

April 17, 1956

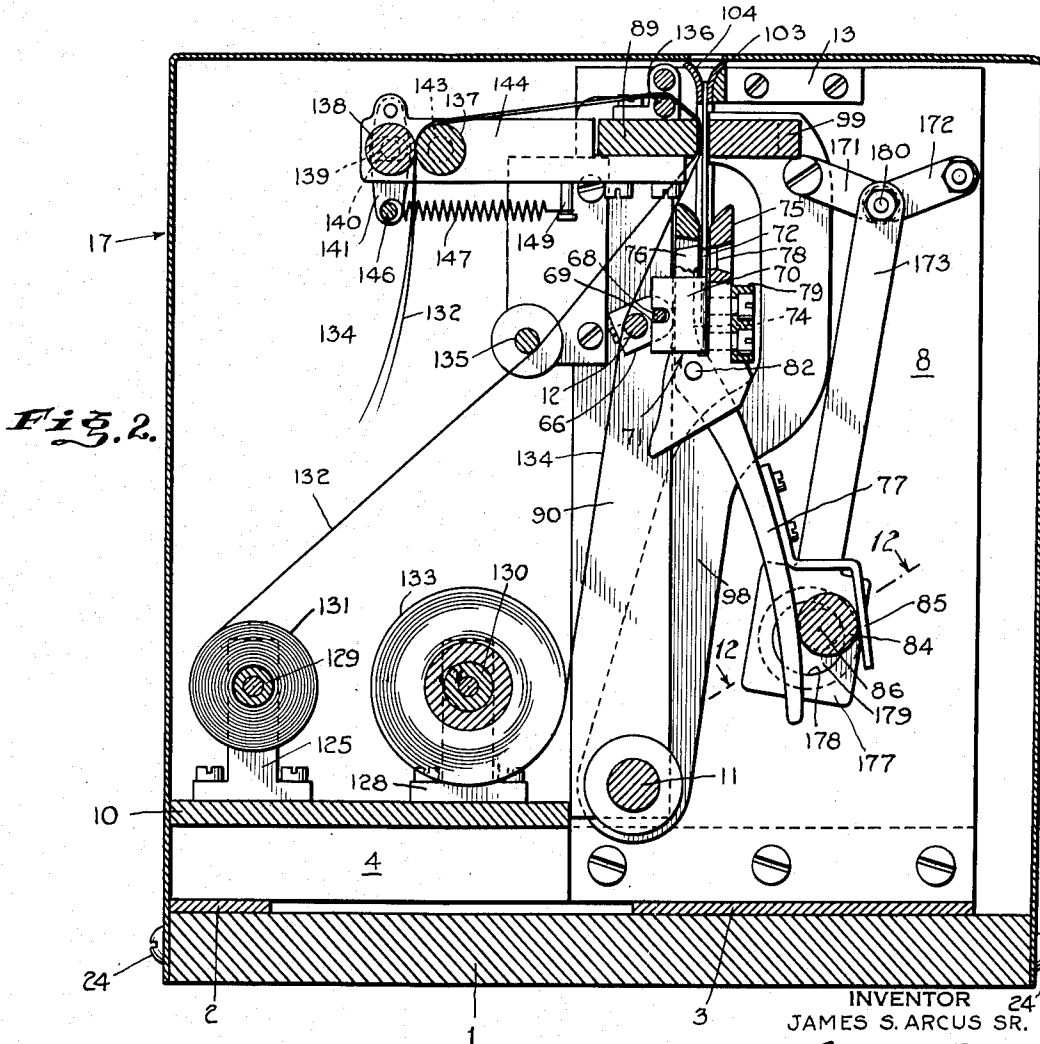
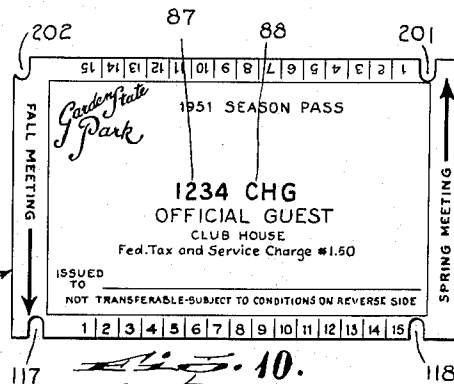
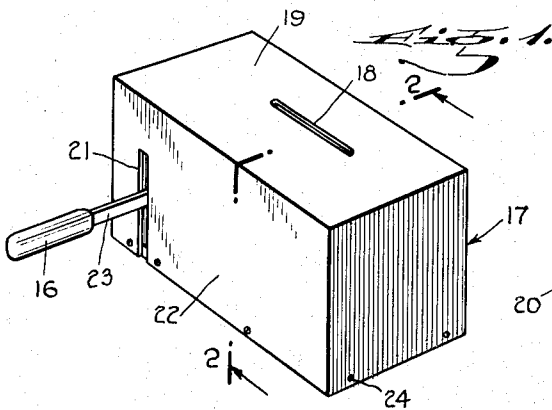
J. S. ARCUS, SR

2,741,980

ADMISSION TICKET MANIPULATING MACHINE

Filed May 24, 1952

5 Sheets-Sheet 1



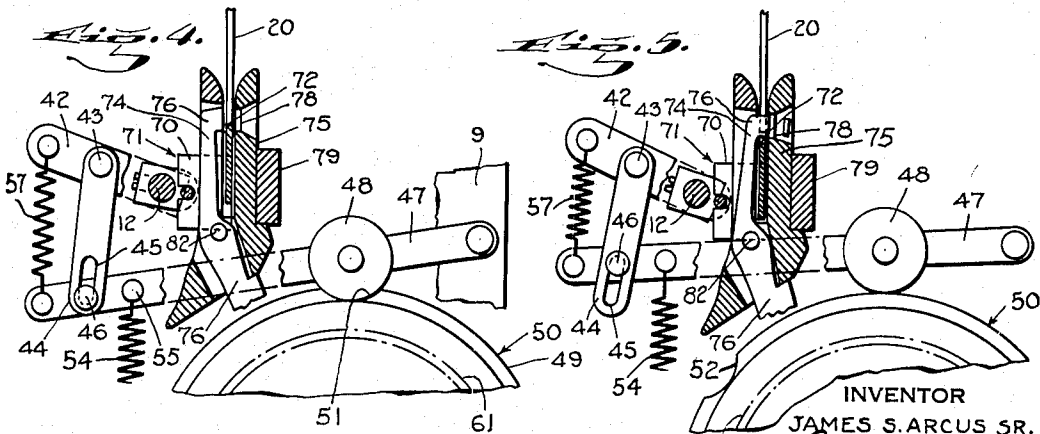
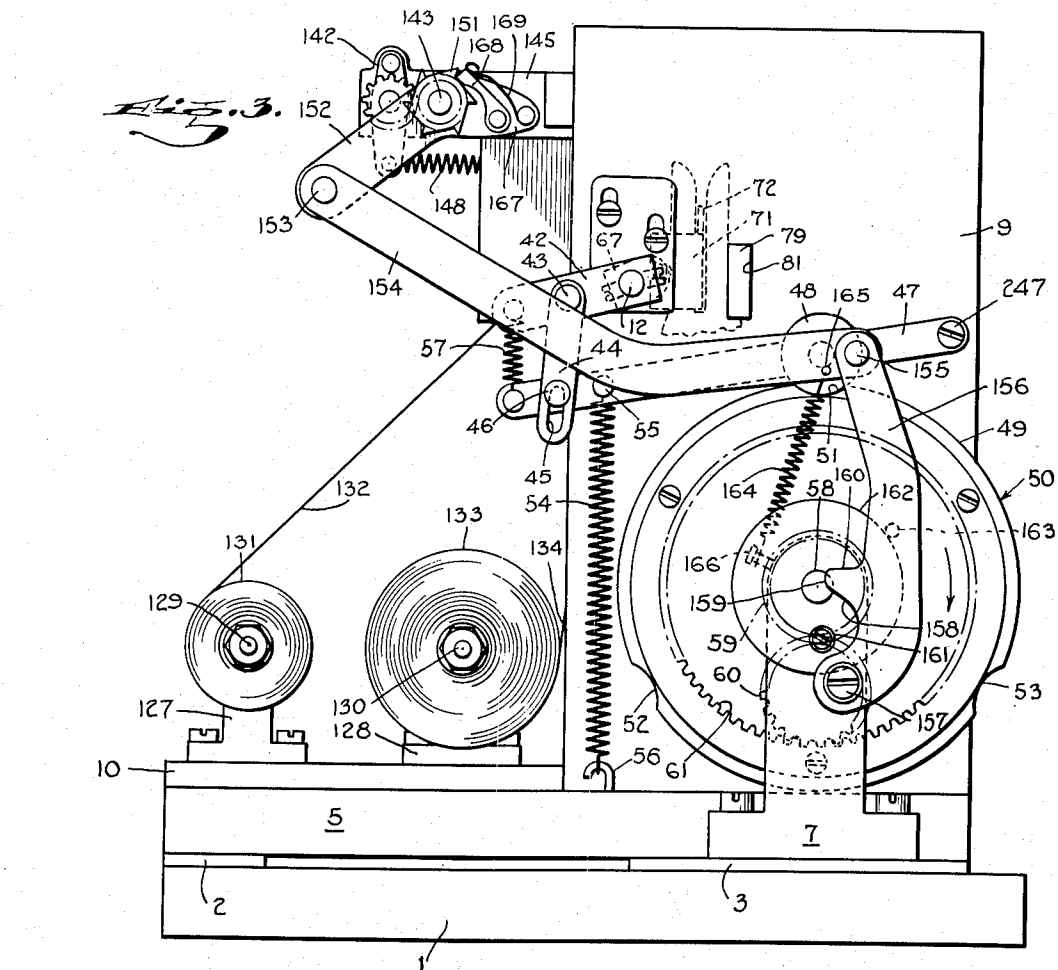
INVENTOR
JAMES S. ARCUS SR.
BY *Gustav Drews*
his ATTORNEY

