Sept. 13, 1960 S. ULLMAN 2,952,108

COIN COUNTER

Filed March 14, 1958

Fig. 1

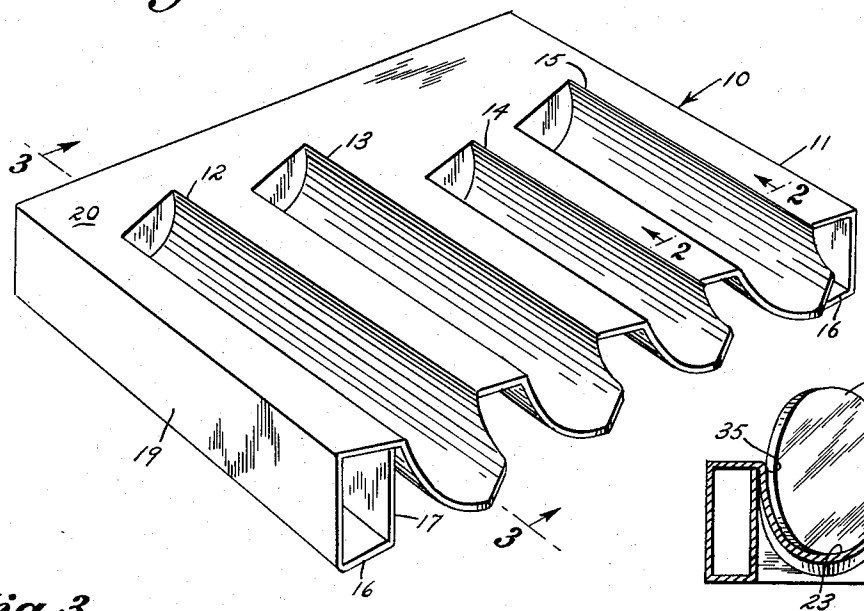


Fig. 2

Fig. 3

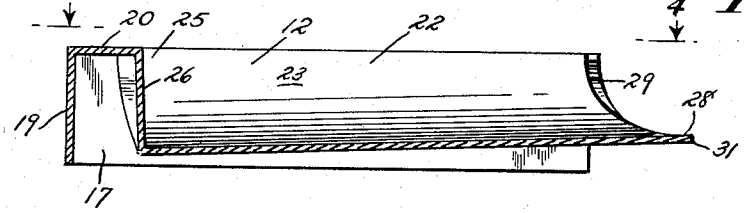
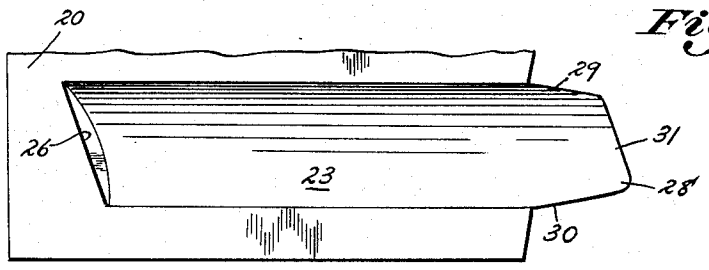


Fig. 4



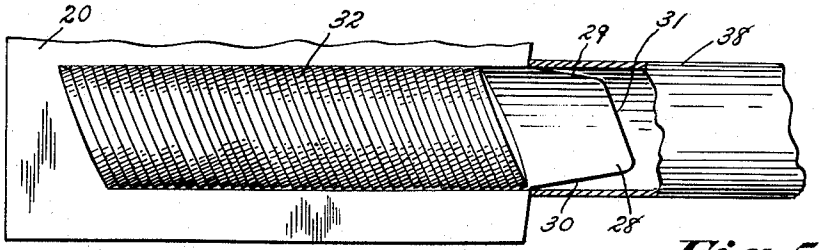


Fig. 5

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2,952,108

COIN COUNTER

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3 Claims. (Cl. 53—254)

This invention relates generally to the field of coin counters or coin packers which are adapted to be placed upon a horizontal surface for the manual stacking of uniformly sized coins prior to slipping the same into a paper tube when a predetermined number of coins has been indicated. Such devices are known in the art, and the invention relates to a specific improvement therein.

In the prior art devices, a base or other supporting means is normally provided with an elongated groove and an arcuate or circular cross section adapted to engage the coins at points below the center thereof. One end of the groove is normally exposed, and the other is provided with a lip which is adapted to fit within the paper tube in which the coins are ultimately packed. Difficulty has been encountered in pushing a stack of coins into the paper tube, owing to the fact that the internal diameter of the tube is very close to the external diameter of the coins, and as the coins are moved axially friction existing between the edge surfaces of the coins and the inner surface of the tube causes the tube to crumble, thus preventing the entrance of the coins thereinto.

In an attempt to eliminate this difficulty, it is known in the prior art to enlarge the radius of curvature of the groove toward a point where the same is substantially greater than the diameter of the coins to be stacked therein, so that as the same are moved toward the tube, certain parts of the stack will become disposed at an acute angle with respect to the axis of the stack just prior to entrance into the tube. Difficulty has been experienced with such construction owing to the lack of control over the stack as the same is being moved, and the need for delicate manipulation.

It is therefore among the principal objects of the present invention to provide an improved stacking and packing device, in which the movement of the coins into the paper tube is greatly simplified.

Another object of the invention lies in the provision of structure of the class described which will automatically stack successive coins in relatively staggered relation with respect to the principal stack axis, so that the stack will have a uniform cross section of generally elliptical configuration.

