J. F. OHMER AND J. F. OHMER, JR.

TICKET ISSUING DEVICE.

APPLICATION FILED MAR. 22, 1919.

1,346,970. **Patented July 20, 1920.**

3 SHEETS—SHEET 1.

Fig. 1.

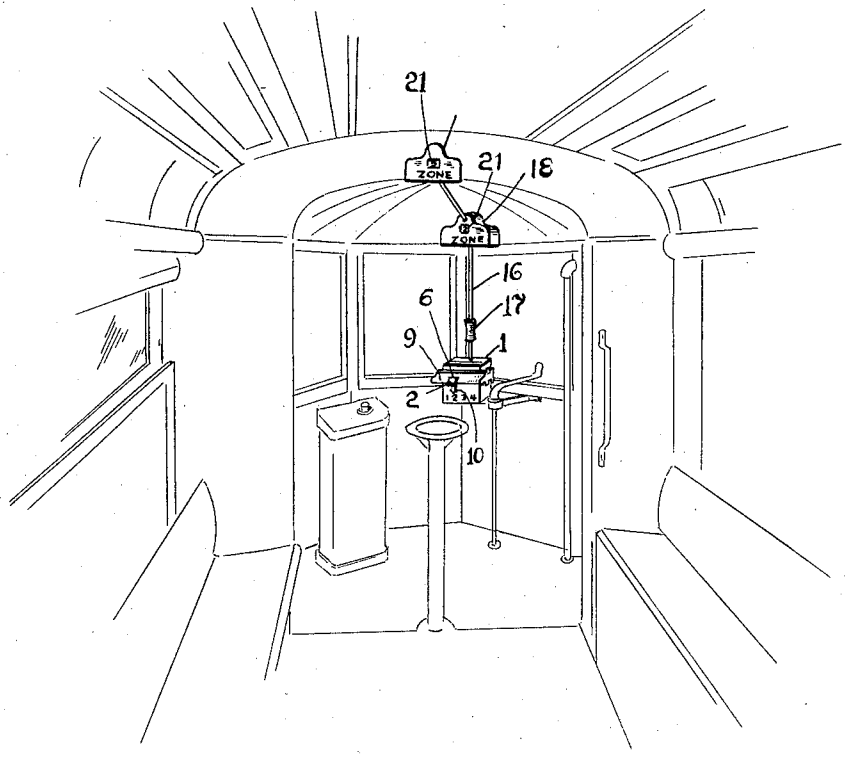
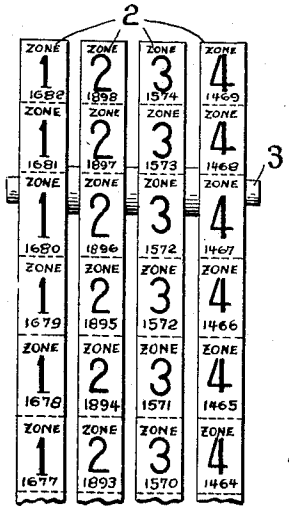


Fig. 4.



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3 SHEETS—SHEET 2.

FIG. 3.

