April 8, 1924. 1,489,828

R. T. HOSKING

STAMP DELIVERING DEVICE FOR VENDING MACHINES

Filed April 8, 1921

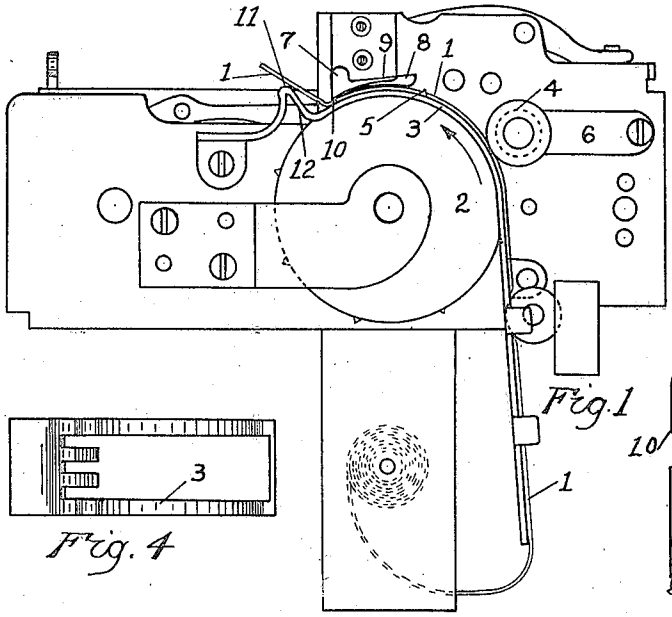


Fig. 1

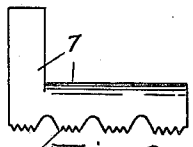


Fig. 6

Fig. 4

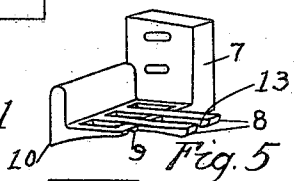


Fig. 5

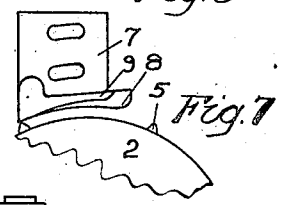


Fig. 7

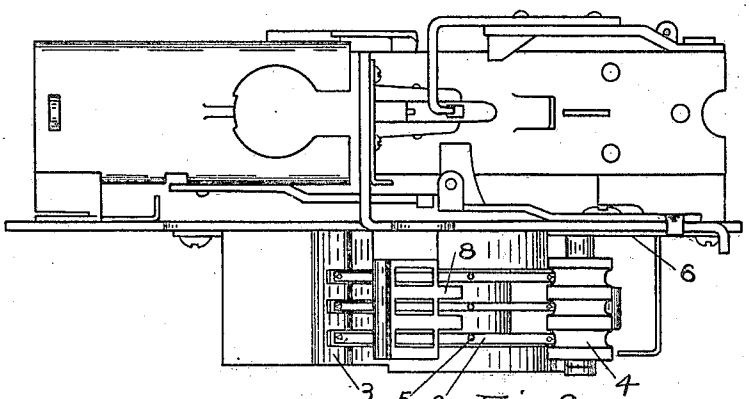


Fig. 2

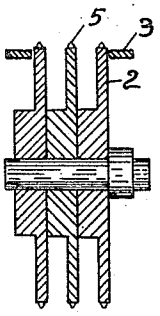


Fig. 3

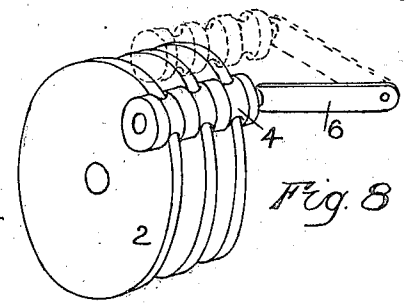


Fig. 8

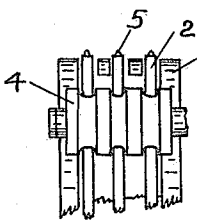


Fig. 9

Richard T. Hosking
INVENTOR

BY

Geo B Willcox
ATTORNEY

Patented Apr. 8, 1924. 1,489,828

UNITED STATES PATENT OFFICE.

RICHARD T. HOSKING, OF SAGINAW, MICHIGAN, ASSIGNOR TO AMERICAN BANKING MACHINE CORPORATION, OF SAGINAW, MICHIGAN, A CORPORATION OF DELAWARE.

STAMP-DELIVERING DEVICE FOR VENDING MACHINES.

Application filed April 8, 1921. Serial No. 459,577.

