July 29, 1930. L. C. BRADLEY 1,771,952

COIN SLOT FOR COIN FREED MECHANISMS

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Fig. 1.

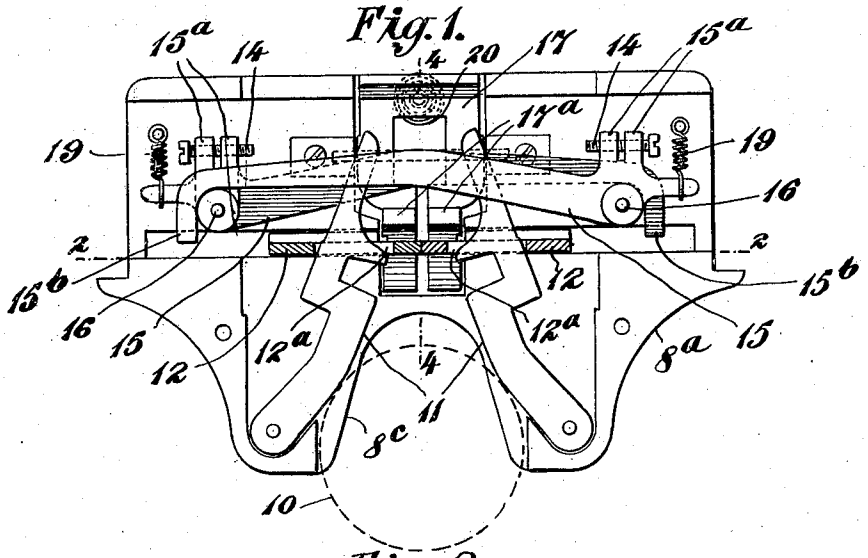


Fig. 2.

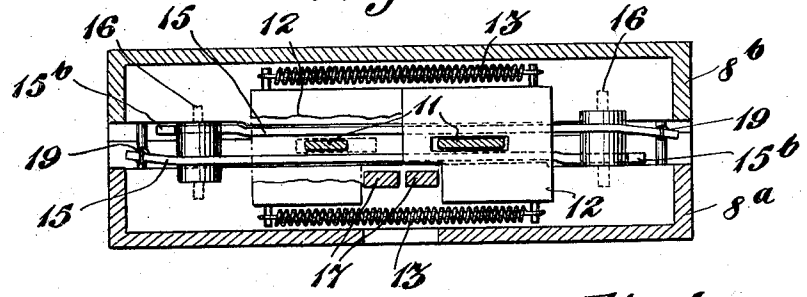


Fig. 3.

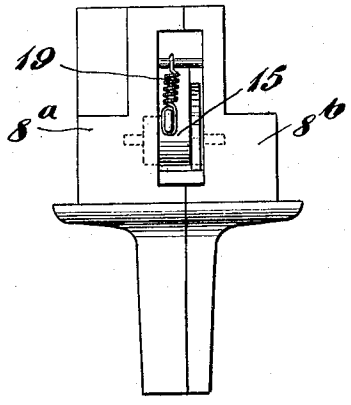
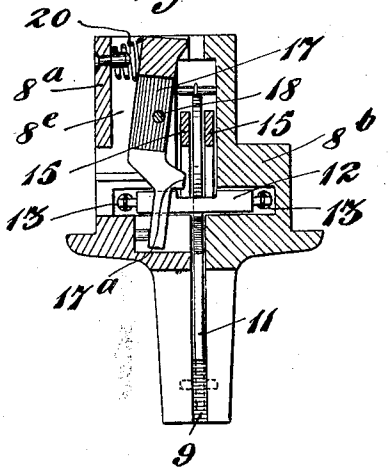


Fig. 4



Inventor:— Leslie C. Bradley

by George E. Folkes

his Attorney.

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COIN SLOT FOR COIN FREED MECHANISMS

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Fig. 5.

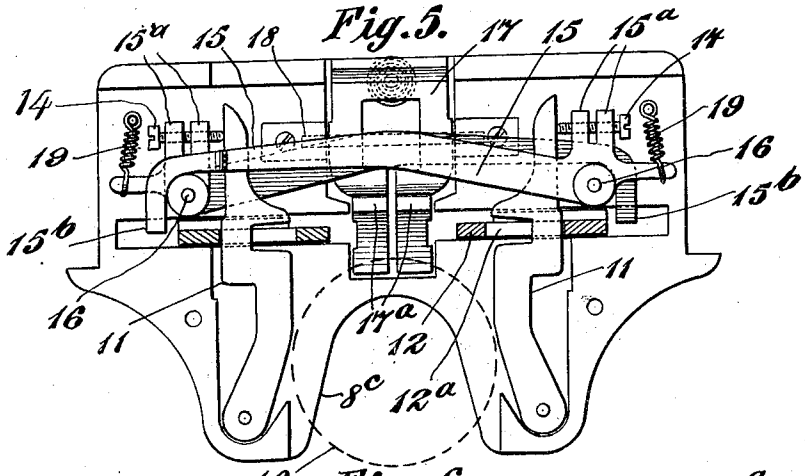


Fig. 6.