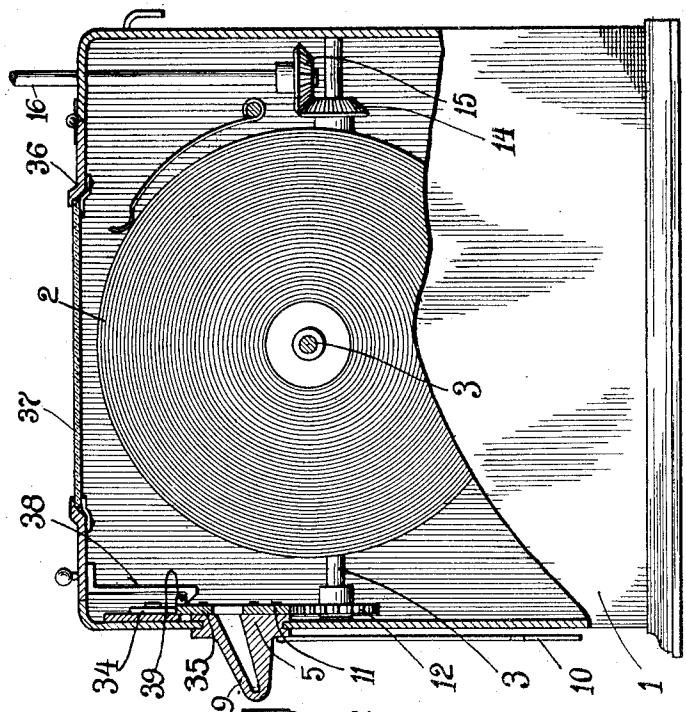
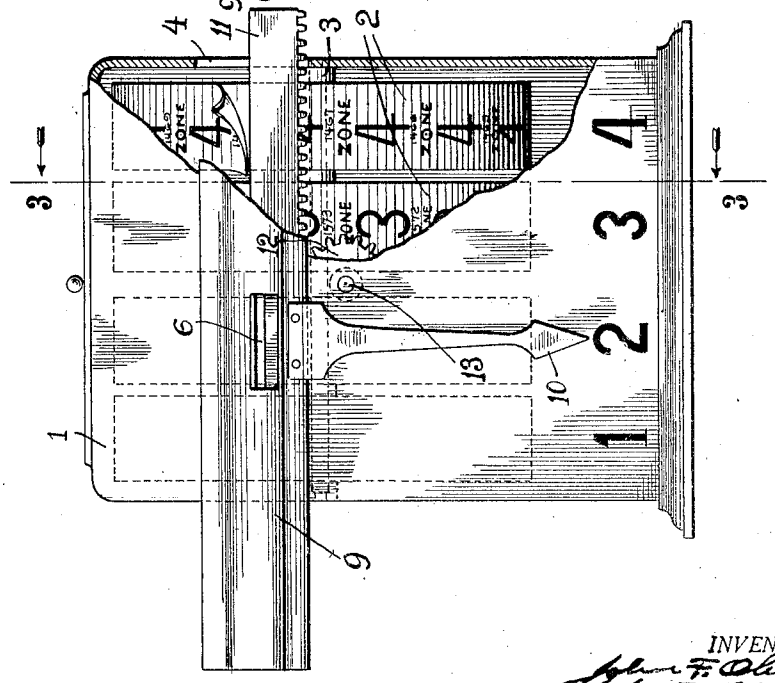


FIG. 2.



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3 SHEETS—SHEET 3.

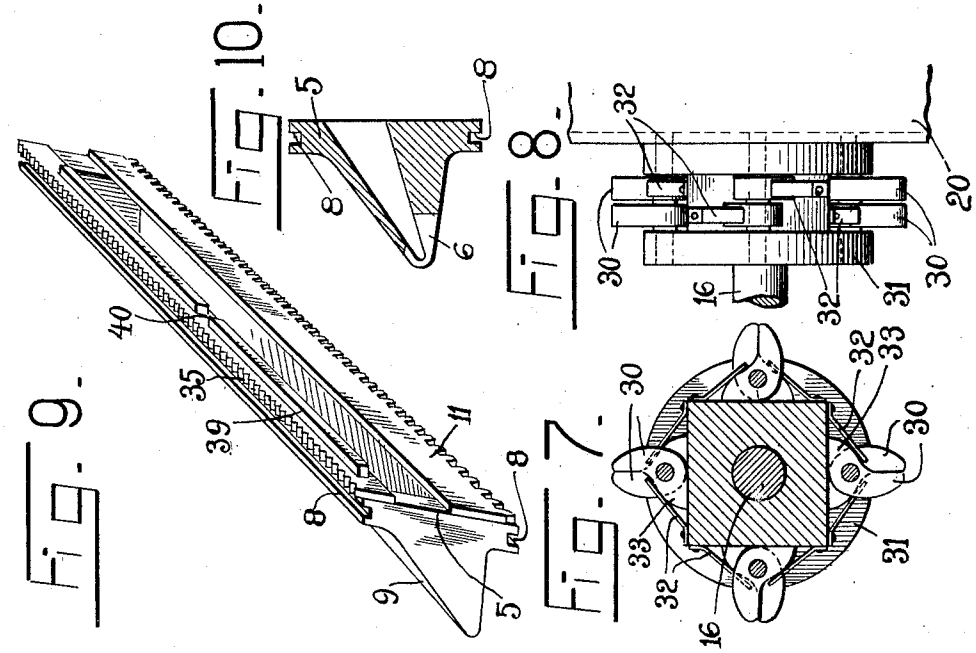


Fig. 9.