2,741,980

ADMISSION TICKET MANIPULATING MACHINE

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5 Sheets-Sheet 2



INVENTOR
JAMES S. ARCUS SR.
BY *Gustav Drews*
his ATTORNEY

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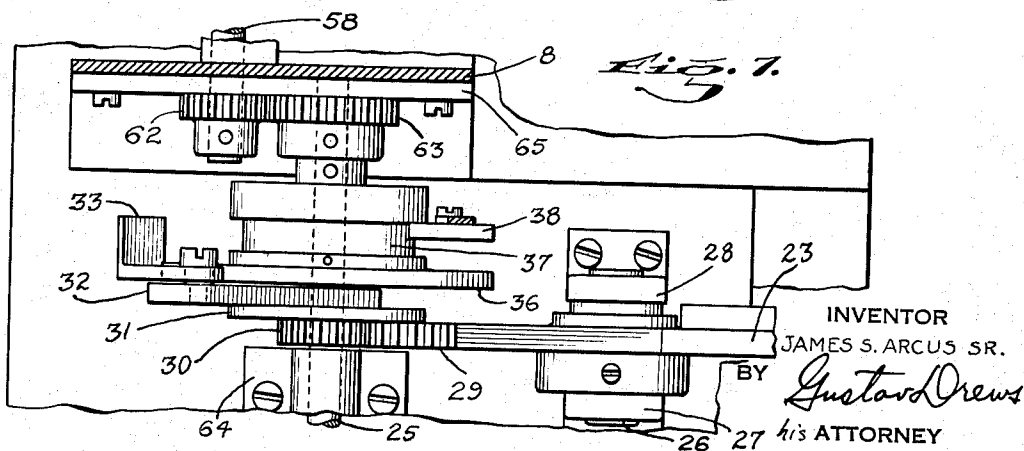
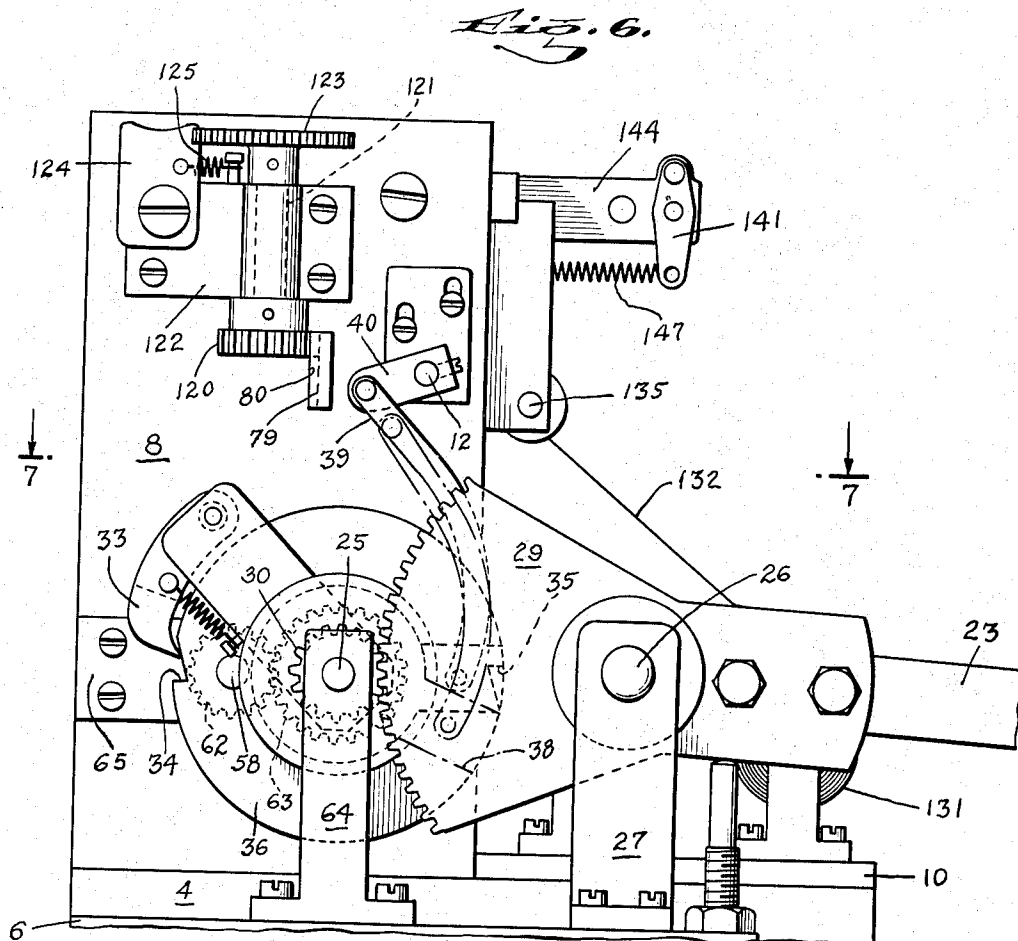
J. S. ARCUS, SR

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ADMISSION TICKET MANIPULATING MACHINE

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5 Sheets-Sheet 3



INVENTOR
JAMES S. ARCUS SR.