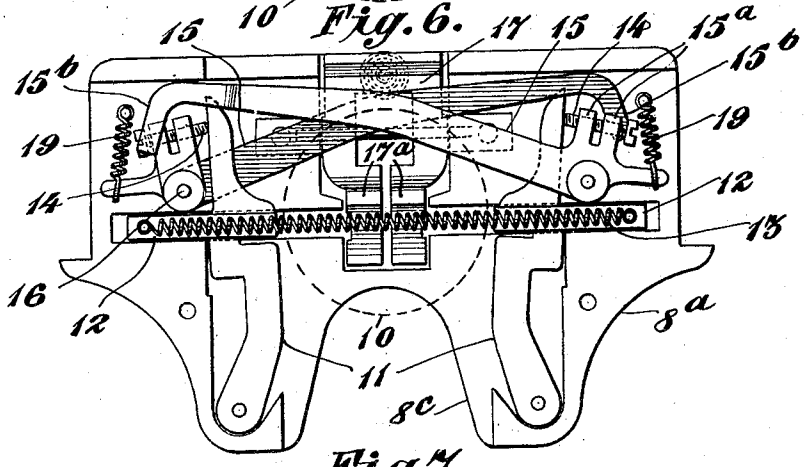
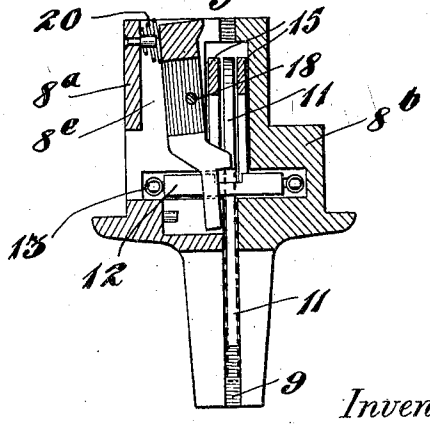


Fig. 7.



Inventor:—
Leslie C. Bradley
by George E. Lokes.
his Attorney.

Patented July 29, 1930 1,771,952

UNITED STATES PATENT OFFICE

LESLIE CLIFFORD BRADLEY, OF BIRMINGHAM, ENGLAND, ASSIGNOR TO W. & T. AVERY LIMITED, OF BIRMINGHAM, ENGLAND

COIN SLOT FOR COIN-FREED MECHANISMS

Application filed May 18, 1929, Serial No. 364,254, and in Great Britain October 16, 1928.

This invention has reference to improvements in or relating to coin slots for coin freed mechanisms and has for its object the provision of an improved coin slot which renders the operation of the choking of the coin slot by cardboard or other foreign materials more difficult and prevents the passage through the coin slot of such materials and also of metallic discs of a ferrous or relatively soft nature.

The invention consists of an improved coin slot for coin freed mechanisms characterized in that the slot is normally closed by a slidable member or members which are capable of being actuated by a lever or levers upon which pressure is exerted by the coin during the operation of passing the coin through the coin slot, the said slidable member or members co-operating with a secondary lever or levers adapted normally to prevent or limit the opening movement of the sliding member or members, the said secondary lever or levers being capable of being displaced for permitting of the opening movement of the sliding member or members by coins only which are of substantially the same diameter as the denomination of coin specified for use with the mechanism. The invention further resides in the incorporation in the coin slot of a pivotally mounted magnet provided with means adapted to be brought into an obstructing position in the event of an attempt being made to pass a ferrous disc through the slot. The invention still further resides in the details of construction of the improved coin slot to be described hereinafter.

The invention will now be described with particular reference to the accompanying sheets of drawings which illustrate the invention in its application to a coin slot for use with coin freed vending machines.

In the drawings:—

Figure 1 is a plan of the coin slot with the top half of the casing removed and showing the component parts in the closed position.

Figure 2 is a longitudinal sectional view of the slot seen in Figure 1 looking in the direction of the arrow seen in the said figure, the section being taken mainly on the plane indicated by the line 2—2 Figure 1.