Fig. 10.

Fig. 8.

Fig. 7.

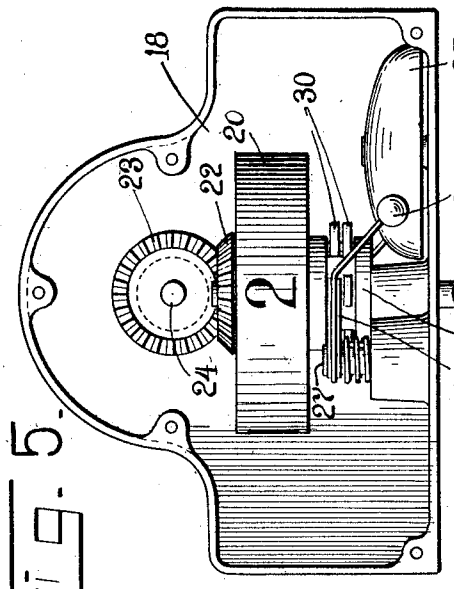


Fig. 5.

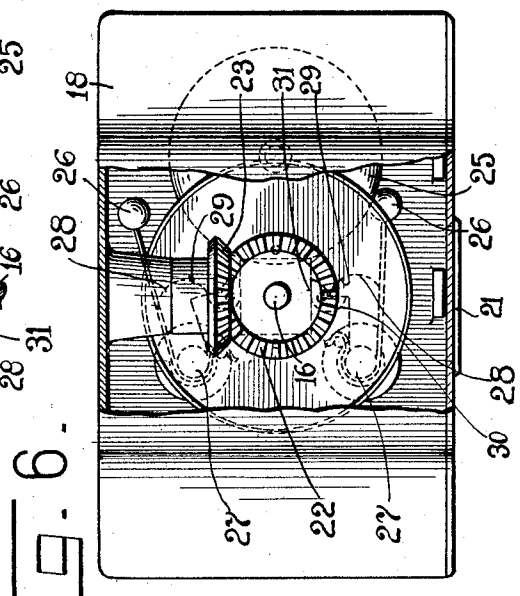


Fig. 6.

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UNITED STATES PATENT OFFICE.

JOHN F. OHMER AND JOHN F. OHMER, JR., OF DAYTON, OHIO, ASSIGNORS TO OHMER FARE REGISTER COMPANY, OF DAYTON, OHIO, A CORPORATION OF NEW YORK.

TICKET-ISSUING DEVICE.

1,346,970. Specification of Letters Patent. Patented July 20, 1920.

Application filed March 22, 1919. Serial No. 284,426.

To all whom it may concern:

Be it known that we, JOHN F. OHMER and JOHN F. OHMER, Jr., citizens of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Ticket-Issuing Devices, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to ticket issuing devices, and is designed more particularly for use on street cars and other passenger conveyances operating on the zone system. Under the zone system the fare charged each passenger is based upon the distance traveled, as measured in zones. For example, a passenger boarding the car in zone 1 and leaving it in zone 2 pays a certain fare, while the passenger boarding the car in zone 1 and leaving it in zone 3 pays a correspondingly larger fare. In order that the proper fare may be collected from each passenger, we provide for each passenger as he boards the car a ticket indicating the zone in which he boarded the car, and when the passenger leaves the car he surrenders his ticket and pays a fare based on the distance traveled.

One object of the invention is to provide a simple, convenient device from which tickets may be issued to passengers as they enter the car or other conveyance.