BY Gustav Drews
27 his ATTORNEY

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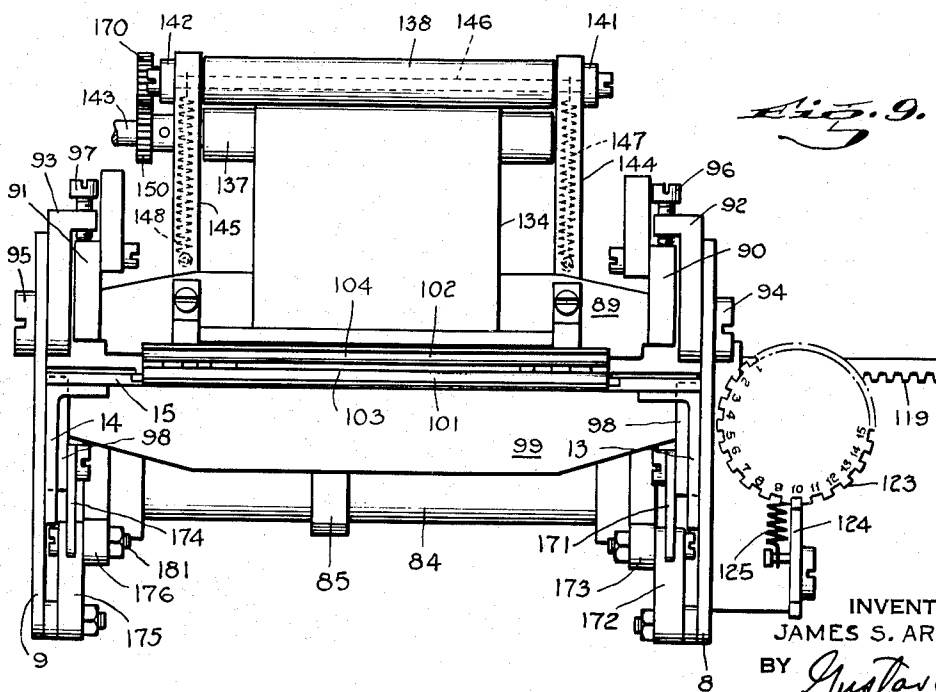
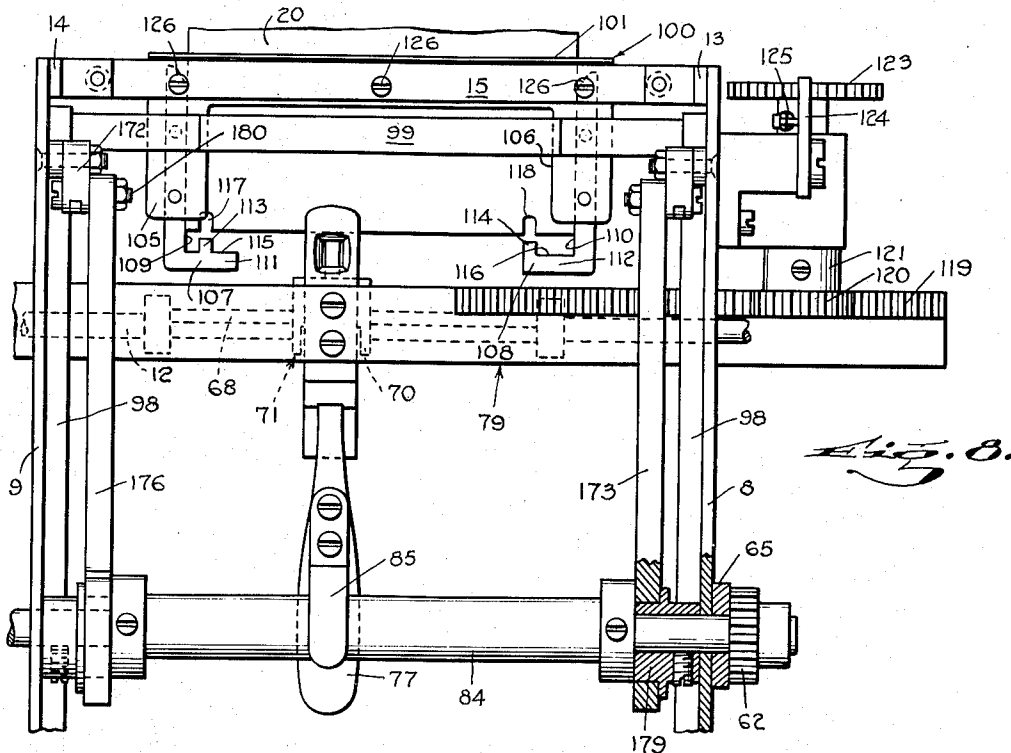
J. S. ARCUS, SR

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ADMISSION TICKET MANIPULATING MACHINE

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5 Sheets-Sheet 4



INVENTOR
JAMES S. ARCUS SR.
BY *Gustav Drews*
his ATTORNEY

April 17, 1956

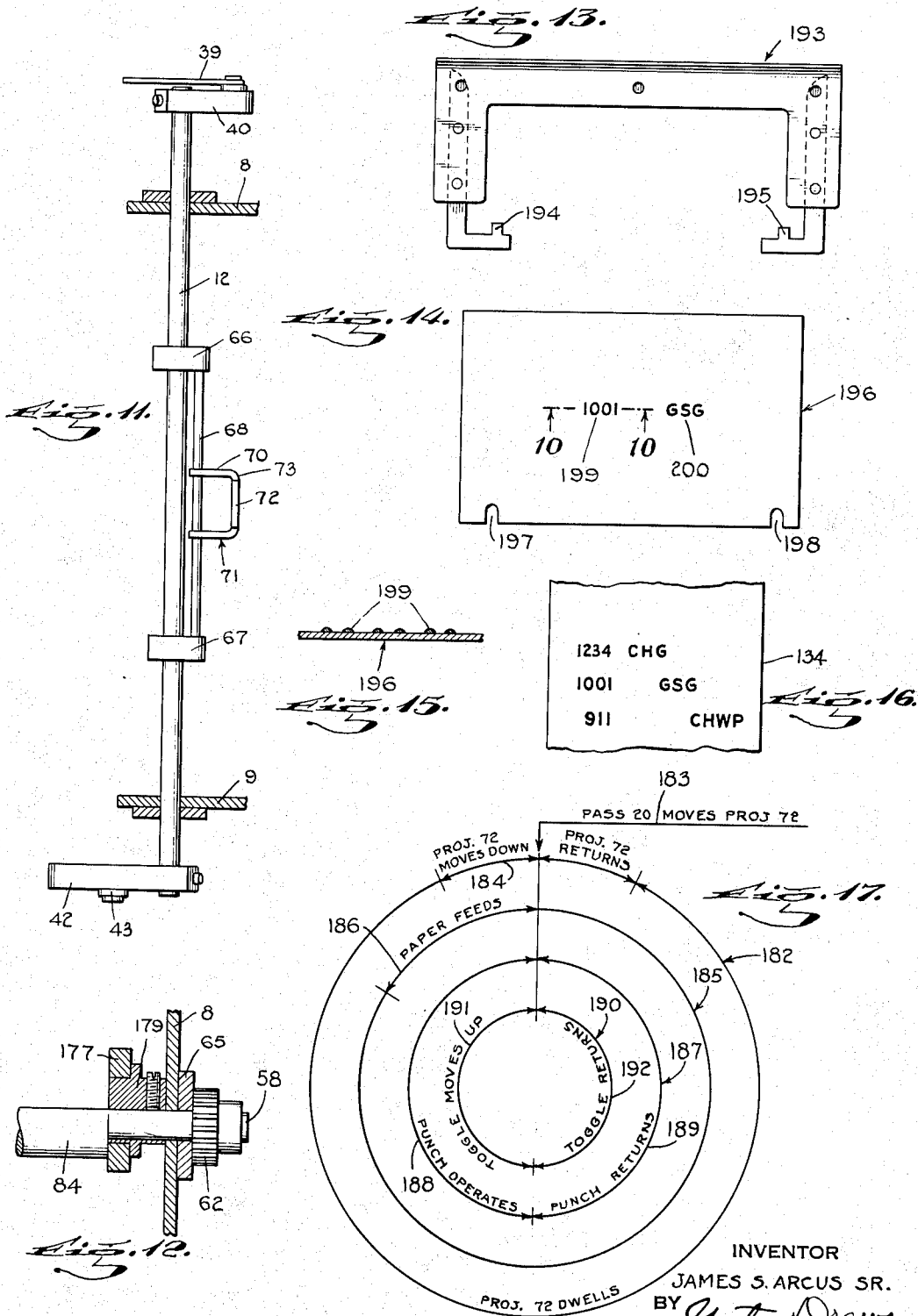
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ADMISSION TICKET MANIPULATING MACHINE

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2,741,980

ADMISSION TICKET MANIPULATING MACHINE

James S. Arcus, Sr., Lombard, Ill., assignor to The Arcus Ticket Co., Chicago, Ill., a corporation of Illinois

Application May 24, 1952, Serial No. 289,911

14 Claims. (Cl. 101—93)

This invention relates to an improved admission ticket manipulating machine.

In the entertainment field, such as sporting events, including horse racing metes, and the like, it has been conventional to issue passes to a number of groups of attendants. Record of the use of such passes for each day of the mete has been required for a number of reasons, as an instance, to provide against misuse of the passes by unauthorized persons, to prevent use of a single pass for more than one admission, thereby in turn to detect whether such pass had been transferred to an unauthorized person to gain admission after the authorized user had been admitted, and to determine a list of the passes which are taxable and those which are not taxable. Several systems more or less reliable and cumbersome have been introduced without success to solve the problem presented by the situation aforesaid.

