Sept. 23, 1930. E. P. DONNELLAN 1,776,251

FEED HOPPER FOR COIN COUNTING MACHINES

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Fig. 1

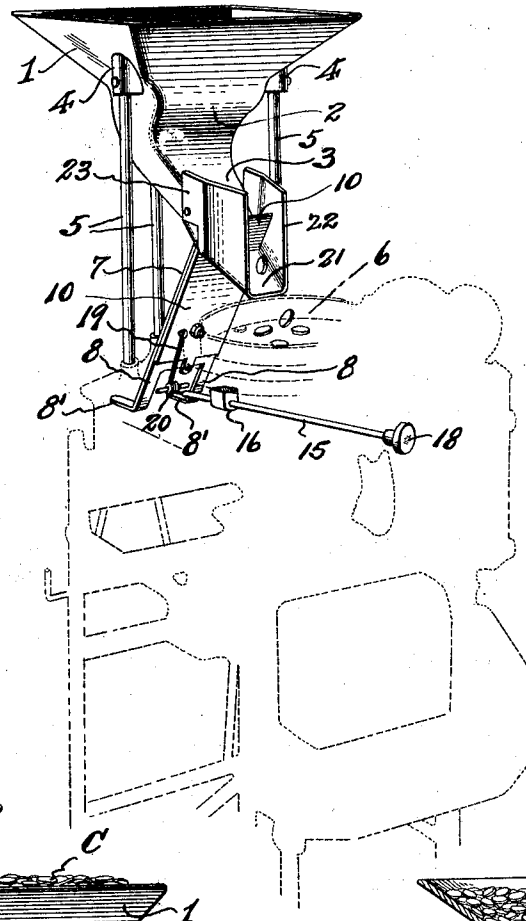



Fig. 2

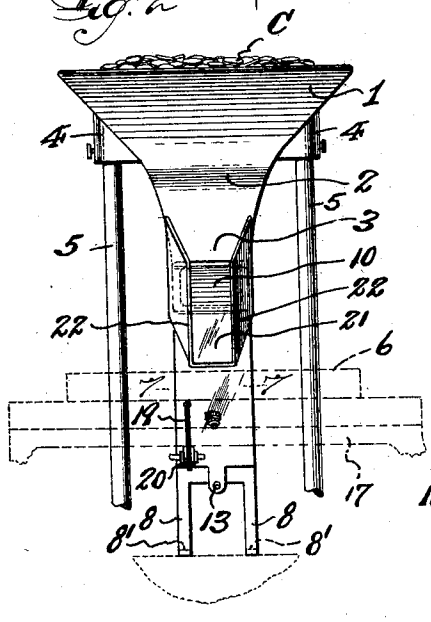
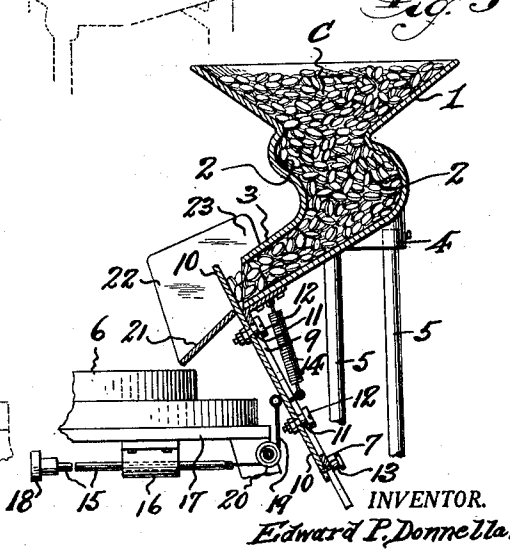



Fig. 3




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Fig. 4

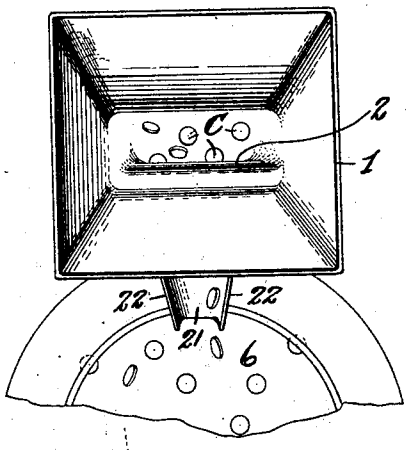



Fig. 6

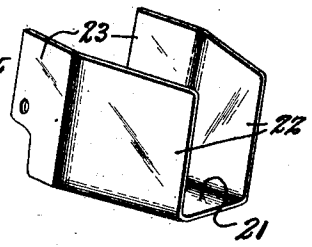



Fig. 5




Fig. 7




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# UNITED STATES PATENT OFFICE

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## FEED HOPPER FOR COIN-COUNTING MACHINES

Application filed October 11, 1926. Serial No. 140,756.