It is also an object of the invention to provide such a device with controlling means which may be set to permit the issuance of a selected kind of ticket and to prevent the issuance of other kinds of tickets.

It is a further object of the invention to provide in connection with such a device an indicator to indicate the kind of ticket which may be issued, that is, the zone in which the car is traveling.

It is a further object of the invention to provide, in connection with such a device, an audible signal which will be sounded upon each change in the setting of the ticket issuing device and will thus announce to the passengers the change in zones.

Other objects of the invention will appear as the mechanism is described in detail.

In the accompanying drawings Figure 1 is a perspective view of the forward portion of a street car showing our invention installed therein; Fig. 2 is a front elevation, partly broken away, of a ticket issuing device; Fig. 3 is a vertical section taken on the line 3—3 of Fig. 2; Fig. 4 is a detail view of the several rolls of tickets showing the same partly unwound; Fig. 5 is a rear elevation of one of the indicators; Fig. 6 is a plan view of the same partly broken away; Fig. 7 is a plan view, partly in section, of the bell actuating device; Fig. 8 is a side elevation of the same; Fig. 9 is a perspective detail view of the controlling plate; and Fig. 10 is a transverse sectional view of the controlling plate.

In these drawings we have illustrated one embodiment of our invention and have shown the same as installed in a street car which is entered through the front door and, consequently, we have shown the ticket issuing mechanism as mounted in the front vestibule adjacent to the motorman's station so that the tickets may be issued by the motorman to the passengers as they board the car. It will be understood, however, that this particular type of car and arrangement of the ticket issuing mechanism has been chosen only for the purpose of illustration, and that the invention can be used with equal facility on cars which are entered by rear or side doors, or it may be used on passenger conveyances of various kinds. It will also be understood that the particular structural embodiment of the invention which is here shown has been chosen for the purpose of illustration only, and that various changes may be made therein without departing from the spirit of the invention.

In that form of the mechanism here illustrated the ticket issuing device comprises a casing 1 which is adapted to be mounted on a suitable support, such as the wall of the vestibule of the car, as here shown. Supported by this casing are a plurality of series of tickets, the tickets of each series being different from the tickets of the other series. These tickets may be supported in any manner which will permit them to be withdrawn and the individual tickets detached. Preferably, however, the tickets are connected in strips and are wound in rolls 2, which rolls are revolubly mounted on a shaft 3 which is mounted in the side walls of the casing. The casing may be of any suitable construction which will properly

support the several series of tickets, but we prefer that it should be a closed casing which will protect the tickets and prevent tampering therewith and we have, in the present embodiment of the invention, shown such a casing. The casing is provided along its front wall with an opening through which the tickets of the several series may be withdrawn. This opening may be a continuous opening or it may be divided into a number of sections corresponding to the number of series of tickets. Coöperating with this opening is a suitable controlling device which will permit tickets to be withdrawn from a single series or roll and will prevent the withdrawal of tickets from any other series or roll, and which is adjustable to permit tickets to be withdrawn from any selected roll. In the present construction the opening in the casing 1 is in the form of a slot 4 extending for the full width of the casing, and the controlling device is in the form of an elongated plate 5 which closes the slot 4 and which is provided with an opening 6 of a width to permit a single ticket to be drawn through the same. The controlling plate 5 is adjustable lengthwise to bring the opening 6 into alinement with any one of the several rolls of tickets so that tickets may be withdrawn from any selected roll and can not be withdrawn from any roll other than the one with which the opening is in alinement. In the construction here shown, the controlling plate 5 is mounted in the slot 4 and is provided in its upper and lower edges with grooves 8 which embrace the upper and lower edges of the slot, which is thus caused to form a guideway for the controlling plate. In order that the tickets may always be properly positioned with respect to the discharge opening 6 in the controlling plate when that opening is brought into alinement with a selected roll, we have provided the plate with an outwardly projecting portion 9 which is hollow and constitutes a housing into which the ends of the several strips of tickets extend. This housing has a continuous opening along the inner face of the plate 5 and, consequently, the ends of the several strips of tickets, extending from the several rolls, may be inserted in this housing and the latter can be adjusted transversely to the several rolls without displacing the ends of the strips. The discharge opening 6 is formed in the outer edge of this housing and is so shaped that the ticket from the roll with which the opening is in alinement can be readily grasped by the thumb and finger of the operator. To this end the upper and lower walls of the housing are cut back some little distance from the outer edge of the housing so that the ticket will project beyond the inner edges of the opening. Preferably, the lower wall is cut back to a greater distance than the upper wall. In withdrawing the ticket the same may be detached from the strip by tearing it along the upper edge of this opening and after the ticket has been detached the end of the strip will drop down onto the edge of the opening in the lower wall of the housing and will thus be caused to project beyond the same, in a position where it can be quickly and easily grasped.