With this problem in mind, the present invention aims to provide an improved ticket manipulating machine (1) whereby the authorized passes can be readily detected both as to the mete and as to the date of the mete, (2) whereby an unauthorized repeat use of an authorized pass can be readily detected, that is, whereby all passes previously used for the day of the mete can quickly be detected and rejected if wrongfully presented for a second admission, (3) whereby a record of the authorized passes presented for a single day of a mete can be effected and retained with the machine, (4) whereby a record can be effected on the pass itself to indicate that it has been used for the day of the mete, and (5) whereby one and the same pass can be used once for each of a number of different days of a particular mete, depending upon the setting of the machine.

More specifically, the present invention aims to provide an improved ticket manipulating machine for use with a ticket that has a first predetermined structural conformation thereon to correspond to the setting of the machine for a particular mete, a second structural conformation thereon to correspond to the setting of the machine for a particular day of the mete, and a third structural conformation thereon to cooperate with the machine to record such third conformation to be retained with the machine, and the machine (1) is provided with a first detecting means to cooperate with the first structural conformation on such pass to detect passes authorized for the mete, (2) is provided with a second detecting means to cooperate with the second structural conformation on the pass to detect passes authorized for the particular day of the mete, (3) is provided with a first record producing device for marking the authorized passes presented, (4) is provided with a second record producing device cooperating with the third structural conformation on the pass to reproduce the same or record it for retention with the machine, (5) in which the second detecting means can be changed at the end of a day to serve for another day of the mete and to cooperate with the second structural conformation of an authorized pass which may or may not have been used for

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a previous day of the mete, and (6) in which the first detecting means of the machine can be changed for use with another mete to cooperate with the first predetermined structural conformation of the passes which have been conformed to correspond to such other mete.

These and other features, capabilities and advantages of the present invention will appear from the subjoined detailed description of one specific embodiment thereof illustrated in the accompanying drawings, in which

Fig. 1 is a perspective of the machine.

Fig. 2 is a section on the line 2—2 of Fig. 1.

Fig. 3 is an end elevation of the machine with the cover removed looking from the right hand side of the machine.

Fig. 4 is a fragmental detail partly in section showing the punch before passing through the ticket.

Fig. 5 is a fragmental detail partly in section similar to Fig. 4 showing the punch after having passed through the ticket.

Fig. 6 is an end elevation of the machine with the cover removed looking from the left hand side of the machine as compared to Fig. 3.

Fig. 7 is a section on the line 7—7 of Fig. 6.

Fig. 8 is a fragmental rear elevation of the machine with the cover removed and parts broken away.

Fig. 9 is a fragmental top plan view of a part of the machine with the cover removed.

Fig. 10 is a plan view of a ticket constituting the pass which may be used with the machine.

Fig. 11 is a detail showing one of the shafts operatively connected to the setting mechanism of the machine.

Fig. 12 is a section on the line 12—12 of Fig. 2.

Fig. 13 is a detail showing the ticket or pass receiving guide.

Fig. 14 is a front elevation diagrammatically showing another pass.

Fig. 15 is a section on the line 10—10 of Fig. 14.

Fig. 16 is a fragmental detail of the record receiving strip showing records impressed thereon.

Fig. 17 is a diagram or chart showing the several operations of the machine in relation to one another.

The operation of the machine when inserting a pass, detecting an authorized pass, producing a record on the pass so presented to indicate that it has been used for a day of a mete and for producing a record for retention with the machine, for convenience of description may be assumed to take place during a single cycle of operation. However, since the aforesaid functions performed by the machine, as well as others, overlap, the sequence of these several functions may vary, the functions themselves may vary, and the mechanical expedients for carrying out these several functions may vary, and some may actually be omitted without departing from the general spirit of the invention, the order in which the several mechanical expedients illustrated will be described is not intended to delineate their importance nor the preferred sequence, but is arbitrarily determined with a view to facilitating the description.

In a general way, the invention contemplates the use of a pass having data formed thereon in raised characters, a mechanism in the machine to cooperate with the contour of the pass to condition the machine for operation if it is an authorized pass, the then ensuing actuation of the machine first to advance a record strip, paper as an instance, with the impression creating medium, such as a strip of carbon paper, at about the same time clearing the card for operation by a punch, thereupon actuating the punch to change a part of the contour of the pass to form a record on the same that it has been used, thereupon enabling the record feeding mechanism to return to neutral position, thereupon actuating the pass with its raised characters into impression provoking position against the adjacent face of the record strip

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and press it with the adjacent carbon strip into impression creating position against a stationary platen, thereupon withdrawing the punch, and finally withdrawing the card from its impression producing relation with the fixed platen.

The main frame

The main frame consists essentially of a supporting base 1 (Figs. 2 and 3) having secured thereto a transversely extending front base plate 2 and a transversely extending rear base plate 3. Disposed on the base plates 2 and 3 and extending from front to rear there are provided in the present instance the parallel bars 4 and 5 extending from the front to the rear of the machine. The bar 4 is spaced from the left hand side of the machine to receive a second base plate 6 mounted on the projecting ends of the base plates 2 and 3. The bar 5 in turn is spaced from the right hand side of the base plate 3 to receive the bracket 7. Secured to the inner face of the bars 4 and 5 and extending upwardly from the rear base plate 3, there are provided the two cheek plates 8 and 9. Extending across the upper face of the bars 4 and 5 in front of the cheek plates 8 and 9, there is provided the platform 10. To the rear of the platform 10 there is provided the tubular bar 11 supported at its ends in the cheek plates 8 and 9. About one-third the distance from the top of the cheek plates there is provided the shaft 12 extending through the cheek plates 8 and 9. At the upper inner faces of the cheek plates 8 and 9 there are provided the brackets 13 and 14 which are connected to one another by the cross bar 15.

To this main frame the operative parts hereinafter to be described are connected. To house the entire mechanism, with the exception of the handle 16, see Fig. 1, there is provided the five-sided casing 17 having a slot 18 in its upper wall 19 to form a mouth for the reception of the pass, such as the card 20 illustrated in Fig. 10, to be inserted into the machine. The housing 17 also has a vertically extending slot 21 formed in its front wall 22 to clear the shank 23 of the handle 16 in its up and down movement. This housing 17 may be connected to the supporting base 1 by any suitable means such as the screws 24.

The main drive

According to the present invention, when the machine is conditioned for operation, that is, when an authorized pass is introduced into the machine, the mechanism will be free to be actuated to operate a variety of recording devices in the present instance, (1) to clear the pass for operation by the punch, (2) to feed the record strip into a position for the next impression or record, (3) to punch the pass and change a part of its contour to indicate that it has served its purpose for the day, (4) to actuate the pass support with the pass into impression provoking position with a fixed platen, and finally (5) return the punch and pass support into neutral position for the next operation.

The several functions performed are controlled in the present instance from a single drive shaft, to wit, the shaft 25, which may be actuated by any one of the conventional forms of motive power, such as foot power, hand power, electric motor, or the like. In the form illustrated, the hand actuated lever 16 is provided which is mounted on the shank 23 provided with the shaft 26, journaled in the upper ends of the uprights 27 and 28. The shank 23 has a toothed portion 29 at its end in mesh with the gear 30 rotatably mounted on the shaft 25. The gear 30 in turn is fixed to the disk 31 to which is secured the arm 32 having pivotally connected thereon the pawl 33 for engagement with the notches 34 and 35 on the peripheral edge of the disk 36 which is fixed to the shaft 25. Also rotatably mounted on the shaft 25 there is provided the collar 37 having fixed thereon the pro-

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jection 38, which normally is disposed adjacent one of the notches 34, 35 to maintain the pawl 33 out of engagement with a notch 34 or 35. In order to enable the handle 16 through the toothed portion 29, gear 30 and pawl 33 to actuate the disk 36 and therewith the shaft 25, it will be necessary to withdraw the projection 38 from alinement with a notch 34 or 35 to enable the pawl 33 when dropped into the notch 34, 35 disposed at the front of the disk 36 to enter such notch and thereupon enable the shaft 16 upon being depressed to advance the disk 36 a half a revolution. During this advance of the disk 36 it will advance the shaft 25 with it and the transmission now to be described.

