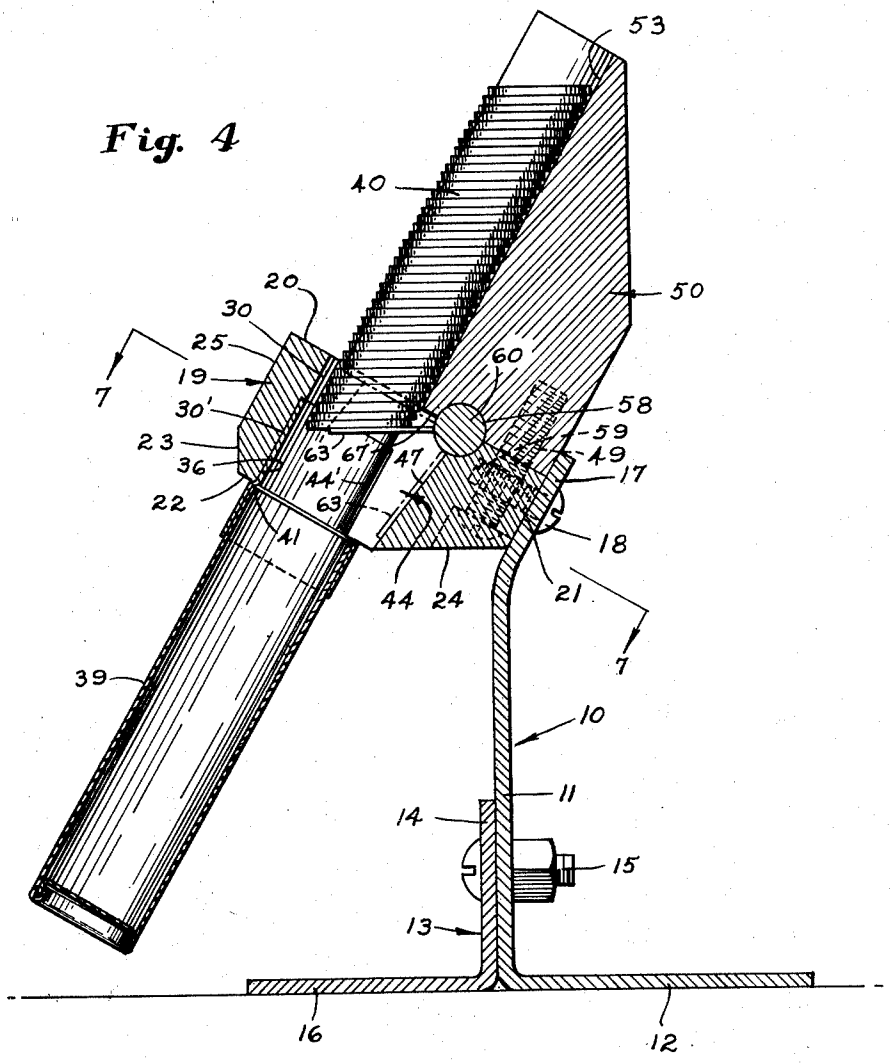
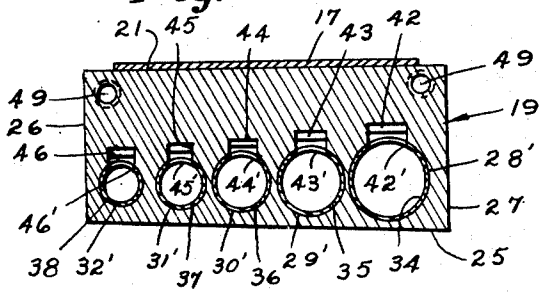


Fig. 7



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2,620,109

COIN WRAPPING DEVICE

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2 Claims. (Cl. 226—14)

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My invention relates to a coin wrapping device.

A primary object of the invention is to provide a highly simplified device for wrapping or packaging stacks of coins in banks or the like, the device embodying novel means for introducing coin stacks into cylindrical wrappers, together with novel holding means for the stacks of coins.

A further object of the invention is to provide a coin wrapping device, wherein stacks of coins are canted or angled prior to their introduction into cylindrical coin wrappers, so that the entire stack will slide freely into the wrapper and not hang up at the entrance to the same.

A still further object is to provide a coin wrapping device of the above mentioned character which is compact, sturdy and durable in construction, reliable and efficient in operation, very easy to manipulate, and therefore time-saving.

Other objects and advantages of the invention will be apparent during the course of the following description.