Another object of the invention lies in the provision of structure of the class described, and possessed of the above advantage, in which the cost of fabrication may be of a reasonably low order, with consequent wide sale, distribution and use.

These objects and features, as well as other incidental ends and advantages, will become more clearly apparent during the course of the following disclosure, and be pointed out in the appended claims.

On the drawing, to which reference will be made in the specification, similar reference characters have been employed to designate corresponding parts throughout the several views.

Figure 1 is a view in perspective of an embodiment of the invention.

Figure 2 is a fragmentary end elevation as seen from the plane 2—2 on Figure 1.

Figure 3 is a vertical longitudinal sectional view as seen from the plane 3—3 on Figure 1.

Figure 4 is a fragmentary plan view as seen from the plane 4—4 on Figure 3.

Figure 5 is a fragmentary view corresponding to that seen on Figure 4, but showing a stack of coins about to be inserted into a paper cylinder.

In accordance with the invention, the device, generally indicated by reference character **10** comprises broadly: a supporting frame element **11**, and a plurality of coin counting and stacking elements **12**, **13**, **14** and **15**.

The device **10** is preferably molded from suitable planar synthetic resinous material, or, if desired, may be made from a single metallic stamping.

The supporting frame element **11** includes a lower wall **16**, an inner wall **17**, outer wall **19** and a top wall **20** from which the elements **12–15** depend.

The coin counting and stacking elements **12–15**, inclusive, are substantially similar, although of varying sizes as is known in the art, and accordingly, a detail description of the element **12** will suffice to describe the remaining elements, thereby avoiding needless repetition.

The counting and stacking element **12** includes a coin holding body **22** forming an elongated groove on the inner surface **23** thereof. The inner end **25** of the groove terminates in an angularly disposed wall **26**, the plane of which is disposed at an acute angle with respect to the principal axis of the groove, as best seen on Figures 3 and 4 in the drawing. The outer end terminates in a lip member **28** having a left lip edge **29**, a right lip edge **30** and a center lip edge **31**. As best seen on Figure 4, the right lip edge **30** projects past the left lip edge **29** while the center lip edge **31** is inclined at an angle substantially equal to the angle between the principal groove axis and the wall **26**.

Referring to Figure 2, it will be observed that the cross sectional shape of the groove formed by the inner surface **23**, as taken perpendicular to the principal axis of the groove, is elliptical, rather than arcuate or circular to correspond to the elliptical cross sectional shape presented by the stack of coins generally indicated by reference character **32**. The ellipse does not extend upwardly past the center of the stack axis to avoid the possibility of binding the individual coins, but if desired the groove may be deepened by merely forming straight sided walls **35** and **36** at points above the line of center.

As best seen on Figure 3, it will best be observed that the axis of the groove defined by the inner surface **23** is tilted at a slight angle with respect to the plane of the frame element **11** to prevent the stacked coins from toppling during the stacking operation. The coins are maintained in such condition at the time of engagement of the tube **38** on the lip member **28** so that they may be quickly and conveniently slid into the confines of the tube. During such movement, they are maintained at the desired angle until fully seated within the tube without relative movement of the tube or groove, it being necessary only to press with the fingers against the last coin in the stack **32** until the same is seated within the tube.

It may thus be seen that I have invented novel and highly useful improvements in coin stacking and packing devices, in which there is provided a means for maintaining the stack throughout its entire length in staggered relation so that the same may be conveniently slid into the confines of the tube without spilling or distorting the tube.

The device may be manufactured at a cost comparable with existing prior art devices, and may be employed without resort to any unusual skills.

I wish it to be understood that I do not consider the

invention limited to the precise details of structure shown and set forth in this specification, for obvious modifications will occur to those skilled in the art to which the invention pertains.

I claim:

1. In a coin counting device for use in the wrapping of a predetermined number of uniformly sized coins having a support element and at least one coin stacking element, the improvement comprising: said stacking element having a principal axis and having a first closed end and a second end terminating in a lip member; means for supporting said stacking element in a substantially horizontal position; said closed end including an end wall, the plane of which is disposed at an angle less than a right angle with respect to said principal axis; said stacking element having a cross sectional shape of such curvature as to contact with coins at points below their centers, and being of a horizontal width at the line of centers of said coins which is substantially less than twice the vertical depth of stacking element as measured from the line of centers of said coin to the lowermost point thereof.

2. In a coin counting device for use in the wrapping of a predetermined number of uniformly sized coins having a support element and at least one coin stacking element, the improvement comprising: said stacking element having a principal axis and having a first closed end and a second end terminating in a lip member; means for supporting said stacking element in a substantially horizontal position; said closed end including an end wall, the plane of which is disposed at an angle less than a right angle with respect to said principal axis; said stacking element having a cross sectional shape of such curvature as to contact with coins at points below their centers, and being of a horizontal width at the line of centers of said coins which is substantially less than the diameter of said coins.

3. In a coin counting device for use in the wrapping of a predetermined number of uniformly sized coins having a support element and at least one coin stacking element, the improvement comprising: said stacking element having a principal axis and having a first closed end and a second end terminating in a lip member; means for supporting said stacking element in a substantially horizontal position; said closed end including an end wall, the plane of which is disposed at an angle less than a right angle with respect to said principal axis; said stacking element having a cross sectional shape of such curvature as to contact with coins at points below their center, and being of a generally semi-elliptical shape and being of a horizontal width at the line of centers which is substantially less than the diameter of said coins.

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