Preliminary and final conditioning devices

Before the projection 38 is withdrawn clear of the pawl 33, the vertical reciprocation of the handle 16 will of course serve no purpose. Advantage is taken of this condition to indicate to the attendant that the pass introduced into the machine is unauthorized. In other words, before the projection 38 can be withdrawn clear of the pawl 33, an authorized pass, such as the pass 20, must be introduced into the machine to effect a preliminary conditioning of the machine, in the present instance to actuate the projection 38 clear of the pawl 33. The pass 20 in this instance will cooperate with a part of the machine to constitute a preliminary conditioning device or mechanism. Thereupon in order to clear the path of movement of the punch a further conditioning of the machine is effected by the initial actuation of the handle 16. The handle 16 in this instance will cooperate with other parts of the machine to constitute the final conditioning device.

The projection 38 as shown in Figs. 6 and 7 is pivotally connected to the link 39 which in turn is pivotally connected to the free end of the lever 40, which in turn is fixed to the shaft 12 which extends through the cheek plates 8 and 9, being journaled therein, and has fixed to the portion of the shaft 12 extending outwardly from the cheek plate 9 a second lever 42 which in turn has pivotally connected thereto, see Fig. 3, at 43, the upper end of the link 44, the lower end of which has a slot 45 therein to receive the pin 46 near the free end of the cam lever 47 which has journaled thereon the cam roller 48 to cooperate with the peripheral edge 49 of the cam disk 50. The cam disk 50 has three depressions 51, 52 and 53 in the present instance receding from the peripheral edge 49. The cam lever 47 is pivotally connected at its rear end to the outer face of the cheek plate 9. In order to maintain the cam roller 48 in resilient engagement with the peripheral edge 49 and the depressions 51, 52 and 53 of the cam disk 50, the spring 54 is provided connected at its upper end to the lever 47 at 55 adjacent the pin 46 but between it and the rear end of the lever 47. The lower end of the spring 54 is connected to the abutment 56, a hook in the present instance, secured to and extending from the upper face of the bar 5.

In order normally to maintain the pin 46 in engagement with the upper end of the slot 45, the spring 57, is provided, being connected at its upper end to the free end of the lever 42, preferably as shown beyond the pin 43 so that the pin 43 is disposed between the spring 57 and the shaft 12. The lower end of the spring 57 is connected to the free end of the cam lever 47 preferably beyond the pin 46 so that the pin 46 is disposed between the spring 57 and the pin 55. Preferably also as shown, the spring 54 will be stronger than the spring 57, that is, offer a greater resistance to tension so that the lever 42, as an instance, may be raised, as will hereinafter be described, without effecting the position of the cam lever 47, pivoted on the pin 247 extending from the outer face of the cheek plate 9.

The cam disk 50 is freely rotatable on the shaft 58. The shaft 58 has fixed thereto the external gear 59 which is in mesh with the external gear 60, which in turn is freely

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rotatable on a shaft journalled in the bracket 7. The gear 60, on the other hand, is in mesh with the internal gear 61 fixed to the side of the cam disk 50. Consequently, when the shaft 58 is actuated it will through the gears 59, 60 and 61 actuate the cam disk 50. The shaft 58 extends through the cheek plates 9 and 8 from the outside of the cheek plate 9 to the outside of the cheek plate 8 where, see Figs. 6 and 7, it has fixed thereon the small gear 62 in mesh with the gear 63 which is fixed on the shaft 25. Consequently, when the projection 38 is clear to accept the pawl 33 to enter one of the notches 34, 35, and the handle 16 is lowered, it will actuate the shaft 25 a half a revolution, 180°, and at the same time actuate the shaft 58 thereby to actuate the cam disk 49. The gear ratios illustrated indicate that while the shaft 25 describes a half revolution, or 180°, the shaft 58 will describe a complete revolution, or 360°, and the cam disk 50 will describe a third of a revolution or 120°. It will also appear from the foregoing that while the initial actuation of the shaft 12 will merely withdraw the projection 38 out of the path of movement of the pawl 33, this actuation of the shaft 12 will not affect the position of the cam lever 47. However, when the handle 16 is lowered, after having been connected to the disk 36, the actuation of the shaft 25 will actuate the shaft 58 to cause the roller 48 to rise out of one of the depressions 51, 52 or 53 onto the peripheral edge 49 of the cam disk 50, and thereby actuate the lever 47 to bring its pin 46 into engagement with the upper end of the slot 45, and raise the link 44 and with it actuate the lever 42 further to actuate the shaft 12. The shaft 25, as shown in Figs. 6 and 7, is journalled at its ends in the bracket 64 and the plate 65 connected to the outer face of the cheek plate 8.

On the shaft 12, see Figs. 2, 3 and 11, there are fixed two plates 66 and 67 which in turn support a rod 68 parallel to the shaft 12. The rod 68 is positioned to extend through the recesses 69 in the side plates 70 of the U-shaped bracket 71 which has a projection 72 extending upwardly from its intermediate web 73 which is disposed to slide between the jaws 74 and 75 of the punch. The raised position of the projection 72 when the cam lever 47 is located in its lowermost position where its cam roller 48 is disposed in one of the recesses 51, 52 or 53, and the upper lever 42 is in its lowermost position where the upper end of the slot 45 rests on the pin 46, coincides with the position of the projection 38 where it obstructs the passage of the pawl 33 into one of the notches 34 or 35 and is considered the neutral or at rest position. In this position the projection 72 obstructs the path of movement of the head 76 of the jaw 74 which when actuated by movement of its arm 77 is disposed to pass through the opening 78 formed in the fixed jaw 75 to shear or punch an increment of the pass from it as it passes the space between the jaws 74 and 75 formerly occupied by the projection 72. Before the punch can operate, therefore, it is necessary to cause the projection 72 to descend clear of the path of movement of the head 76. The preliminary conditioning movement, that is, the movement of the projection 38 clear of the pawl 33, is primarily effected by the pass 20 hereinafter to be described. Since the projection bracket 71 is connected to the rod 68, the depression or lowering of it by the card will actuate the projection 38 to clear the pawl 33. This lowering of the projection bracket 71, however, will not be sufficient effectively to clear the opening 78 in the fixed jaw 75. However, thereupon the ensuing actuation of the lever 16 to actuate the shaft 25 in turn to actuate the shaft sections 58 and therewith the cam disk 50 will cause the cam roller 48 to ride up out of a recess 51, 52 or 53 onto the peripheral edge 49 and thereby actuate the cam lever 47 in turn to actuate the lever 42 further to actuate the shaft 12 now fully to depress or lower the projection 72 effectively to clear the opening 78 for the punch head 76.

The fixed jaw 75 of the punch to the rear of the projection 72 is fixed to the bar 79 fixed against vertical

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and lateral movement to and from the rear of the machine, but freely slidable transversely of the machine in the rectangular openings 80 and 81 formed in the cheek plates 8 and 9, respectively. The jaw 74, on the other hand, in front of the projection 72 and between the side plates 70 of the bracket 71 is pivotally connected to the jaw 75 by the pin 82 with the arm 77 extending downwardly and maintained in engagement with the offset shaft 84 by the finger 85. The offset shaft 84 is mounted eccentric to the center 86 of the shaft sections 58 journalled in the bracket 7 on the outside of the cheek plate 9 and the plate 65 on the outside of the cheek plate 8.

In order to describe the initial actuation or lowering of the projection 72 by the pass 20, it is desirable now to describe the pass itself in detail and the method or receptacle for the pass 20 when introduced into the machine by the attendant or possessor of the pass.

The pass 20, see Fig. 10, has formed thereon, preferably medially thereof, a character or marking or the like in raised or intaglio form, such as the characters 87 and 88 in the present instance, the character 87 indicating the serial number of the pass, and the character 88 indicating the class of the pass, that is, whether taxable, non-taxable as an instance. The position of these characters 87 and 88 relative to the upper and lower edges of the pass 20 are also predetermined to facilitate co-operation of the same with the fixed platen 89 to provoke an impression in the manner hereinafter to be described. The fixed platen 89 may be secured to the cheek plates 8 and 9 in any suitable manner. In the present instance, however, it is shown as secured to the upper ends of the vertically extending bars 90 and 91, the lower ends of which are rotatably mounted on the tubular bar 11. These bars 90 and 91 have recesses to clear the shaft 12 which recesses and shaft 12 substantially determine the normal fixed position of the platen 89 during a printing operation. To anchor the bars 90 and 91 in such fixed position, the pivotally mounted brackets 92 and 93 are provided pivotally connected to the cheek plates 8 and 9, respectively, by the screws 94 and 95, respectively. The free ends of these brackets 92 and 93 in turn have set screws 96 and 97 to engage the front edges of the bars 90 and 91 in erect position.