Figure 3 is an end view of the slot.

Figure 4 is a transverse section taken on the plane indicated by the line 4—4 in Figure 1.

Figure 5 is a similar view to Figure 1 but showing the parts in the partially open position.

Figure 6 is a similar view to Figures 1 and 5 but showing the parts in the fully open position, and

Figure 7 is a similar view to Figure 4 but showing the magnet for preventing the insertion of discs of strongly para-magnetic materials.

The coin slot comprises a two-part casting 8^a, 8^b adapted to be secured to the casing of the coin freed mechanism, the outer portion of each half of the casting projecting from the casing and being provided with an arcuate or triangular cut-away portion 8^c. Within outwardly projecting portions of the casting is formed a slot 9 adapted to receive the coin 10 to be used for freeing the mechanism, the depth of the slot 9 being substantially the thickness of the denomination of coin to be used. The rear end of the coin slot is adapted to be placed into communication with the coin chute (not shown).

Located at each side of the slot 9 and in the front portion of the lower casting 8^a are a pair of levers 11 which are fulcrumed at their outer ends on pins carried in the recessed sections formed in the said front portion. These levers 11 which will be termed hereinafter pressure exerting levers are longitudinally disposed relatively to the path of the coin 10 and are cranked intermediate their length, the rear section of the levers passing through elongated rectangular slots 12^a formed in a pair of rectangular blocks 12 slidably mounted within guideways formed in the body of the casting and transversely disposed relatively to the path to be taken by an inserted coin. The aforesaid blocks 12 are connected along their upper and lower edges by means of a pair of coil springs 13 so that normally the said springs cause the adjacent ends of the blocks 12 to abut on the centre line of the coin slot whereby the blocks 12 constitute closure members for the coin slot. The outer edges of the inner ends of the

pressure exerting levers 11 are adapted to co-operate with adjustable screw pins 14 mounted in split arms 15[a] carried by a pair of secondary levers 15 which are fulcrumed on pins 16 located within the rear section of the lower portion 8[a] of the casting the said levers 15 being superposed and oppositely disposed in order to obtain the desired length of the levers. The secondary levers 15 are provided adjacent to their fulcra with hook sections 15[b] which are normally maintained in an obstructing position within the outer section of the paths of the closure members 12 and so that upon any endeavour being made to open the closure member 12, other than by a coin or disc, the outward movement of the closure members is restricted by the hooked portions 15[b] of the secondary levers or, as they will be termed hereinafter, locking levers, (see Figure 5).

The adjusting screws 14 carried by the split arms 15[a] of the locking levers 15 are adjusted initially so that when a coin of the diameter of the specified denomination of coin to be used is passed between the said levers the inner ends of the pressure exerting levers come into contact with the aforesaid screws 14 and rock the locking levers 15 about their fulcra to an extent sufficient to permit of removal of the hook sections 15[b] thereof from the locking position and thereby to allow of the full outward sliding movement of the closure members 12, (see Figure 6). The faces of the pressure exerting levers 11 which come into contact initially with the peripheral edge of the coin 10 are disposed in front of the closure members 12 and the said faces are formed with steps in known manner.

Formed in the lower portion 8[a] of the casting and partially below and partially to the rear of the closure members 12 is a recess 8[e] which is symmetrically disposed relatively to the path to be taken by an inserted coin and located within the said recess is a magnet 17 which is pivotally mounted on a transversely disposed pin 18 so that the magnet is capable of being rocked along the longitudinal axis of the coin slot. Adjacent its outer end and on its upper face but to the rear of the closure members the magnet is provided with a pair of upwardly directed projections 17[a] which are of a length such that in the event of the said magnet being tilted upwardly the projections come into the path to be taken by a coin or disc and prevent the insertion of the disc or coin (see Figure 7). The pole piece of the magnet 17 is located below the closure members so that the closure members serve as a keeper for the magnet.

The front portion 8[c] of the casting if preferred may have disposed therein a pair of spring pressed pawl members having ramp sections which are normally projected in the coin slot and along the longitudinal axis thereof and which are capable of being depressed to permit of the passage of the coin through the coin slot. In the event of an endeavour being made, however, to pass a washer or similar annular member the ramp section springs into engagement within the hole in the washer or similar member and retards the further inward motion of the washer. The inner face of the ramp section is shaped so as to admit of the washer readily being withdrawn after its inward motion has been arrested.

The outer portion of the coin slot may also be provided with hardness testing devices so that discs of a soft metal are rejected and rendered incapable of being passed through the machine.