To all whom it may concern:

Be it known that I, RICHARD T. HOSKING, a citizen of the United States, residing at Saginaw, in the county of Saginaw and State of Michigan, have invented certain new and useful Improvements in Stamp-Delivering Devices for Vending Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to stamp vending machines of the character shown in my previous Patent No. 1,234,029 of July 17, 1917, and the present improvement pertains more particularly to an arrangement and combination of devices by which the stamps are automatically fed out from the machine upon the depositing of a coin in the machine.

Heretofore it has been the usual practice to mount a roll of stamps on a pintle and to feed the stamps from the machine by passing the unrolling strip of stamps along a metallic guide-way that extends upwardly and thence over the top periphery of a feed wheel. The feed wheel was provided with prongs or feed-wheel pins that projected through slots in the guide-plate and engaged the stamp perforations to feed the stamps forwardly and out from the machine.

It has also been the custom to provide around the periphery of the feed wheel and exterior to the curved part of the guide-way a curved top stamp guide or frame so arranged that the outgoing stamps traveled between the periphery of the wheel and the under side of the said top stamp guide, the gummed faces of the stamps carried by and sliding upon the top face of the guide-way.

Various objections have developed in practice to the use of this curved top stamp guide and it is one of the objects of my present improvement to provide a device by which the curved top stamp guide heretofore employed is eliminated, and its functions are performed in a better manner.

A further object of my invention is to provide an improved device by which warped stamps can be accurately and positively fed out of the machine, being smoothed and flattened as they emerge from the machine, this smoothing operation being performed in such a manner as to avoid liabilty of buckling the stamps, and stalling the machine on account of the resistance resulting from buckling. My improved stamp feed also increases the smoothness of operation of the machine by preventing the stamp from encountering the upwardly directed deflecting or stamp delivery plate until after the feed-wheel pins have engaged the stamp perforations, thereby preventing the stamps from curling when fed out.

With these and certain other objects in view which will appear later in the specification, my invention comprises the devices described and claimed and the equivalents thereof.

In the drawings, Fig. 1 is a side view of those parts of a stamp vending machine to which my present invention pertains.

Fig. 2 is a top plan view of the machine shown in Fig. 1.

Fig. 3 is a transverse section through the feed wheel.

Fig. 4 is a detached top plan view of the lower stamp guide.

Fig. 5 is a perspective view of the feeding out guide and cutter.

Fig. 6 is an enlarged front view of the same, showing the cutting teeth.

Fig. 7 is a side view of the same in relation to the feed wheel and feed wheel pins, the wheel being broken away in part.

Fig. 8 is a diagrammatic perspective view of the feed wheel and the sectional pressure rollers by which the stamps are held to the feed wheel.

Fig. 9 is a rear view of the same, broken away in part.

As has before been stated, experience in delivering gummed stamps by means of a machine of the character described in my former patent above referred to has shown that gummed stamps have various peculiar characteristics that render the ordinary methods of delivering them by sliding along a flat or curved surface ineffective under certain conditions, such as changes of weather, humidity, etc. I have found that in humid weather a gummed stamp that appears to be perfectly dry and does not show any tendency to stick with ordinary handling, can be made to stick by sliding

it over a metal surface, applying slight pressure and moving the stamp quickly through a very short distance. I find that sliding it a distance equal to its own length on such a surface may result in making it instantly adhere to the surface. This characteristic accounts for the difficulty experienced in delivering stamps by sliding them over a stationary guide plate.

In my present improvement I have so arranged the delivery mechanism that the stamps 1 travel out of the machine by riding on the feeding wheel 2 not in contact with the lower stamp guide 3 or other stationary surfaces, so that there is no tendency for the stamp to stick on account of sliding contacts.

It has also been found that where continuous curved top stamp guides are used to hold the stamp down to the periphery of the feed wheel, there is more or less tendency for the stamps to warp. They sometimes tend to warp inwardy and sometimes outwardly, and they may warp transversely, diagonally, or longitudinally, depending upon the temperature or humidity of the air and also upon the grain and thickness of the paper of which the stamps are made.

When stamps so warped are fed between a feeding wheel 2 and a continuous curved guide that encircles the working periphery of the wheel, there is likelihood of the stamps warping in such a manner as to cause them to stick and clog the machine.

My present invention is so devised that the continuous curved top stamp guides are eliminated and provision is made for flattening the stamps, no matter in what way they may be warped and regardless of the grain and thickness of the paper, and I effect this flattening operation without expenditure of enough mechanical energy to impair the operation of the feeding mechanism of the machine.