The bars 90 and 91 are spaced from the cheek plates 8 and 9, respectively, to clear the arms 98 also rotatably mounted on the shaft 11, which arms 98 extend upwardly and support between them the movable platen 99, there being one arm 98 adjacent to each cheek plate, one between the cheek plate 8 and the vertically extending bar 90 of the fixed platen 89, and the other one between the cheek plate 9 and the vertically extending bar 91. The movable platen 99 and fixed platen 89, see Fig. 2, in printing position are disposed in alinement with one another with a space between the same to receive the pass 20. In order to guide the pass 20, a frame 100, constituting a guide, Fig. 8, is provided having two complementary U-shaped members 101 and 102 spaced from one another with two outwardly flaring lips 103 and 104, respectively, formed at the upper ends thereof to form the mouth for the guide and each plate 101 and 102 provided with two lateral portions or members 105 and 106 extending downwardly constituting a throat. The extensions 105 and 106 of the plates 101 and 102 are in alinement with one another and spaced from one another by the plates 107 and 108, respectively. The inner edges 109 and 110 of the plates 107 and 108, respectively, form guides for the lateral edges of the pass. At the lower ends of the plates 107 and 108 there are provided inward extensions 111 and 112, respectively, positioned according to the mete for which the pass is to be accepted. The upper edges 115 and 116 of the plates 107 and 108 to either side of the projections 113 and 114 determine the final lowermost position of the pass when accepted by the machine. The projection 72 of the bracket 71 extends up approximately to the upper level of the pro-

jections 113 and 114 in normal or neutral position when the projection 38 obstructs the path of movement of the pawl 33. With the projections 113 and 114 positioned as shown in Fig. 8, the pass 20, Fig. 8, intended to receive the same would have to be provided with notches 117 and 118 to register with the projections 113 and 114, respectively. The edge of the pass 20, however, between the notches 117 and 118 assuming that the slidable bar is positioned as indicated in Fig. 8, must be intact at least above the projection 72. If the edge of the pass 20 is intact above the projection 72, and on the other hand the notches or recesses 117 and 118 correspond in position to the projections 113 and 114, respectively, then when the pass is introduced into the guide 100, the intact portion of the pass above the projection 72 will engage the projection 72 and depress it in turn to actuate the shaft 12 a sufficient distance to cause the link 39 to withdraw the projection 38 out of the path of movement of the pawl 33. When the handle 16 is then raised and the pawl 33 introduced into the notch 35 or 34, whichever is then at the front of the machine, the machine has been preliminarily conditioned. To this extent, therefore, the card and the mechanism so far described to withdraw the projection 38 out of the path of movement of the pawl 33 constitute the preliminary conditioning device. Thereupon when the handle 16 is depressed, the engagement of the pawl 33 with the disk 36 will cause the shaft 25 to be actuated a half a revolution. In the initial portion of this revolution, the cam disk 50 will be actuated to thrust the cam roller 48 out of a recess 51, 52 or 53 onto the peripheral edge 49 of the disk 50, and thereby actuate the cam lever 47 and through the link 44, the lever 42, further to actuate the shaft 12 and cause the projection 72 effectively to clear the path of movement of the punch head 76 and thus finally condition the machine for operation.

The punch

When the machine is used merely to detect authorized passes and mark authorized passes, it will of course not be necessary to provide a pass with raised characters, or to provide a printing mechanism. In such case, after the machine has been preliminarily conditioned and finally conditioned for operation as aforesaid by the initial actuation of the projection 72, by means of the pass 20, and by the ensuing depression of the handle 16, it will only be necessary for the operator or attendant to complete the downward movement of the handle 16 when the arm 77 will be actuated thereupon first to cause an increment to be sheared or punched out of the lower edge of the pass 20 where it opposed the punch head 76 and then return the punch to neutral position and also return the projection 72 to its normal raised position, since upon removal of the increment punched out of the punch head 76, the projection 72 will of course be free again to return to raised position under the urge of its spring 54 after the cam lever 47 has returned to its neutral position where its cam roller 48 enters the next succeeding recess 51, 52 or 53. The arm 77, as aforesaid, will be actuated by the offset shaft 84 which will make a complete revolution, 360°, for every half revolution of the shaft 25 during which movement the shaft 84 will move forward to actuate the arm 77 to perform its punching operation and again return the arm 77 to its rear position, that shown in Fig. 2, upon the completion of the cycle.

Setting the punch for successive days of a single mete

Should it be desired to use one and the same pass for a number of successive days of single mete, then the plate 100 with its location of the projections 113 and 114 need not be molested. However, according to the present invention, it will then only be necessary to move the punch including the arm 77 and the movably obstruction 72 transversely of the path of movement of the

pass or ticket, that is to change the lateral position of the punch including the jaws 74 and 75 to correspond to another day for the mete or another particular class. For this purpose, the bar 79 is provided, Fig. 8, with the teeth 119 forming a rack to cooperate with the teeth of the gear 120 secured to the lower end of the shaft 121 journaled in the bracket 122 to the upper end of which shaft 121 there is fixed the dial 123 having teeth on its outer peripheral edge to receive the spring pressed plate 124 pivotally connected to the bracket 122 and maintained in resilient engagement with a recess in the edge of the dial 123 by the spring 125. The dial 123 may have notations on the upper face thereof to correspond to the number of teeth on the dial, and in turn correspond to the number of days in the mete. On the other hand, the dial 123 may have an arbitrary number of teeth, thirty or more in number, to correspond at least to the maximum number of days in a mete so that the machine may be used for metes of both long as well as short duration. When withdrawing the plate 124, the dial 123 may be rotated in turn to actuate the bar 79 and thereby to change the position of the punch including its jaws 74 and 75 and also the bracket 71. Consequently for a second day of the mete or another day of the mete, although the pass had been punched for an earlier day of the mete, it will again present an intact portion of the lower edge of the pass for actuating the projection 72 and thus indicate to the gateman that the pass is authorized. Obviously, if one and the same pass were introduced into the machine a second time for one and the same day of the mete where the dial 123 has not been reset, the card would not cofunction with the projection 72 to preliminarily condition the machine and thereby enable the gateman immediately to determine that the pass privilege had been abused or that the pass was unauthorized.

On the other hand, at the end of a mete and before the start of another mete, when new passes would be used, either a new guide would be provided with a different arrangement of projections 113 and 114, and the notches 117 and 118 of the new passes cut to correspond, or else merely another set of plates 107 and 108 could be secured to the guide 100 wherein the projections 113 and 114 would have a different spacial relationship to one another.

To facilitate changing the guide 100, the same may with facility be secured to the cross bar 15 by any suitable means, such as the screws 126.

Printing mechanism

When it is desired to prepare a record for the use of holder of the mete, then with facility this machine can be equipped with a printing mechanism or the like. One such printing mechanism has been illustrated.

As shown in Fig. 3, on the platform 10 there are mounted two brackets 127 and 128 carrying spindles 129 and 130, respectively. The spindle 129 in the present instance has mounted thereon a roll 131 of carbon paper 132 with the transfer or impression creating side facing rearwardly. The spindle 130, on the other hand, has a roll 133 of paper 134. The carbon paper 132 preferably passes under the guide rod 135, Fig. 2, across the face of the fixed platen 89 and the paper 134 passes over the front of the shaft 12 in the present instance, and then over the carbon paper 132. The two strips, to wit, carbon paper 132 and paper 134, are then passed over the guide roller 136 and forwardly with the paper 134 engaging the transfer or impression creating face of the carbon paper 132, and while so intimately in engagement with one another over the feed roller 137, with the rear face of the carbon paper 132 engaging the feed roller 137 and the outer face of the paper 134 engaging the face of the pressure roller 138 provided with stub shafts 139 disposed in the slots 140 formed in the levers 141 and 142. The feed roller 137 is provided with stub shafts 143 journaled in the bars 144 and 145. In turn, the levers 141

and 142 are pivoted at their upper ends to the bars 144 and 145. The lower ends of the levers 141 and 142 in turn are connected to the transverse rod 146, which in turn in the present instance has connected thereto the springs 147 and 148, the rear ends of which springs 147 and 148 are connected to the pins 149 extending downwardly from the bars 144 and 145. These bars 144 and 145 in turn, as shown in Fig. 2, are connected to the fixed platen 89 and extend forwardly from the same. By means of the springs 147 and 148 the pressure roller 138 therefore engages the paper 134 to press it into intimate engagement with the carbon paper 132 and in turn to press the carbon paper 132 into engagement with the feed roller 137. The feed roller 137 is positively fed a line space at a time before each printing operation and through its cooperation with the pressure roller 138 advances the paper 134 and carbon paper 132 a line space with each advance actuation transmitted to the feed roller 137.