Suitable means may be provided for adjusting or setting the controlling device to bring the opening 6 into alinement with the selected roll of tickets and, further, suitable indicating devices may be provided for indicating both to the operator and to the passengers, or to an inspector, in the car, the zone for which tickets may be issued and, consequently, the zone in which the car is traveling. We prefer to provide an indicator on the casing 1 to guide the operator in the seating of the controlling device and to provide one or more other indicators which are mounted in positions more or less remote from the casing and in which they will be visible to the occupants of the car. These indicators may take various forms and, in the particular device here illustrated, we have placed on the front wall of the casing a series of numbers, 1, 2, 3 and 4, representing the several zones on the route, and for which the mechanism is adapted to issue tickets. Connected with the controlling plate 5 is a pointer 10 which is so arranged that it will indicate the particular numeral on the face of the casing which corresponds to the roll of tickets with which the discharge opening 6 is in alinement. Thus, the indicator on the casing will be actuated by the operation of the controlling member. It is also desirable that the remote indicator or indicators should be operated by the operating mechanism for this controlling device, so that the indicator will always accurately indicate the position of the controlling device. In the present construction the operating mechanism for the controlling device comprises a rack 11 secured to the inner face of the controlling plate 5 and meshing with a gear 12 which is mounted on a shaft 13 journaled in the walls of the casing. Secured to the shaft 13 is a beveled gear 14 which meshes with a second beveled gear 15 secured to a shaft 16 which, in the present arrangement, extends through the upper wall of the casing and is provided with a hand grip 17, or other suitable means, by means of which the shaft 16 may be rotated. The shaft 16 is connected with the remote indicator or indicators. As has been stated, there may be one or more of these remote indicators and, in the present construction, we have shown two, one of which, as indicated at 18, is located in the vestibule of a car directly above the casing

1 and the second of which, as indicated at 19, is mounted in the body of the car. The upper end of the shaft 16 is journaled in the lower part of the casing of the indicator 18 and has secured to its upper end a drum 20 on the face of which are a series of numerals corresponding to the several zones for which tickets may be issued. These numerals are so arranged that they will be brought successively into alinement with a sight opening 21 in the front wall of the casing and they are further so arranged that the respective numerals will register with the sight opening whenever the discharge opening 6 of the controlling device is in alinement with the roll of tickets for the zone corresponding to that particular numeral, the ratio of gearing between the shaft 16 and the controlling device being such as to cause these parts to move in unison. Secured to the upper end of the shaft 16 above the indicator drum 20 is a beveled gear 22 which meshes with a beveled gear 23 on a shaft 24, which leads to the second remote indicator 19 which is similar in its construction to the one which is being described and, therefore, need not be described in detail.