This invention relates, generally, to an improved construction of feed hopper for use in connection with coin counting machines of various kinds and types, but which is especially useful in connection with rotary disc types of counting machines such as described and illustrated in prior United States Letters Patent #1,160,830, dated Nov. 16th, 1915, and #1,389,634, dated Sept. 6th, 1921.

The invention has for its principal object to provide a novel construction of feed hopper adapted to hold a supply of coins in bulk, said feed hopper having a novel means for manually controlling the delivery of coins from such supply into the counting head of the coin counting machine, all in such manner as to assure a smooth and continuous flowing movement of coins through the counting head without overloading the latter.

Other objects of this invention, not at this time more particularly enumerated, will be clearly understood from the following detailed description of the same.

The invention is clearly illustrated in the accompanying drawings, in which:—

Fig. 1 is a perspective view of the novel construction of feed hopper, showing the operative relation of the same to a coin counting machine, the latter being shown in dotted outline; Fig. 2 is a front elevation of the hopper; Fig. 3 is a vertical longitudinal central section through the same; Fig. 4 is a top end view of the same; Fig. 5 is an enlarged perspective of the hopper gate slideway; Fig. 6 is a perspective view of the hopper gate together with its manipulating means, and also showing the hopper delivery chute; and Fig. 7 is a transverse section through the assembled gate slideway and gate, taken on line 7—7 in Fig. 2, but drawn on an enlarged scale.

Similar characters of reference are employed in all of the hereinabove described views, to indicate corresponding parts.

Referring now to said drawings, the reference character 1 indicates a feed hopper open at its upper end, and the sides of which are inwardly converging toward its lower end. The lower portion of said feed hopper is preferably formed to provide a tortuous passage 2, so that the weight of the bulk of coins deposited in said hopper is more or less distributed and supported at several different points, so that the downward movement of the coins is slightly retarded, and the coins upon release being thus prevented from attaining a too precipitous movement at the point of discharge from the hopper. Communicating with the tortuous lower end portion of said feed hopper is a downwardly and forwardly inclined discharge snout 3. Exteriorly disposed on exterior portions of the feed hopper are socket members 4 to receive the upper ends of supporting standards 5, which are suitably secured to and extend upwardly from the frame of the coin-counting mechanism; the arrangement being such that the feed hopper is supported above and to the rear of the coin receiver 6 of the coin counting mechanism.

Secured to the underside of said hopper discharge snout 3, to extend downwardly therefrom in a plane substantially at right angles to the longitudinal axis of said snout, is a guide plate 7 the lower end of which may be provided with legs 8 terminating in footpieces 8′ to engage upon the frame of the coin counting mechanism to rigidly brace said guide plate 7 against displacement from operative assembled relation. Said guide plate 7 is further provided with a longitudinally disposed guide slot 9. Longitudinally slidable on said guide plate 7 is a gate or cut-off plate 10, having connected with its body guide-studs 11 to ride in said guide slot 9 of the guide-plate 7; said guide-studs 11 having at their rearward or free ends enlarged keeper heads 12 for retaining the gate or cut-off plate and its said guide-studs in operative assembled relation to said guide-plate

7. Said gate or cut-off plate 10 is provided at its lower end with a stop-stud 13 to abut the lower end of said guide-plate 7 to limit the upward movement of said gate or cut-off plate 10, whereby its closed relation to said hopper discharge snout 3 is determined. Interconnected by suitable means intermediate said gate or cut-off plate 10 and the hopper discharge snout 3 is a pull-spring 14 for yieldably holding said gate or cut-off plate 10 in normal closed relation to said hopper discharge snout.