The locking levers 15 are maintained normally in the locking position by means of springs 19.

The magnet 17 is maintained normally in the out-of-action position (see Figure 4) by means of a spring 20.

It will be appreciated that a coin slot constructed as hereinbefore described renders the fraudulent working of the machine to which it is fitted extremely difficult as if soft materials such as cardboard or paper are inserted in the coin slot the material is not sufficiently strong to cause the pressure exerting levers 11 to open the coin slot and if an endeavour should be made to pass a cardboard disc of the specified size through the coin slot the pressure exerting levers 11 would cause a diminution in the diameter of the disc which would prevent the said levers being moved to the extent necessary to cause the locking levers 15 to admit of the opening of the closure members 12. Similarly, hard discs of a lesser diameter than the diameter of the specified coin fail to open the pressure exerting levers 11 to the amount necessary to effect the freeing of the closure members. In addition, the attempt to pass discs of a ferrous or strongly magnetic nature is resisted even if these discs are of the specified diameter as discs of such materials cause the magnet 17 to move into the obstructing position. Moreover, discs made from soft metal are prevented by the hardness testing device from being passed into the machine.

It will also be appreciated that as the coin slot prevents the passage past the closure members of materials calculated to jamb the coin chute there is no necessity for the provision, in the coin chute, of rubbish clearance devices such as have been necessary heretofore.

What I claim is:—

1. A coin slot for coin freed mechanisms comprising a body member, a coin slot formed in said body member, movable means mounted within the body member and adapted nor-

mally to close the coin slot, a lever means adapted to have contact with the periphery of a coin during the operation of inserting a coin in the slot and to be moved by the pressure exerted by the coin so as to cause the closure means to tend to move out of the closing position, a secondary lever means adapted normally to occupy a position which obstructs a full opening movement of the closure means and means carried by the secondary lever means which come into abutment with the pressure exerting lever means when a coin of the specified diameter is passed through the coin slot the pressure exerted subsequently by the coin on the pressure exerting lever means causing the said pressure exerting lever means to move the secondary lever means out of the obstructing position and to admit of the closing means being moved into the fully open position.

2. A coin slot for coin freed mechanisms comprising a body member, a coin slot formed in said body member, a pair of oppositely acting members slidably mounted within the body member and adapted to close the coin slot, means for normally maintaining the slidable members in the closing position, a pair of levers disposed on opposite sides of the coin slot and adapted to contact with the periphery of a coin during the insertion of a coin in the slot and during its passage through the slot, the rocking movement imparted to the levers by the coin being transmitted to the slidable members and serving to effect an opening movement thereof, a pair of secondary levers disposed to the rear of the closure members, means carried by the said secondary levers which normally prevent the full opening of the closure members, arms carried by the secondary levers and adjustable abutments mounted within said arms and capable of being adjusted so that contact is effected with the pressure exerting levers when the said levers are moved by a coin of the specified diameter the pressure exerted by the coin subsequent to the making of contact between the pressure exerting levers and the abutments causing the secondary levers to move out of the obstructing position whereby the closure members may be moved to the open position to admit of the passage of a coin through the slot.

3. A coin slot for coin freed mechanisms, comprising a body member, a coin slot formed in the said body member, a pair of members slidably mounted within the body member and adapted to close the coin slot, spring means for normally maintaining the slidable members in the closing position, holes formed in the said slidable members, a pair of levers disposed on opposite sides of the said slot and adapted to contact with the periphery of a coin upon the insertion of a coin into the slot and during its passage therethrough said levers passing through the holes in the closure members whereby the rocking movement imparted to the levers during the operation of passing a coin through the coin slot is transmitted to the slidable members and caused to effect an opening movement thereof, a pair of secondary levers disposed at the rear of the aforesaid closure members, hook sections carried by the secondary levers and adapted to be disposed normally within the paths of the closure members for the purpose of limiting initially the opening movement permitted thereto, spring means for normally maintaining the said hook sections in the obstructing position, arms carried by the secondary levers and adjustable screws mounted in said arms the noses whereof are adapted to contact with the pressure exerting levers when said levers are rocked to the degree rendered possible only by coins of the specified diameter the pressure exerted by the coin subsequent to the making of contact between the pressure exerting levers and the abutment causing the secondary levers to be moved out of the obstructing position whereby the closure members may be moved to the open position to admit of the passage of a coin through the coin slot.

In testimony whereof I have signed my name to this specification.

LESLIE CLIFFORD BRADLEY.