It is desirable that an audible signal be provided which will not only indicate when the ticket issuing device is changed over from one zone to another, but by so doing will also announce to the occupants of the car the change from one zone to the other, and which will, in conjunction with the remote indicating device, advise the occupants of the car as to the distance which they have traveled and the particular zone in which the car is then traveling. For this purpose, we prefer to utilize a bell, and such a bell may be conected either with one or with all of the indicators. In the construction shown, a bell 25 is mounted in the casing of the indicator 18 and means are provided for sounding this bell upon each movement of the indicator drum, in either direction, from one position to another. To accomplish this we have provided two bell tappers or hammers 26 which are mounted on studs 27 and are spring actuated. Connected with each bell tapper or hammer 26 is an arm 28 having at its free end a nose 29 lying in the path of a series of tripping devices. There are, of course, two series of tripping devices and they are here shown as in the form of arms 30 mounted in a frame 31 secured to the shaft 16 and the two series of tripping arms are arranged in different planes, the arms 28 which are connected with the bell tappers being arranged in planes corresponding to the planes of the respective tripping arms. The tripping arms have their forward edges cam shaped and their rear edges substantially radial so that as the shaft 16 rotates the forward edge of one of these tripping arms will engage the nose 29 of the corresponding arm 28 and cam the same outward, thus placing the spring actuated bell tapper under tension and as soon as the high point of the cam shaped tripping arm has passed the nose of the arm 28 the latter will be moved quickly inward and the bell tapper caused to engage the bell. The tripping arms are pivotally mounted and are held against movement about their axes, during their forward travel, by detent springs 32 which engage inwardly extending projections 33. These spring detents are such that when a particular tripping arm is traveling in a rearward direction and its flat face engages the nose 29 of the corresponding arm 28 the tripping arm will move about its axis to permit it to pass the nose of the arm 28 and will then be restored to its normal position. It will be apparent, therefore, that when the shaft 16 rotates in one direction the trip arms of one series will successively engage one of the arms 28 and cause the bell to be sounded on each movement thereof, and that when the shaft 16 is rotated in the opposite direction the trip arms of the other series will engage the corresponding arm 28 and cause the bell to be operated, while the trip arms of the first mentioned series will ride over the nose of the arm 28 with which they coöperate without operating the same or in any way interfering with the rotation of the shaft.

To compel the operator to move the controlling device from one zone, or roll of tickets, to the other in proper succession, a full stroke device is preferably applied to the controlling plate. This device may be of any suitable character and is here shown as a pawl 34 coöperating with a ratchet toothed rack 35 on the controlling plate, in a known manner. By reason of this full stroke mechanism the operator cannot move the controlling device rearwardly, after he has started it in one direction, until it has completed its movement in that direction.

As has been stated, the casing 1 is preferably a closed casing and it is provided with suitable means for permitting the rolls of tickets to be inserted therein and for inspecting the rolls. As here shown, the top wall of the casing has an opening which is closed by a hinged door 36 having a glass insert 37 through which the rolls may be inspected. This door is normally locked in its closed position by means of an inwardly extending pawl or dog 38 which engages under a rib 39 secured to the controlling plate and, as here shown, is carried by the full stroke rack 35. The pawl 38 is arranged in a plane extending between two rolls of tickets and the rib 39 has a cut-away portion or opening 40 arranged in line with the discharge opening 6. In order to release the closure 36 and permit it to be opened, the pawl 38 must be moved into line with the opening 40. Con-

sequently, the closure can be opened only when the controlling device is in a neutral position, in which no tickets can be withdrawn therethrough.

The operation of the mechanism will be readily understood from the foregoing description of the several parts thereof, and it will be apparent that we have provided a device by means of which tickets may be quickly and easily issued to passengers as they enter the car and that this device is of such a character that tickets for a single zone only can be issued at one time, and that any change in the machine to permit tickets of another zone to be issued will be announced by the bell and the zone indicated by the indicators. Consequently, the issuance of tickets is safeguarded to prevent the operator from issuing in one zone a ticket for a later zone. Further, the device provides a very efficient check upon the conductor. The tickets of each series is consecutively numbered, and, all tickets that are issued must be accounted for by the conductor in his settlement with the auditor, who can readily determine by an inspection of the rolls just how many tickets were issued, and the consecutive numbers of the tickets issued. Inasmuch as it is customary to require the conductor to separately seal up and turn in to the auditor the tickets collected in each zone, there is very little opportunity for the making of an improper return, either accidentally or through fraudulent intent. In the present instance we have shown the several series of tickets as distinguished one from the other by means of the zone numbers, which are printed thereon, but the tickets may be differently colored or any other suitable means of distinction may be used.

While we have shown and described one embodiment of our invention, we wish it to be understood that we do not desire to be limited to details thereof as various modifications will occur to a person skilled in the art.