A means for manipulating said gate or cut-off plate 10, to open the same at desired times, comprises a pull-rod 15 slidable in supports 16 secured to the underside of the bed-plate 17 of the coin receiver 6, so that its free-end projects outwardly at the front side of the coin counting machine. Said pull-rod is provided at its outer free end with a knob or hand grip 18. Suitably secured intermediate the inner end of said pull-rod 15 and the gate or cut-off plate 10 is a flexible connection 19, such for example, as the pull chain shown in the drawings; the movement of said pull chain being guided by a roller 20 mounted beneath the bed-plate 17, so that the horizontal movement imparted thereto by the pull-rod 15 is translated into a desired substantially vertical movement operative upon said gate or cut-off plate 10.

In some instances it may be desirable to provide the free end of the hopper discharge snout 3 with an adjustable chute 21 to extend from said snout over the coin receiver 6. The said chute 21 is provided with sides 22 terminating at their rearward ends in ears 23 adapted to straddle the snout 3, and to be respectively pivoted to the respective sides of the latter so that the inclination of said chute from said snout 3 to coin receiver 6 may be variously adjusted as may be desirable. Said chute 21 is so arranged and assembled with the snout 3 that said gate or cut-off plate 10 projects upwardly intermediate the ears 23 of the chute and between the rear end of the floor thereof and the outer end of said snout 3 as shown to best advantage in Fig. 3 of the drawings.

In operation, the feed hopper is filled with coins C which are to be fed for counting to the coin counting machine thus providing a considerable bulk of coins ready for counting manipulation. The coin counting mechanism being set in operation and the chute 21 adjusted between the feed hopper and the coin receiver 6 of the machine, the operator pulls outwardly on the pull rod 15, thus exerting a downward pull through the chain 19 on the gate 10, whereby the latter is retracted from the path of coins lodged in the snout 3, thus permitting a discharge of the coins from said snout 3, through said chute 21 into the coin receiver 6. A sufficient quantity of coins having been thus deposited in the coin receiver 6, the operator releases the knob 18 of the pull-rod 15 so that the spring 14 may return said gate 10, and the manipulating parts therefor, to normal upwardly projected position operating to cut off the outflow of coins from the feed hopper 1 through the snout 3. In this manner, the operator may easily control the feeding of coins from a considerable supply thereof to the coin receiver 6 of the counting mechanism without risk of over-crowding the latter, or without loss of time. The tortuous portion 2 of the feed hopper 1 is adapted to so distribute the weight of the bulk of coins within the latter, as to more or less retard the gravitation thereof, and thus prevent a too precipitous discharge thereof, while at the same time reducing the pressure of coins upon the gate 10, so that the opening and closing movements thereof are not obstructed or unduly interfered with.

Having thus described my invention, I claim:—

1. A feed hopper for coin counting machines or the like, adapted to be supported above the coin receiver thereof, a discharge snout at the lower extremity of said hopper directed toward said coin receiver, a tortuous passage intermediate the main body of said hopper and said discharge snout, a normally closed yieldable gate cooperating with said discharge snout, and manually controlled means for opening said gate.

2. A feed hopper for coin counting machines or the like, adapted to be supported above the coin receiver thereof, said hopper having a discharge snout directed toward said coin receiver, a guide-plate secured to and dependent from said discharge snout, a spring-closed gate slidably mounted on said guide plate and movable upwardly to normally close said discharge snout, stop means formed on said gate and engageable with said guide plate to limit the closing movement of said gate, and manually controlled means for moving said gate downwardly, thereby opening said gate.

3. A feed hopper for coin counting machines or the like adapted to be supported above the coin receiver thereof, a discharge snout at the lower extremity of said hopper directed toward said coin receiver, a tortuous passage intermediate the main body of said hopper and said discharge snout, a normally closed yieldable gate cooperating with said discharge snout, manually controlled means for opening said gate, comprising a pull rod slidably mounted in connection with the coin counting machine, a flexible connection between said pull rod and gate, and means to guide said flexible connection.

4. A feed hopper for coin counting machines or the like adapted to be supported above the coin receiver thereof, said hopper having a discharge snout directed toward

said coin receiver, a guide-plate secured to and dependent from said discharge snout, said guide-plate having guide means thereon, a spring-closed gate slidably mounted on said guide plate movable upwardly in front of said snout while guided by said guide means to normally close said discharge snout, a pull-rod slidably mounted in connection with the coin counting machine, a flexible connection between said pull rod and gate, and a roller for guiding and directing the movement of said connection.

In testimony, that I claim the invention set forth above I have hereunto set my hand this 10th day of September, 1926.

EDWARD P. DONNELLAN.