July 15, 1958 T. W. CLARK 2,843,241

COIN HANDLING APPARATUS

Filed May 13, 1955

FIG. 1.

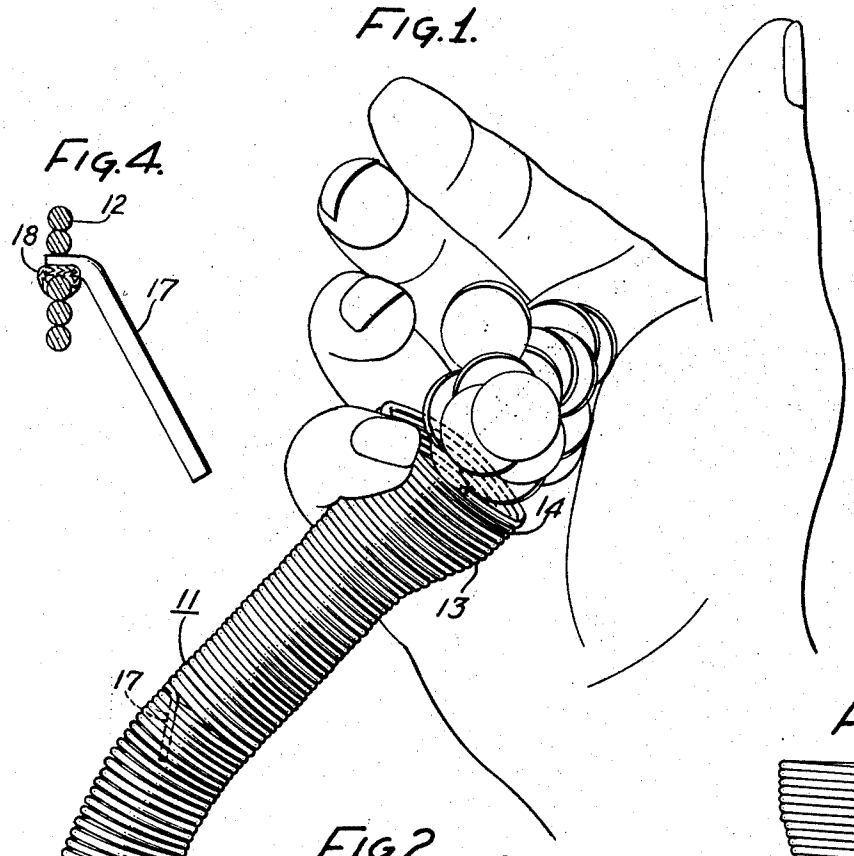


FIG. 4.

FIG. 2.

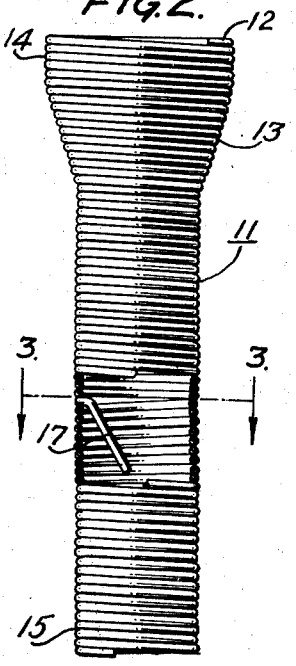


FIG. 3.

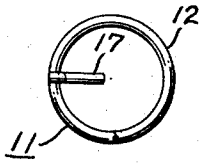


FIG. 6.

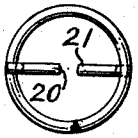
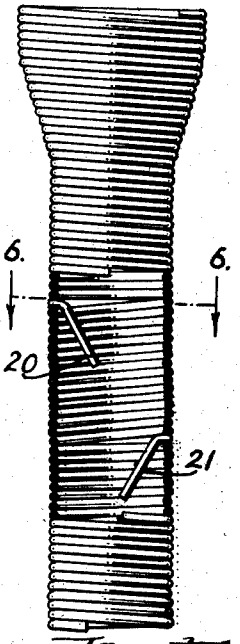


FIG. 5.



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2,843,241

COIN HANDLING APPARATUS

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Application May 13, 1955, Serial No. 508,022

2 Claims. (Cl. 193—25)

This application is a continuation in part of my co-pending application Serial Number 486,517, filed February 7, 1955, now abandoned. It relates to coin handling apparatus, and more particularly to machines for vending articles of commerce, for making change, or for other operations in which coins of various denominations are stacked in their respective tubular containers prior to being dispensed from the apparatus in the making of change or the like. In such apparatus, it is customary to retain the coins in their individual, vertically extending tubular containers or barrels and to replenish the supply of coins from time to time to maintain the apparatus ready for any vending or change-making operation. Such replenishment is a laborious and time consuming operation, as it requires insertion of the coins individually in carefully arranged position into the top of the barrel, and at a position which may not be conveniently accessible.