Having thus fully described our invention, what we claim as new and desire to secure by Letters Patent is:

1. In a ticket issuing device for passenger conveyances and the like, a frame having means to support a plurality of rolls of tickets, the tickets of each roll representing a different zone, and each roll of tickets being held against bodily movement and being so mounted that the individual tickets may be withdrawn and detached therefrom independently of the tickets of the other rolls, and a single device for controlling said rolls of tickets to permit tickets to be withdrawn from a selected roll and to prevent tickets from being withdrawn from the other rolls.

2. In a ticket issuing device for passenger conveyances and the like, a frame having means to support a plurality of rolls of tickets, the tickets of each roll representing a different zone, each roll of tickets being held against bodily movement and being so mounted that the individual tickets may be withdrawn and detached therefrom independently of the tickets of the other rolls, a single device for controlling said rolls of tickets to permit tickets to be withdrawn from a selected roll and to prevent tickets from being withdrawn from the other rolls, and means for actuating said controlling means to permit tickets to be withdrawn from different rolls.

3. In a device of the character described, a casing, means for supporting within said casing a plurality of rolls of tickets, said rolls being held against axial movement and the tickets of each roll being different from the tickets of the other rolls, said casing having an opening through which the tickets of any of said rolls may be withdrawn and detached independently of the tickets of the other rolls, and a controlling device for the aforesaid opening to permit tickets from a selected roll to be withdrawn through said opening and to prevent tickets from other rolls from being withdrawn through said opening.

4. In a device of the character described, a casing, means for supporting within said casing a plurality of series of tickets, each series of tickets being held against bodily movement and the tickets of each series being different from the tickets of the other series, said casing having an opening through which the tickets of any series may be withdrawn and detached independently of the tickets of the other series, and means to prevent tickets being withdrawn through said opening from any series except a selected series.

5. In a device of the character described, a casing, means for supporting within said casing a plurality of rolls of tickets, the tickets of each roll being different from the tickets of the other rolls, said casing having an opening through which the tickets of any of said rolls may be withdrawn and detached independently of the tickets of the other rolls, and a guard movably mounted adjacent to said opening and having an opening adapted to be moved into alinement with a selected roll of tickets, said guard being arranged to prevent tickets from being withdrawn from any roll other than said selected roll.

6. In a device of the character described, a casing, means for supporting within said casing, a plurality of series of tickets, the tickets of each series being different from the tickets of the other series, a controlling member adjustably mounted adjacent to said plurality of series of tickets and having an opening which may be brought into op-

erative relation with a selected series of tickets, and having means to prevent the withdrawal of tickets from any series other than the series which is in alinement with said opening.

7. In a device of the character described, a casing, means for supporting within said casing, a plurality of rolls of tickets, the tickets of each roll being different from the tickets of the other rolls, a controlling member having a discharge opening adapted to be moved into operative relation with a selected one of said rolls of tickets and having means to prevent tickets from being withdrawn from any roll other than said selected roll.

8. In a device of the character described, a casing, means for supporting within said casing a plurality of rolls of tickets, the tickets of each roll being different from the tickets of the other rolls, a controlling member having a discharge opening adapted to be brought into operative relation with a selected one of said rolls of tickets and having means to prevent tickets from being withdrawn from any roll other than said selected roll, means to cause said discharge opening to be moved into operative relation with the several rolls in their predetermined order, and means to cause said controlling member to be moved in one direction to bring said discharge opening into alinement successively with all of said rolls of tickets before said controlling member can be moved in the opposite direction.

9. In a device of the character described, a casing, means for supporting within said casing a plurality of rolls of tickets, the tickets of each roll being different from the tickets of the other rolls, said casing having an opening through which the tickets of any of said rolls may be withdrawn, a controlling member movably mounted in the opening in said casing and having a discharge opening adapted to be brought into alinement with any one of said rolls of tickets.