In the accompanying drawings, forming a part of this application, and in which like numerals are employed to designate like parts throughout same,

Figure 1 is a front elevation of a coin wrapping device embodying my invention,

Figure 2 is a side elevation of the same,

Figure 3 is a plan view of the device,

Figure 4 is an enlarged central vertical section taken on line 4—4 of Fig. 1.

Figure 5 is a diagonal section taken on line 5—5 of Figure 2,

Figure 6 is a perspective view of a coin dumping rock shaft and associated elements removed, and,

Figure 7 is a diagonal section taken on line 7—7 of Figure 4.

In the drawings, where for the purpose of illustration is shown a preferred embodiment of my invention, the numeral 10 designates a stand or support comprising an upstanding vertical plate or web 11, bent at its lower end to form a flat horizontal base plate 12. An L-shaped bracket 13 is arranged adjacent to the stand 10 and includes an upstanding vertical web 14, bolted or otherwise rigidly secured to the web 11, as at 15. The member 13 also includes a flat horizontal web 16 forming with the base plate 12 a wide continuous base plate for the device. The upper end of the web 11 is bent to form a flat inclined extension 17, preferably arranged at a 30 degree angle with respect to the vertical.

Rigidly secured to the inclined extension 17 by means of screws 18 or the like is an elongated

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body or block 19 having a flat inclined upper face 20, arranged perpendicular to the extension 17. The block 19 has a flat side or face 21 which engages the inclined extension 17, and the lower face 22 of the block is parallel to its top face 20, the block being preferably bevelled at its lower corners as shown at 23 and 24. As best shown at Figure 5, the block 19 is somewhat tapered longitudinally, its outer inclined face 25 converging toward its opposite longitudinal face 21. The opposite ends 26 and 27 of the block 19 are vertical and project a slight distance beyond the side edges of the extension 17. As shown in Figure 1, the block 19 extends horizontally with respect to the flat base plate 12.

The block 19 is provided in its top face 20 with a plurality of circular openings 28, 29, 30, 31 and 32, each successively smaller in diameter than the next, and these openings are equidistantly spaced apart longitudinally of the block, and formed therein near and inwardly of its forward face 25. The openings 28, 29, 30, 31 and 32 are of the proper diameter to accommodate half dollars, quarters, nickels, pennies and dimes respectively. The diameters of the various openings are such that the respective coins which they accommodate are freely slidable therethrough when arranged normal to the axes of the openings, and the various openings are only slightly larger in diameter than the coins they accommodate, so that the coins cannot shift radially to any appreciable extent while sliding through the openings and into wrappers, in a manner to be described. The openings 28, 29, 30, 31 and 32 are formed in the block 19 perpendicular to its top and bottom faces 20 and 22 and parallel to the inclined extension 17, and all of the openings extend entirely through the block. The openings 28, 29, 30, 31 and 32 are provided in their bottom ends with shallow counterbores or recesses 28', 29', 30', 31' and 32', concentric therewith, and these counterbores receive thin-wall discharge tubes 34, 35, 36, 37, and 38, the inside diameters of which are of the same sizes as the diameters of the respective openings 28, 29, 30, 31 and 32 with which they register. The discharge tubes depend a short distance below the block 19, and their bottom ends terminate in alignment. Below the bottom face 22, the discharges tubes have their diameters enlarged slightly, Figure 4, for accommodating the top open ends of cylindrical tubular paper coin wrappers 39 for the various denominations of coins handled by the device. When the upper end of a wrapper 39 is introduced into the bottom of the

corresponding discharge tube, its inside diameter registers with the inside diameter of the portion of the discharge tube above the face 22, so that the openings in the block 19, discharge tubes and paper wrappers form a substantially continuous smooth cylindrical passage through which the stacks 40 of coins may slide when discharging into the tubular wrappers. A narrow radial shoulder 41 is formed within each of the discharge tubes 34, 35, 36, 37 and 38 adjacent to the face 22, and the top end of each wrapper 39 engages this shoulder when the wrapper is introduced upwardly into its associated discharge tube. The discharge tubes have press fits within the counterbores 28', 29', 30', 31' and 32', and remain permanently rigidly secured therein.

