Nov. 24, 1942. J. G. HINKEL 2,302,861

DEVICE FOR COUNTING AND ROLLING COINS

Filed Dec. 6, 1939 2 Sheets-Sheet 1

Fig. 1

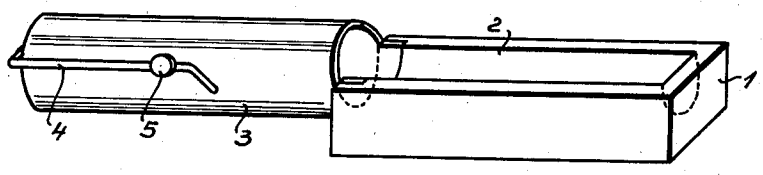


Fig. 2

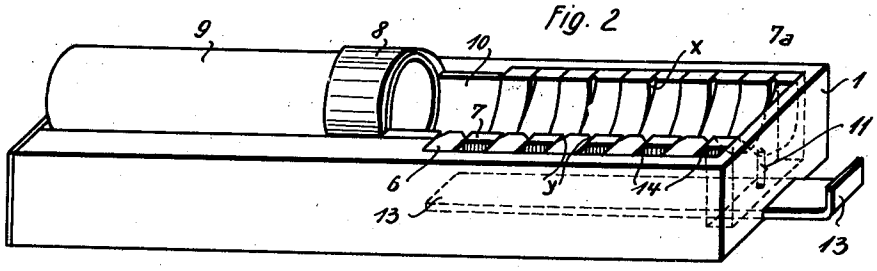


Fig. 3

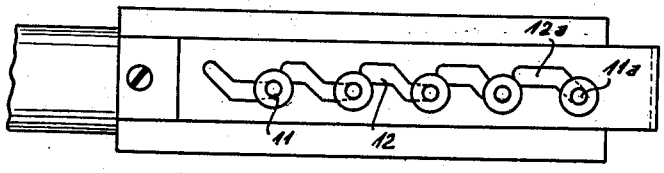


Fig. 4

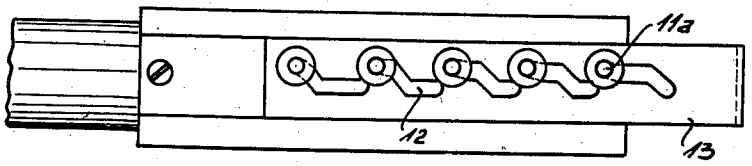
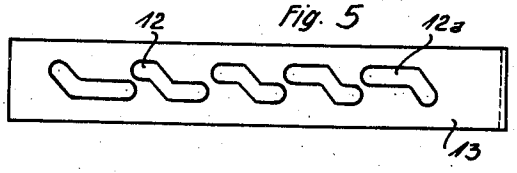


Fig. 5



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DEVICE FOR COUNTING AND ROLLING COINS

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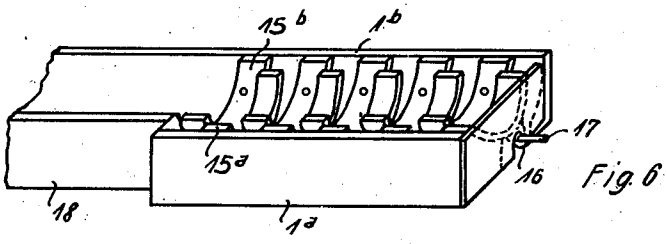


Fig. 6

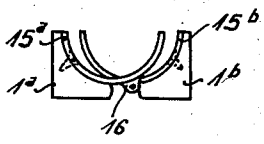


Fig. 7

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UNITED STATES PATENT OFFICE

2,302,861

DEVICE FOR COUNTING AND ROLLING COINS

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Application December 6, 1939, Serial No. 307,879
In Germany January 5, 1939

4 Claims. (Cl. 133—1)

The invention relates to devices for use in counting and packaging coins.

For counting and rolling coins there are known plain devices which in their simplest form consist of one or several grooves the length of which corresponds to a certain amount of a certain sort of coin. There are also known devices in which the counting groove is subdivided into receiving spaces staggered either laterally or vertically and being of such length as to allow a certain number of coins, e. g., 1–10 pieces or more, to be housed.

A disadvantage of the existing counting groove devices is that the coins for the purpose of being wrapped must be removed from the counting groove. This difficulty is encountered both with the plain counting grooves of the continuous type and, to a still greater extent, with devices having a counting groove with staggered coin receiving spaces.