In order to effect this advance actuation of the feed roller 137, the outer end of one of the stub shafts 143, see Fig. 9, is provided with a gear 150 fixed thereon and also a ratchet wheel 151, Fig. 3, fixed thereon. Adjacent to the ratchet wheel 151 there is rotatably mounted on the stub shaft 143 one end of the lever 152, the other end of which is connected by the pin 153 to one end of the link 154, the other end of which link 154 is connected by the pin 155 to the upper end of the cam lever 156, the lower end of which is connected by the pin 157 to the bracket 7. The cam lever 156 has a cam face including a guiding portion 158 terminating in the extension 159 and a return portion 160. The faces 158 and 160 are positioned to cooperate with the cam roller 161 on the disk 162 fixed on the shaft 58. In order to maintain the cam faces 158, 159 and 160 in engagement with cam roller 161 during the actuation of the shaft 158 and in turn the stop 163 in engagement with the outer periphery of the disk 162 in neutral position when the cam faces 158, 159 and 160 are spaced from the cam roller 161, there is provided the spring 164 connected at its upper end to a pin 165 on the link 154 adjacent to the pin 155. The other end of the spring 164 is connected to the pin 166 formed on the bracket 7. The timing of the engagement of the cam roller 161 with the cam faces 158, 159 and 160 of the link 156 occurs during the first quarter of the revolution of the shaft 58 and before the movable platen 99 has been moved into impression provoking position.

In order to cause the cam lever 156 to effect the actuation of the ratchet wheel 151 and thereby in turn the feed roller 137, the link 152 has an extension 167 thereon on which is pivotally mounted the pawl 168 provided with the spring 169 resiliently to maintain it in engagement with the teeth of the ratchet wheel 151. Consequently, every time that the projection 167 is raised due to the actuation of the cam lever 156, its pawl 168 will engage a tooth of the ratchet wheel 151 and advance it a line space. In the conventional way, then upon the cam roller 161 passing the outer face of the extension 159 and engaging the face 160, it will return the projection 167 into its neutral lower position permitting the pawl 168 to ride back on the ratchet wheel 151 until it drops into the next tooth of the same in preparation for the next advance motion. In order to anchor the ratchet wheel 151 against return motion when the pawl 168 slides across the ratchet wheel 151 on its return motion, there is provided the gear 170 on one of the stub shafts 139 of the pressure roller 138, which gear 170, see Fig. 9, is maintained in mesh with the gear 150 by the springs 147 and 148. The gear 170 also serves to actuate the pressure roller 138 into feeding motion with the feed roller 137.

After the paper feed has been actuated during the ensuing portion of the cycle of operation, the arms 98 will be actuated forwardly in turn to advance the movable platen 99 into engagement with the rear face of the pass 20 in alinement with the raised portions 87 and 88 on the pass 20, Fig. 8, which will face the paper 134 disposed

at the opposing face of the fixed platen 89. In order to effect this actuation of the arms 98, each of the arms is connected by two pairs of toggle links, to wit, the pair 171, 172 connected to the cam lever 173, and the pair 174, 175 connected to the cam lever 176. The lower ends of the cam levers 173 and 176 have the enlargements 177 provided with the circular openings 178 to receive the circular portions 179 eccentric to the center 86 of the shaft portions 58, Fig. 12. The links 172 and 175, see Figs. 2 and 9, are pivotally connected to the cheek plates 8 and 9, respectively, at their rear ends. The front ends of these links are connected to the rear ends of the links 171 and 174, and also to the upper ends of the cam levers 173 and 176, the connection being a common connection, to wit, the pin 180 for the links 171, 172 and lever 173, and the pin 181, the common pivot connection for the links 174, 175, and lever 176. The front ends of the links 171 and 174 in turn are pivotally connected to the upper ends of the arms 98.

Diagram of cycle

The several functions of the machine as here illustrated overlap during a cycle of operation. However, obviously the sequence of the same may vary, and some functions may actually be omitted without departing from the spirit of the invention. As an instance, when the printing mechanism is not required, it may be omitted without affecting the remaining mechanisms of the machine and their respective functions. However, in the interest of facilitating an understanding of the machine disclosed, the diagram illustrating the several functions during a cycle of operation shown in Fig. 17 is presented. It will there be seen, assuming that the several functions succeed one another in counterclockwise direction, starting with the circle 132, that the pass 20 actuates the projection 72 in a preliminary period 183, that after the pass 20 moves the projection 72 that then the handle 16 will initiate the actuation of the shaft 25 through a half a revolution, the shaft portions 58 through a complete revolution, and the cam disk 50 through a third of a revolution. Assuming further that the circle 182 corresponds to the complete cycle and therefore to the 360° motion of the shaft portions 58, during substantially the first eighth of the cycle 184, the cam roller 48 will ride out of a recess 51, 52 or 53 onto the peripheral edge 49, and effectively withdraw the projection 72 out of the path of movement of the head 76 of the punch. Thereupon the punch head 76 will be free to be actuated by the arm 77 and complete its punch operation at about the completion of one half of the cycle, and during the remaining half of the cycle the punch will return to neutral position. The circle 185 locates the paper feed action at 186 which takes place before the movable platen 99 is moved into impression provoking position. From this circle 185 it will appear that the paper feed completes its action during the first sixth of the cycle.

Circle 187 traces the action of the arm 77 to actuate the punch head 76 into and out of punching position, indicating that the punching operation is completed during the first half 188 of the cycle and that the punch head 76 is being returned during the second half 189 of the cycle. In turn, the circle 190 traces the action of the arms 98 to advance the movable platen 99. This circle indicates that the eccentric for the toggle starts operating with the beginning of the actuation of the shaft portions 58 and completes its printing stroke at about the completion of the first half 191 of the cycle and then returns the movable platen into neutral position at the end of the completion of the second half 192 of the cycle.

In Fig. 13 there is illustrated a guide 193 in which the projections 194 and 195 have a different spacial relationship to one another than is the case with the projections 113 and 114 of the guide 100 shown in Fig. 8. The pass 196 illustrated in Fig. 14 is provided with notches 197 and 198 to correspond to the location of the projections 194 and 195. This illustration of the guide 193 and pass

196 is submitted to show the form of a new guide and new pass which can be used with one and the same machine when the machine is transferred to another mete.

In Fig. 14 as compared to Fig. 10, it should also be noted that the notation 199 is in substantially the same location as the notation 87 on the pass 20 of Fig. 10, however, that the notation 200 "GSG" is in a different column than the notation 88 on the pass 20. This arrangement of the data 88 and 200 in two different columns is provided so that when the impressions are produced on the paper 134 the auditor may quickly separate one group of record of passes from the other. This would be particularly desirable when it is required to separate the records of taxable passes from the records of non-taxable passes. It is of course obvious that the passes may be used for any number of different classes of officials or users without departing from the spirit of the invention. In the interest of explaining the possible uses, attention is called to the fact that among the taxable passes the notation in the column where the character 88, Fig. 10, is located, to wit, "CHG," is the column in which would appear all of the records of cards which had a Federal tax and a service charge amounting to \$1.50 as appears on the pass 20, that in the second column to the right where the notation 200, Fig. 14, to wit, the designation "GSG" appears, would be the column which contained all of the records of taxable passes indicating that the Federal tax and service charge would be 75¢ as appears on the pass 196. Still furthermore, in a third column might appear a character, such as the character "CHWP," Fig. 16, issued to the working press of the club house, or the character "GSH" issued to a grandstand horseman, or the character "CHOT" indicating that the pass was issued to a club house owner-trainer, all of which would be non-taxable passes. Consequently, the paper strip 134 after recording these three items would read as indicated in Fig. 16.