The block 19 is further provided at the rear sides of the openings 28, 29, 30, 31 and 32 with passages or grooves 42, 43, 44, 45 and 46 which extend entirely through the block 19, and longitudinally of the block openings. These grooves project radially rearwardly of the openings 28, 29, 30, 31 and 32 and the rear inclined faces or walls 47 of the grooves are preferably arranged at about 40 degrees to the vertical, and converge upwardly toward the extension 17. The grooves 42, 43, 44, 45 and 46 all have the same radial depth, and preferably have their side edges converging downwardly. The grooves 42, 43, 44, 45 and 46 are all successively smaller or narrower in transverse cross section, Figure 5. The discharge tubes 34, 35, 36, 37 and 38 are provided in their rear sides with openings 42', 43', 44', 45', and 46' arranged in registration with the grooves 42, 43, 44, 45 and 46. Inclined radial passages are thus provided at the rear sides of the openings 28, 29, 30, 31 and 32.

Rigidly secured to the top of the block 19 by means of upwardly directed screws 49, is an upstanding inclined coin stack holder or trough block 50, provided in its forward inclined side with a plurality of semi-cylindrical stack holding recesses or troughs 51, 52, 53, 54 and 55. The axes of these recesses are inclined at 30 degrees to the vertical, and perpendicular to the top face 20. The axes of the recesses 51, 52, 53, 54 and 55 coincide with the axes of the openings 28, 29, 30, 31 and 32. The diameters of the semi-cylindrical recesses are equal to the diameters of the openings 28, 29, 30, 31 and 32, and the recesses register with these openings, as shown. The block 50 extends for a substantial distance above the block 19, and the upper ends of the recesses 51, 52, 53, 54 and 55 are open, so that the stacks 40 of coins may be readily introduced into the recesses. The semi-cylindrical recesses vary in length, to accommodate coin stacks of different lengths. The coins are wrapped in standard size wrappers containing standard numbers of coins of the different denominations, and accordingly, each stack of coins has a somewhat different length, and the troughs or recesses 51, 52, 53, 54 and 55 must vary in length. For example, it is customary to package 50 pennies in a standard wrapper 39. Likewise, it is usual to package ten dollars worth of quarters in a standard wrapper 39, and so on. To facilitate forming the coin stacks 40 so that they will contain the exact number of coins making up the standard packages, I provide lines or marks 56 near the top ends of the troughs 51, 52, 53, 54 and 55, such gauge lines being painted or otherwise marked upon the surfaces of the troughs. These lines indicate the heights to which the several coin stacks are piled. Coin denomination designations 57 are also marked upon the trough surfaces adjacent to the gauge lines 56 for the further convenience of the operator.

The block 50 is provided in its bottom face and throughout its entire length with a semi-cylindrical recess or groove 58, adapted to register with a companion semi-cylindrical groove 59, formed in the top face 20, adjacent to the inclined grooves 42, 43, 44, 45 and 46. The groove 59 intersects the tops of the recesses 42, 43, 44, 45 and 46 as shown in Figure 4. The registering grooves 58 and 59 constitute a cylindrical bore for a horizontal rock shaft 60, extending for the entire lengths of the blocks 19 and 50, and beyond the opposite ends of the same. The grooves 58 and 59 and rock shaft are arranged substantially tangent to the inner sides of the openings 28, 29, 30, 31 and 32, Figure 5, and the rock shaft is disposed at a slight angle to the forward and rear sides of the block 19.

Permanently rigidly secured to the rock shaft, and spaced longitudinally therealong are a plurality of flat rigid drop slides or tongues 61, 62, 63, 64 and 65. These tongues project radially forwardly of the rock shaft 60, and are arranged in the same plane, and at the transverse center of the rock shaft. The tongues project through the grooves or passages 42, 43, 44, 45 and 46, and into the openings 28, 29, 30, 31 and 32, as shown. The free ends of the tongues terminate in alignment near and spaced from the forward sides of the openings 28, 29, 30, 31 and 32. The tongues are tapered forwardly, as shown, and are shaped to fit into the rear recesses 42, 43, 44, 45 and 46. Each tongue is successively shorter and narrower than the next adjacent tongue, Figure 5, to correspond to the size of the associated circular opening and recess of the block 19. The tongues are freely swingable within the recesses 42, 43, 44, 45 and 46 and into the openings 28, 29, 30, 31 and 32. The rock shaft 60 is provided at one end with a radial operating handle or lever 66, rigidly secured thereto. This operating lever is preferably arranged substantially in the plane of the tongues.