It is an object of the invention to provide a device for use in counting and packaging coins which will overcome the disadvantages of known counting devices and which will be simple in construction and efficient in operation. Primarily the invention comprises means providing a counting trough open at one end and an adjacent trough or holder for a wrapping tube so that the latter will be supported in position to receive the coins upon simply tilting the device so that the coins slide longitudinally directly from the counting trough section into the wrapping tube. According to one form of the invention, the counting groove is provided with one open end and with a receiving tube or receiving ring permitting a wrapping sleeve to be inserted, or is equipped with a device of any desired shape permitting a wrapping sleeve to be fixed with its open end adjacent the open end of the coin counting groove. In the case of plain devices fitted with a continuous counting groove it is only necessary to insert the coins in the counting groove and to secure the wrapping sleeve in front of the open end of the counting groove, whereupon the coins are caused to slide into the sleeve simply by tilting the device towards the wrapping sleeve. Tilting the groove causes the coins disposed in the groove to slide consecutively into the wrapping sleeve which will simply be disengaged from the holding device and closed at its top end.

In the case of devices the counting grooves of which are subdivided into staggered receiving spaces it will, of course, not do to simply provide a holding device for a wrapping sleeve on one side of the counting groove, since the coins existing in the groove are prevented from sliding into the wrapping sleeve in view of the staggered counting spaces. According to the invention, such devices will be so designed as to make the staggered receiving spaces movable in a manner permitting them to be shifted in relation to one another to form a continuous groove when the coins are to be discharged into the wrapper. Now the coins for being counted can be first inserted into the staggered receiving spaces of the groove and then the receiving spaces can be shifted in relation to one another so as to form a continuous groove from which the coins are allowed to readily slide into the wrapping sleeve. Such a device, however, may also be handled so as to insert the coins into the groove, with the latter being continuous, and then to shift the receiving spaces in relation to one another, thus causing the coins to be subdivided into definite equal amounts. After checking the stock of coins, the receiving spaces are again so shifted as to make the groove continuous, and then by tilting the device the coins are caused to slide into the wrapping sleeve secured to the end of the groove.

In the case of grooves provided with staggered and displaceable receiving spaces it is also useful to make such an arrangement that the receiving spaces are not shifted all at once, but in succession, so that the subdivision of the coins into definite amounts takes place in succession. This disposition presents the advantage that no coins are allowed to jam while shifting the receiving spaces, since the shifting of each counting space and thus of each lot of coins will not commence until the preceding lot of coins has already been advanced for a certain distance.

Instead of making the receiving spaces movable, the groove may also be subdivided in longitudinal direction and the two sections, each which is provided with counting spaces staggered in relation to the counting spaces of the other one, may be made tiltable in relation to each other. Also the two sections of groove subdivided in longitudinal direction may be made movable towards each other as a whole. Thus a great variety of embodiments for making use of the inventive idea is offered.

The invention will be better understood and other objects and advantages thereof will become apparent during the course of the following detailed description with reference to the accompanying drawings in which preferred embodiments are illustrated by way of example. In the drawings:

Fig. 1 is a perspective view of a counting and packaging device embodying the invention,

Fig. 2 is a perspective view illustrating a modified form of the invention,

Fig. 3 is a bottom plan view of Fig. 2 with the parts in one position,

Fig. 4 is a similar view with the parts in another position,

Fig. 5 is a plan view of the operating slide plate of the form shown in Figs. 2 to 4,

Fig. 6 is a perspective view of another modified form of the invention, and

Fig. 7 is an end view of parts of Fig. 6, removed from the assembly.

The device shown in Fig. 1 consists of a counting groove 1 in the form of a block or tray having a continuous counting space or trough 2 and being open on one end. In front of the open end, a receiving tube 3 which serves as a support for a wrapping sleeve of paper is fixed. The tube 3 is substantially coaxial with and forms a continuation of the surfaces of the trough 2. 4 designates a handle or a bail pivotally mounted on the tube 3 which swivels around a pivot 5 and extends across the discharge end of the tube to prevent the wrapping sleeve from falling out of the receiving tube. To use the device, the coins are inserted in the counting space 2 which, for instance, may be dimensioned for 50 coins. After the user has made sure that the counting space is filled and thus 50 coins are inserted, the groove is tilted towards the receiving tube 3 and the coins slide into the paper sleeve inserted meanwhile in the tube, which sleeve may be removed from the tube and sealed after the handle 4 is turned up.

In the form of the invention shown in Figs. 2–5 a counting groove 1 is fitted with receiving spaces or racks 6 and 7 displaceable in relation to each other. In the position shown, all of the receiving spaces are arranged in one plane, so that—as in the case 1—a continuous trough is formed. Instead of with a receiving tube, this type is provided with a ring 8 into which a paper wrapping sleeve 9 is slipped. The ring 8 with its front portion 10—just as the receiving tube 3 in Fig. 1—is embedded in the wall of the groove adjacent the open end of the counting trough section formed by the racks 6 and 7. Moreover, the groove box is elongated towards the paper sleeve providing a trough to serve as a rest for the latter.

The rack members 6 are firmly secured to the grooved box, whereas the members 7 are each provided with a guide pin 11 protruding downwardly and guided by slots 12 of a longitudinally shiftable guiding slide 13. The slots are so designed that the members 7 will be displaced in succession in relation to members 6 by moving the slide 13. Fig. 3 shows the slide 13 from below in that position in which the members 6 and 7 (see Fig. 2) are situated in one and the same plane. If the slide 13, as shown in Fig. 4, is pulled out, the guide pin 11 is caught along the slots 12 and consequently the members 7 to which it is secured will be caused to move consecutively towards the members 6.