The character 87 on pass 20 of Fig. 10 and the character 199 on pass 196 of Fig. 14 are merely indicative of the number of passes issued. As an instance, this number might correspond to the total number of passes issued, whether taxable or non-taxable passes, or else indicate the number of the pass of a particular group of passes issued, for instance the number of passes issued to official guests of the club house, in which case the character 87, Fig. 10, to wit, "1234," would indicate the number of that class issued. In turn, the character 199 appearing as "1001" on pass 196, Fig. 14, would indicate the number of passes issued to official guests in the grandstand.

On the other hand, instead of issuing a new ticket or pass for another mete, one and the same ticket may have a second set of notches, as for instance, the notches 201 and 202 at the upper edge of the ticket 20 illustrated in Fig. 10, and merely the guide 100 replaced by a new guide or the arms 107 and 108 of the guide 100 replaced with projections such as the projections 113 and 114 to correspond in position to the position of the notches 201 and 202, respectively. In the pass 20, the notches 117 and 118 are formed on the lower edge for use with the fall mete as indicated on the pass, and the notches 201 and 202 are formed at the upper edge of the pass 20 to be used for the spring mete in which case the pass will of course be inverted when introduced into the machine.

It is obvious that various changes and modifications may be made to the details of construction without departing from the general spirit of the invention as set forth in the appended claims.

I claim:

1. In an admission ticket manipulating machine, the combination of a frame, a guide secured in said frame for receiving an authorized ticket, a movable obstruction in said frame in the path of movement of the advanced edge of the ticket to be actuated by the ticket when inserted into the machine, an actuating lever pivotally connected to said frame, a main drive in said frame, a first driving

connection between said lever and said main drive, a device normally obstructing said first driving connection, a first linkage connecting said movable obstruction to clear said first driving connection for operation by said lever when said movable obstruction is actuated by the ticket, a punch arm pivotally mounted in said frame, a punch head on said arm in alignment with said movable obstruction in normal position to punch out a portion of the ticket receding from the advanced edge, a second driving connection between said punch arm and said main drive to enable actuation of said main drive to actuate said punch arm, and a second linkage connecting said movable obstruction to said main drive, the ticket initially actuating the movable obstruction to actuate said device to clear said driving connection, and said main drive in turn further actuating said movable obstruction to clear the path of movement of the punch head.

2. In an admission ticket manipulating machine, the combination of an authorized ticket having a leading edge, said edge having a predetermined intact portion, a frame, a guide in said frame for receiving said ticket into a fully inserted position, said guide having two members extending therefrom to form a throat, an obstruction extending into said throat, said obstruction being movably mounted in said frame in a direction of movement transverse to the direction of movement of the ticket into a selected position in the path of movement of said intact edge portion, said obstruction when moved into said selected position being movable into a second position upon engagement by said intact edge portion and the movement of the ticket to its fully inserted position, a recording device mounted in said frame, a main drive in said frame operatively connected to said recording device, and a device including a lever pivotally mounted in said frame and operatively connecting said obstruction to said main drive to initiate the actuation of said main drive when said obstruction is moved into said second position.

3. The combination as set forth in claim 2 in which the recording device has a punch head operatively mounted in said frame adjacent the guide, and a driving connection connects said main drive to said punch head to actuate said punch head to punch out a portion of the ticket in said guide.

4. The combination as set forth in claim 2 in which the obstruction in normal position and the punch head are in alignment with one another and positioned adjacent the bottom of the guide to enable punching out the predetermined intact edge portion of the ticket to recede from the lower edge of the ticket whereby should the ticket be used a second time the punched-out portion of the ticket will clear the obstruction and thus not initiate the actuation of the main drive.

5. In an admission ticket manipulating machine, the combination of an authorized ticket having a leading edge, said edge having a predetermined intact portion and a predetermined recess, a frame, a guide in said frame for receiving said ticket into a fully inserted position, said guide having two members extending therefrom to form a throat, a fixed obstruction in said guide conforming in position to the predetermined recess of said ticket to clear the same when an authorized ticket is inserted into said guide, a movable obstruction extending into said throat, means in said frame slidably mounting said movable obstruction to enable moving said movable obstruction in a direction of movement transverse to the direction of movement of the ticket into a selected position in the path of movement of said intact edge portion, said movable obstruction when moved into said selected position being movable into a second position upon engagement by said intact edge portion and the movement of the ticket to its fully inserted position, a recording device mounted in said frame, a main drive in said frame operatively connected to said recording device, and a device including a lever pivotally mounted in said frame and operatively connecting said movable obstruction to said main drive to initiate the actuation of said main drive

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when said movable obstruction is moved into said second position.

6. The combination as set forth in claim 5 in which the recording device has a punch head operatively mounted in the frame adjacent to the guide, and a driving connection connecting said main drive to said punch head to actuate said punch head to punch out the predetermined intact edge portion of the ticket in the path of movement of the movable obstruction.

7. The combination as set forth in claim 5 in which the obstruction in normal position and the punch head are in alinement with one another and positioned adjacent the bottom of the guide to enable punching out the predetermined intact edge portion of the ticket to form a recess receding from the lower edge of the ticket whereby should the ticket be used a second time the punched out portion of the ticket will clear the movable obstruction and thus not initiate the actuation of the main drive.

8. In an admission ticket manipulating machine, the combination of an authorized ticket having data formed thereon in raised characters and a leading edge, said edge having a predetermined intact portion, a guide in said frame for receiving said ticket into a fully inserted position, said guide having two members extending therefrom to form a throat, an obstruction being movably mounted in said frame in a direction of movement transverse to the direction of movement of the ticket into a selected position in the path of movement of said intact portion, said obstruction when moved into said selected position being movable into a second position upon engagement by said intact portion and the movement of the ticket to its fully inserted position, a main drive in said frame, a fixed platen in said frame adjacent one side of said guide, a movable platen in said frame adjacent the other side of said guide, a driving connection associating said movable platen to said main drive, a recording medium interposed between the raised characters on said ticket and the fixed platen to enable the actuation by said main drive to actuate the movable platen to impinge the recording medium between said raised characters on the ticket and the fixed platen to produce a record of the raised characters, and a device including a lever pivotally mounted in said frame and operatively connecting said movable obstruction to said main drive to initiate the actuation of said main drive when said obstruction is moved into said second position.

9. The combination as set forth in claim 8 in which the recording medium includes a record receiving strip and an impression producing strip with the record receiving strip interposed between the impression producing strip and the raised characters of the ticket and the impression producing strip interposed between one of said platens and the record receiving strip.

10. The combination as set forth in claim 8 in which the recording medium includes a record receiving strip and an impression producing strip with the record receiving strip interposed between the impression producing

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strip and the raised characters of the ticket and the impression producing strip interposed between one of said platens and the record receiving strip, a strip feed mounted on said frame gripping said record receiving strip and said impression producing strip beyond said fixed platen, and a driving connection between said strip feed and said main drive to enable actuation of said strip feed when said main drive is actuated.

11. The combination as set forth in claim 8 in which said ticket has a predetermined fixed recess receding from its leading edge corresponding in position to its particular class, and said guide having a fixed obstruction registering with said fixed recess to clear same when said authorized ticket is inserted into said guide.

12. The combination as set forth in claim 8 having a punch head operatively mounted in the frame adjacent the guide, means in said frame slidably mounting and positioning said punch head with said movable obstruction into said selected position according to the location of the intact edge portion, and a driving connection connecting said main drive to said punch head.

13. The combination as set forth in claim 8 having an actuating lever pivotally connected to said frame, a driving connection between said lever and said main drive, a second obstruction for normally obstructing said driving connection, a linkage connecting said movable obstruction to said second obstruction to actuate said second obstruction when said movable obstruction is actuated by the predetermined intact portion to clear said driving connection for operation by said lever and thereby initiate the actuation of said main drive.

14. The combination as set forth in claim 8 having an actuating lever pivotally mounted on said frame, a driving connection between said lever and said main drive, a device for normally obstructing said driving connection, a first linkage connecting said movable obstruction to said device to clear said driving connection for operation by said lever only when said movable obstruction is actuated by the intact edge portion, and a second linkage connecting said movable obstruction to said main drive for further actuating said movable obstruction and thereby initiate the actuation of said main drive.

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