As best shown in Figure 4, the bottom face of the block 50 forms shoulders or stops 67 adjacent to the forward side of the rock shaft 60, where the rock shaft passes through the recesses 42, 43, 44, 45 and 46. The tongues 61, 62, 63, 64 and 65 have their upward swinging movement limited by contact with the stops 67, as shown in broken lines in Figure 4. When the tongues engage the shoulders 67, they are perpendicular to the axes of the openings 28, 29, 30, 31 and 32, as shown. Downward movement of the tongues is limited by their contact with the rear sides 47' of the recesses 42, 43, 44, 45 and 46, and when the tongues are at this downward limit of their movement, they are disposed wholly within the recesses 42, 43, 44, 45 and 46 and out of the cylindrical passage formed by the openings 28, 29, 30, 31 and 32 and the discharge tubes 34, 35, 36, 37 and 38. A retractile coil spring 68 has one end secured to a screw 69, or the like, rigidly anchored within the end of the block 19 remote from the lever 66. The other end of the spring 66 is secured to the adjacent end of the rock shaft 60, and the spring is arranged to bias the rock shaft in the clockwise direction, Figure 2, so that the tongues 61, 62, 63, 64 and 65 will normally engage the stop shoulders 67. When the lever 66 is depressed, the tongues swing away from the shoulders 67 and downwardly, but when the lever is released,

the spring 68 returns the tongues into engagement with the stop shoulders.

In use, the stacks 40 of coins are placed by hand into the troughs 51—55. The tongues 61—65 engage the stop shoulders 67 at this time. As previously stated, the lines 56 show how many coins to include in the stacks. When a stack of coins has been placed in the proper trough, a proper size wrapper 39 is introduced by hand into the corresponding discharge tube 34—38, and held against the shoulder 41. The lever 66 is now depressed, and the tongues 61—65 swing downwardly from their upper broken line positions, Figure 4, to their lower broken line positions. When this occurs, the coin stack 40 is angled or canted, as shown, and when the angle becomes sufficient the coins will slide from the particular tongue and dive into the wrapper 39.

An important feature of the device is the manner in which the coin stacks are angled or canted prior to their introduction into the tubular wrappers. This canting allows the stacks to slide into the wrappers without hanging up in the openings 28—32 or in the mouths of the wrappers. It is well-known that when coins are introduced by hand into the wrappers, they must be angled or canted and cannot be conveniently introduced into the wrapper as a straight cylindrical stack. My device thus simulates the action of the hand in introducing the coins into the wrappers, but is much more efficient and rapid in doing so, and therefore time saving. All of the various common coin denominations are handled by the device, and stacks of coins may be wrapped in a rapid and continuous manner.

It is to be understood that the form of the invention, herewith shown and described is to be taken as a preferred example of the same, and that various changes in shape, size and arrangement of parts may be resorted to, without departing from the spirit of the invention or the scope of the subjoined claims.

Having thus described my invention, I claim:

1. A coin wrapping device comprising a body portion having a cylindrical passage extending therethrough at an inclination to the vertical, the body portion having a recess extending therethrough longitudinally of the cylindrical passage and extending radially of the passage and leading into the passage, a member mounted upon the body portion and having its bottom end extending over said recess of the body portion and forming a stop, the member having a cylindrically curved recess at an inclination to the vertical and substantially registering with and leading into the top of the cylindrical passage, a rock shaft extending transversely of the cylindrical passage near the top of such passage and intersecting the recess of the body portion, a radial element secured to the rock shaft and extending through the recess of the body portion and into the cylindrical passage thereof, and a spring connected with the rock shaft to urge the same in a direction causing the radial element to engage the stop and extend across the cylindrical passage at the top thereof.

2. A coin wrapping device comprising a support, a body portion mounted upon the support in an elevated position and having a cylindrical passage extending therethrough at an inclination to the vertical, a tubular extension extending below the body portion and having a bore substantially registering with the cylindrical passage and adapted to receive one end of a tubular coin wrapper, the body portion having a recess extending therethrough longitudinally of the cylindrical passage and leading into the passage and extending radially of the passage, a member mounted upon the body portion and having its lower end extending over the recess of the body portion and forming a stop, the member having a cylindrically curved recess at an inclination to the vertical and extending longitudinally of the cylindrical passage and substantially registering therewith and leading into the top of the passage, the lower end of said member and the top of the body portion having companion recesses forming an opening extending transversely of the cylindrical passage and intersecting the recess of the body portion, a rock shaft journaled within the transverse opening, a radial element secured to the rock shaft and swingable through the recess of the body portion and into the cylindrical passage, the radial element being bodily retractable into the recess of the body portion when the rock shaft is turned in one direction to permit the passage of coins through the cylindrical passage and into the wrapper, and a spring connected with the rock shaft to turn the same in the opposite direction and holding the radial element against the stop with the same arranged at right angles to the cylindrical passage and cylindrically curved recess.

HENRY AUGUSTUS SMATHERS.

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