To flatten the stamp and also to feed it upwardly and out in a positive manner, I provide a pressure roller 4, which is preferably a sectional or broken roll, the periphery of which runs on the periphery of the stamp wheel, or when stamps are in the machine, upon the face of the stamp, thereby exerting a slight pressure upon the stamp to hold it to the rim of the wheel.

The sectional roller 4 is yieldingly mounted, as upon the end of a pivoted arm 6, so as to accommodate itself to various thicknesses of paper. By its weight it exerts the proper amount of pressure upon the stamp to hold it to the wheel and to properly enter the wheel pins into the perforations of the stamp.

The strip of stamps 1 having been properly located upon the feeding wheel 2 and held down by the roller 4 to the face of the wheel, travels with the wheel 2, but preferably not in close contact with the lower stamp guide 3, and passes under the outgoing guide 7, shown in Figs. 1, 5 and 7. The function of this guide is to smooth out the warped stamp before it leaves the machine.

Heretofore it has been customary to attempt to smooth the warped stamps by forcibly feeding them between an upper and a lower guide surface, but I have found in practice that the stamps are usually warped not only lengthwise, but also transversely and I, therefore, so arrange the outgoing guide 7 that the middle part of the guide will have the effect of first flattening or smoothing out the central part of the advancing stamp and after the central part has been smoothed the two sides of the guide will then smooth out the two edges of the stamp. The smoothing operation is thus accomplished in two steps, first, smoothing the middle of the stamp and then smoothing its edges, thus preventing the trouble which has heretofore been experienced of buckling the stamps by attempting to smooth the whole width of the stamp at one time.

The smoothing action of the guide 7 will be understood by reference to Figs. 5 and 7, where it will be seen that the stamp first encounters the two long central fingers 8, 8 of the guide, which smooth out the middle of the stamp and then as the stamp passes farther forward the edges of the stamp encounter the lateral fingers 9, 9, which at their rear ends are raised slightly higher than the rear ends of the central fingers 8, 8, so that as the stamp moves forward, the edges which may be curled either upwardly or downwardly, will be thoroughly smoothed before the stamp leaves the outgoing edge of the guide and passes under its teeth 10, illustrated in Fig. 6.

The relation between the working length of the guide 7 and the peripheral spacing of the feed wheel pins 5, as shown in Fig. 1, is another feature of my invention. It will be noticed that the distance from the rear ends of the middle fingers 8, 8 of the guide 7 and the nearest set of feed wheel pins 5 is less than the distance from the toothed end 10 of the guide to the point 11 where the stamp engages the upwardly directed deflecting plate 12. Therefore, when a stamp is to be issued from the machine the first part of the movement of the wheel 2 feeds the stamp forward a short distance and brings the feed wheel pins 5 under the rear ends of the middle fingers 8, 8 of the guide 7 before the advancing edge of the stamp 1 comes into contact with the deflecting plate 12, so that the front edge of the stamp when it strikes the deflecting plate will not act to displace the rear end of the stamp. The feed wheel pins 5 are then in

register with the slot 13 between the guide fingers, and the rear edge of the stamp is thereby securely held in position and can not be made to buckle by the impact of the front edge of the stamp against the deflecting plate 12.

To thread a strip of stamps into the machine, it is only necessary to raise the sectional roller 4, put the stamps 1 in place on the wheel 2 and allow the roller 4 to drop into its normal position. The front edge of the strip of stamps is then entered under the rear ends of the guide fingers 8, 8 without disturbing the guide 7 itself, or changing its relation with respect to the periphery of the wheel or the feed wheel pins. The feeding device is then ready for operation as described in my Patent No. 1,234,029 above referred to.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. In a stamp vending machine having a feeding wheel, a feed-out device comprising a stationary guide located in proximity to the periphery of said wheel, said guide having integral rearwardly extending side fingers and longer middle fingers spaced apart, said side fingers raised slightly higher above the wheel at their rear ends than the rear ends of said middle fingers, said fingers adapted to progressively smooth first the central parts and then the side edges of warped stamps passed beneath said stationary guide.

2. In a stamp vending machine, the combination of a stamp feeding wheel having projecting pins thereon, a pivotally mounted arm, a pressure roller mounted on the end of said arm and yieldingly pressing upon the upper rim of said wheel, a one-piece stationary guide located in advance of said roller and in proximity to the periphery of said wheel, said guide having teeth on its front edge and having rearwardly extending side fingers and longer middle fingers spaced apart and said side fingers raised slightly higher above the wheel at their rear ends than the rear ends of said middle finger and adapted to progressively smooth first the middle parts and then the side edges of warped stamps passed beneath said guide.

In testimony whereof I affix my signature.

RICHARD T. HOSKING.