As will be seen from Figs. 3–5, the pin 11*a* movable at the extreme end is first moved into its highest position because the appertaining slot 12*a* leads the pin upwards simultaneously with the beginning movement of the slide 13. Consequently, the space 7*a* (see Fig. 2) moves as the first towards the disengaged spaces 14. As the slide is pulled out farther, the succeeding member 7 follows, and so forth to the last one. This model offers the advantage that the coins inserted in the groove are prevented from jamming when the members 7 are shifted, what is likely to happen if all the spaces are displaced in relation to one another at the same time, such an arrangement being, of course, possible too.

An important feature of the model shown in Fig. 2 is the fact that the edge x of the movable members 7 and the edges y of the stationary members 6 are slightly bevelled from top to centre. The bevelling of the edges in the case of receiving racks displaceable in relation to one another has the effect that the receiving spaces as defined by the bottom portion of the rests can be made of a sufficient size for a certain number of coins of the same kind, but varying in thickness, without an odd coin finding room in the receiving space. When counting badly worn-out coins, if an extra coin overlaps the edge of one of the racks, the bevelled edges cause ejection thereof when the racks are shifted relative to each other. The extent of the bevelling depends on the number of coins and their normal or average thickness.

In using the device of Fig. 2, the counting trough section, with the racks 6 and 7 in alinement, and which may be designed, for example, to hold 50 coins, is filled with coins and then the members 6 and 7 are displaced in relation to each other, so that staggered receiving spaces holding, for instance, 5 coins each are formed. After the stock of coins is thus checked, the slide 13 is again pushed inwards and the continuous space of groove restored. Then the coins can be caused by tilting the device to slide into the receiving sleeve 9, as has been described in connection with Fig. 1. The coins can also be inserted in the receiving spaces already displaced in relation to one another, and the sliding face can be established by pressing the slide 13 inwards.

In the case of the model shown in Fig. 6, the grooved box is lengthwise divided into 2 box sections 1*a* and 1*b*. Secured to section 1*a* are bent coin rests 15*a* and to section 1*b* coin rests 15*b* of the same kind, the rests being arranged in alternation. The coin rests 15*a* and 15*b* are at their undersides provided with one lug 16 each and slipped consecutively over a rotary pin 17 by means of the lug. If the bottoms of the two box sections 1*a* and 1*b* are situated in one and the same plane, as shown in Figs. 6 and 7, the coin rests 15*a* and 15*b* form receiving spaces offset in relation to one another. The coins are inserted in these receiving spaces, so that the counting groove is filled with coins, subdivided, say into 5 coins each. If this has been accomplished and the amount of coins checked, members 1*a* and 1*b* are forced against each other from the outside. Consequently, they rotate around the pin 17 upwards. Hereby the members 15*a* and 15*b* are so displaced in relation to each other as to form a continuous groove from which the coins are allowed to readily slide into a paper sleeve provided in front of the open end, the paper sleeve being supported in a trough section 18 which may be formed as a continuation of the box section 1*b*.

The counting grooves shown are only examples embodying the invention and may be increased by any other number of examples. It goes without saying that the invention may also be applied to counting cash boxes holding a plurality of counting grooves.

I claim:

1. A device for counting and packaging coins comprising a body member, a plurality of arcuate coin rests carried by said body member, said coin rests being dimensioned each to support a predetermined number of coins on edge and arranged to form a trough, certain of said coin rests being movable laterally relative to the others to a position in which said coin rests are disposed in staggered relation to provide a plurality of counting spaces or to a position in which all of the coin rests are in alinement with each other to provide a continuous counting trough open at one end, and a support for a packing tube adjacent the open end of said counting trough.

2. A device for counting and packaging coins comprising a body member, said body member being divided longitudinally to provide two side sections, a plurality of coin rests having arcuate seats secured to each of said side sections in spaced relation, each of said coin rests being dimensioned to support a predetermined number of coins on edge and arranged with the coin rests on one side section occupying the space between adjacent coin rests on the other, a dependent lug carried by each of said coin rests, a hinge pin extending through said lugs providing a hinge connection between said side sections whereby said side sections may be tilted relative to each other to a position to dispose said coin rests in alinement to provide a continuous counting trough open at one end or to a position to dispose said coin rests in staggered relation to provide a plurality of separate counting spaces, and a support for a wrapping tube adjacent the open end of said counting trough.

3. In a device according to claim 1, means for shifting said movable coin rests in succession into or out of the trough forming position.

4. A device according to claim 1 in which said coin rests comprise trough sections having the sides thereof bevelled adjacent the top of the trough whereby to eject coins in excess of the capacity of the coin rests upon relative lateral movement of the latter.

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