10. In a device of the character described, a casing, means for supporting within said casing a plurality of series of tickets, the tickets of each series being different from the tickets of the other series, a device to control the withdrawal of tickets from said series of tickets and comprising a housing in which the tickets from the several series extend, said housing being open along its inner edge to receive said tickets and to permit said housing to be moved relatively thereto, and having in its outer wall a discharge opening adapted to be brought into alinement with a selected series of tickets.

11. In a device of the character described, a casing, means for supporting within said casing a plurality of series of tickets, the tickets of each series being different from the tickets of the other series, a device to control the withdrawal of tickets from the several series and comprising a housing, an opening along its inner edge to receive tickets of the several series and to permit said housing to move relatively to said tickets, said housing projecting beyond the front wall of said casing and having a discharge opening therein which may be moved successively into alinement with the several series of tickets.

12. In a device of the character described, a casing, means for supporting within said casing a plurality of series of tickets, the tickets of each series being different from the tickets of the other series, a device to control the withdrawal of tickets from the several series and comprising a housing, having an opening along its inner edge to receive tickets of the several series and to permit said housing to move relatively to said tickets, said housing projecting beyond the front wall of said casing and having a discharge opening therein which may be moved successively into alinement with the several series of tickets, and having its upper and lower walls cut away adjacent to said opening to permit the ticket to project therefrom in a position to be grasped by the operator.

13. In a device of the character described, a casing, means for supporting within said casing a plurality of series of tickets, the tickets of each series being different from the tickets of the other series, said casing having a transverse opening formed in the wall thereof, a controlling member slidably mounted in said opening and comprising an outwardly projecting portion having a deep inwardly opening groove formed therein to receive the ends of the tickets of the several series and permit said controlling member to be moved relatively thereto, said controlling member having an opening in the outer portion thereof communicating with said groove and adapted to be moved into alinement with any one of said series of tickets.

14. In a ticket issuing device for passenger conveyances and the like, a casing, means for supporting within said casing a plurality of series of tickets, the tickets of each series representing a different zone, said ticket supporting means being held against bodily movement, a single device for controlling the several series of tickets to permit tickets of a selected series to be withdrawn from said casing and to prevent the withdrawal of tickets from the other series, and an indicator operatively connected with said controlling device to indicate the zone for which tickets may be issued.

15. In a device of the character described, a casing, means for supporting within said

casing a plurality of series of tickets, the tickets of each series representing a different zone, a controlling device to permit tickets of a selected series only to be withdrawn from said casing, and an indicator operatively connected with said controlling device to indicate the position of said controlling device with relation to said plurality of series of tickets.

16. In a device of the character described, a casing, means for supporting within said casing a plurality of series of tickets, the tickets of each series representing a different zone, a controlling device to permit tickets of a selected series only to be withdrawn from said casing and an indicator carried by said casing and controlled by said controlling device to indicate the position of said controlling device with relation to said plurality of series of tickets.

17. In a device of the character described, a casing, means for supporting within said casing a plurality of series of tickets, the tickets of each series representing a different zone, a controlling device to permit tickets of a selected series only to be withdrawn from said casing, an indicator carried by said casing and controlled by said controlling device to indicate the position of said controlling device with relation to said plurality of series of tickets, and an indicator remote from said casing and controlled by said controlling device to indicate to the passengers the zone for which tickets may then be issued.

18. In a device of the character described, a casing, means for supporting within said casing a plurality of series of tickets, the tickets of each series representing a different zone, a controlling device to permit tickets of a selected series only to be withdrawn from said casing, a toothed rack connected with said controlling device, a pinion meshing with said rack, means for actuating said pinion to impart movement to said controlling device, and an indicator connected with said actuating means and arranged to indicate the zone for which tickets may then be issued.

19. In a device of the character described, a casing, means for supporting within said casing a plurality of rolls of tickets, the tickets of each series representing a different zone, a controlling device to permit tickets of a selected series only to be withdrawn from said casing, an indicator mounted at a point remote from said casing to indicate to the passengers the zone for which tickets may then be issued, and an operative connection between said controlling device and said indicator.

In testimony whereof, we affix our signatures hereto.

JOHN F. OHMER.
JOHN F. OHMER, JR.