A primary object of the invention has been to provide an apparatus which avoids these disadvantages by permitting loading of the coin barrels rapidly, and from a position more accessible to the person loading the machine than has heretofore been the case.

A further object has been to provide an apparatus as discussed above, in which the coins are inserted through a special tube which may be attached in temporary relation to the upper end of the barrel and removed after the barrel has been loaded, for use in loading other barrels of similar machines.

A further object has been to provide such a special tube which can be bent to various positions for greatest facility of loading in each individual installation.

A further object has been to provide a tube for this purpose having special features to permit very rapid loading and to avoid jamming of coins within the apparatus when loading with such rapidity.

Still further objects and advantages of the invention and the manner in which they have been attained will be evident from reading of the following detailed description in the light of the attached drawing, in which,

Figure 1 is a perspective view, illustrating the loading of coins into a coin-receiving tube in apparatus embodying the invention,

Figure 2 is a side elevation partly in section, of the special coin loading tube of the invention,

Figure 3 is a cross-section on the line 3—3 of Figure 2,

Figure 4 is an enlarged, detailed, cross-section illustrating the securement of a deflector pin within the tubing,

Figure 5 is a view corresponding to Figure 2, illustrating a slight modification, and

Figure 6 is a cross-section on the line 6—6 of Figure 5.

The tubular container or barrel 10 may be part of a machine for handling coins to control operation, and for making change, as illustrated and described in the co-pending application of Thomas W. Clark and Cass S. Kasper, Serial Number 478,374, filed December 29, 1954, and this machine may include a number of such barrels

as there indicated, of different sizes for holding and dispensing coins of different denominations, such as pennies, dimes and nickels. A separate coin loading tube as discussed hereinafter will in that case be applied to each such barrel.

The special coin loading tube of the invention comprises a tubular member 11 adapted to be located in position with its lower end telescopically applied to the upper end of barrel 10 or otherwise positioned in feeding relation thereto. While tube 11 may be permanently secured to barrel 10 in the relative position illustrated, if desired, in most cases it will merely be secured detachably as by being slid temporarily over the upper end of tube 10, and after loading removed for use in loading a similar barrel of the next machine.

The tube 11 comprises a helically wound wire 12 having successive helical turns lying in adjacency to provide a continuous vertically extending length of tubing in use as illustrated. This wire is wound into the desired shape and then heat treated to fix its shape and provide the desired resiliency. The convolutions adjacent the top are of larger circumference so as to provide a tapered portion 13 merging into an enlarged cylindrical portion 14 at its upper end. This provides a funnel for the loading of the coins, as illustrated in Figure 1 of the drawing.

While the loading device may be attached permanently to the apparatus and form a part thereof, it is preferably applied only temporarily for loading, by applying downward pressure to its lower end 15 while it surrounds the upper end 16 of barrel 10, to secure these parts together resiliently in the manner of a screw threaded attachment, the parts having relative inside and outside diameter dimensions to provide this pressed fit engagement. With the parts so secured, the upper end 14 of tube 11 may be bent in position to avoid all obstruction and provide a position of loading most convenient for access, as illustrated in Figure 1, and the coins may be loaded in rapid succession and pass into the barrel without jamming.

In order to avoid all danger of jamming or sticking of coins within the tube, I preferably employ one or more abutment pins 17 extending transversely into the path of the falling coins and across a part of the width of the tube. These may be secured to one of the tubing convolutions by soldering or welding, as indicated at 18 in Figure 4. These pins are preferably mounted in a position to extend diametrically across a part of the tube but at an acute angle with respect to its axis. They may, for example, extend downwardly as illustrated.

Where desired, I may employ two or more of these abutment or deflecting pins. In the embodiment illustrated in Figures 5 and 6, for example, there are two such pins 20 and 21 extending oppositely from portions of the wire of the tubing which are 180° apart and spaced longitudinally from each other.

While the invention has been illustrated and described in relation to only two specific embodiments, persons skilled in the art will be aware that various modifications and refinements are available, and I therefore wish it to be understood that it is not to be limited in interpretation except by the scope of the following claims:

I claim:

1. A coin handling tube for use in a coin handling apparatus including a tubular container designed to receive coins through its open upper end and store them in stacked relation pending their removal from the stack, said tube being formed of adjacent convolutions of helically wound resilient wire adapted to have its lower end extend into contact with the upper end of said tubular container to constitute an upward extension thereof, and a deflecting pin extending at an acute angle to the axis of the tube and partially thereacross.

2. A coin handling tube as defined in claim 1, in which

there are a plurality of said deflecting pins angularly and longitudinally spaced from each other within said tube.

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