

(No Model.)

F. C. CALDWELL.
TICKET.

No. 585,356.

Patented June 29, 1897.

Fig. 1.

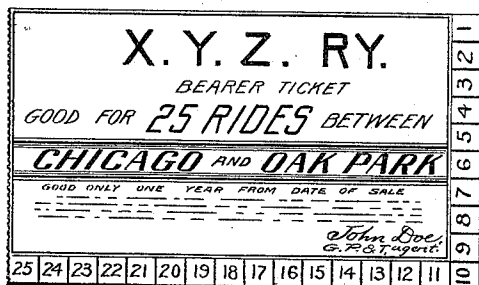


Fig. 2.



Fig. 3.

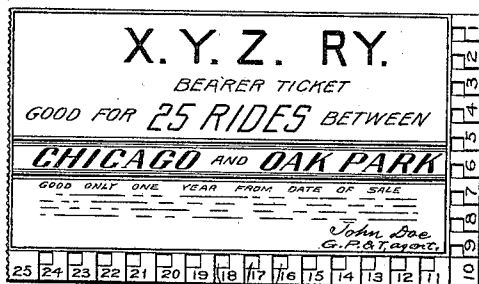


Fig. 4.

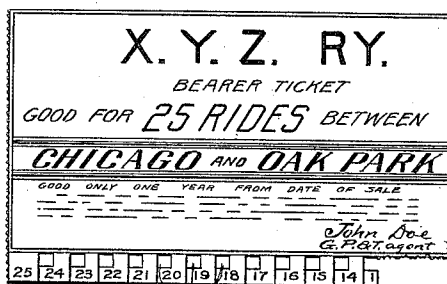
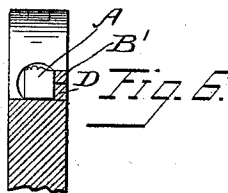
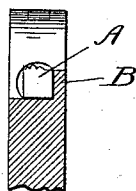


Fig. 5.



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UNITED STATES PATENT OFFICE.

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TICKET.

SPECIFICATION forming part of Letters Patent No. 585,356, dated June 29, 1897.

Application filed October 19, 1896. Serial No. 609,296. (No model.)

To all whom it may concern:

Be it known that I, FRANK C. CALDWELL, a citizen of the United States, residing at Oak Park, in the county of Cook, in the State of Illinois, have invented a certain new and useful Improvement in Tickets, of which the following is a description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to what are commonly known as "commutation-tickets," and more particularly to that class of such tickets which are provided along one or more of their edges with a series of numbered spaces adapted to be successively removed or bitten off by a suitable ticket-punch. Such tickets are usually employed as railroad-tickets, each of the numbered spaces referred to representing one ride between the stations named upon the ticket; but they may be used for other purposes, such as restaurant meal-tickets, &c. The ticket-punches used in connection with tickets of this character have punching-dies of such size and shape that when the punch is properly applied to the ticket and operated it will entirely remove one of the numbered spaces at each operation. In order to prevent the punch being carelessly operated, so as to remove more than one of such numbered spaces at one operation, and in order to facilitate its ready application to the ticket, so as to successively remove the numbered spaces in regular order in one direction from the starting-point, the punch is provided at one side of its dies with a stop whose contact with the side edge of the numbered space to be removed limits the movement of the punch toward the next succeeding space and prevents it overlapping and partially removing the latter when operated. The provision of this stop prevents the accidental removal of more than one of the numbered spaces at each operation of the punch, but does not prevent the removal of less than a full space at each operation, and if the conductor carelessly applies the punch to the ticket, so as to remove less than the full space, then it will be impossible to entirely remove the next succeeding space at the next operation of the punch, since the contact of the stop of the punch with the edge of the partially-removed

space will prevent the punch entirely overlapping the next full space which ought to be removed.

It results from the foregoing that by the successive removals of less than full spaces, owing to carelessness on the part of the conductors, a point will be reached sooner or later in the successive operations upon the ticket when there will remain upon the ticket a substantially full space which ought to have been removed and which will represent a ride for which the company receives no fare. To such an extent is this true that it is generally recognized by railroads using such tickets that in the use of twenty-five-ride tickets bearing twenty-five of the numbered spaces before referred to the company loses an average of one ride upon each ticket. It is the object of my invention to provide a ticket of this character which shall prevent such loss to the company by permitting the complete removal of a numbered space at each operation of the punch upon the ticket, whether the preceding space shall have been entirely removed at the preceding operation or not. This result is accomplished by providing each of such numbered spaces with a perforation which receives the stop of the punch and permits the latter to be properly applied to the space to be removed, regardless of the complete or incomplete removal of the preceding space, one side of the perforation constituting a fixed and invariable point of contact for the stop of the punch, not dependent upon the complete removal of the preceding space, as heretofore, all as will be more clearly explained in connection with the accompanying drawings, in which—

Figure 1 represents one of the tickets of common form now in use, such as first described; Fig. 2, a corresponding view showing such ticket partially used; Fig. 3, a view of a ticket such as shown in Fig. 1 modified in accordance with my invention; Fig. 4, a view of such ticket partially used; Fig. 5, a sectional detail of the form of punch used with the tickets of Figs. 1 and 2, showing the male die of the punch and the stop which co-operates with the edge of the ticket; and Fig. 6, a corresponding view of the punch used with my new ticket of Figs. 3 and 4.

The ticket shown in Fig. 1 is a common form of ticket of the character described, being a twenty-five-ride ticket between the stations mentioned upon it, and being consequently provided along its edge (in this instance its bottom and right-hand end) with twenty-five spaces, successively numbered from "1" to "25," beginning at the upper right-hand corner of the ticket. The auditor's stub, usually forming an extension of the left-hand end of the ticket and separated from the body thereof by a line of perforations, has been removed, since it has nothing to do with my invention.

In using the ticket shown in Fig. 1 the numbered spaces will usually be removed in regular order, beginning with the one numbered "1" at the upper right-hand corner, though the start may be made at the lower right-hand corner of the ticket and the space numbered "10" be the first one removed. At whichever point the start be made the spaces will thence be successively removed in regular order from right to left. In applying the punch shown in Fig. 5 to the ticket the edge of the ticket will be inserted in the slot or opening in the punch between the male die A and the female die (not shown) above it and slid toward the right (or the punch be moved toward the left) until the right-hand edge of the numbered space to be removed contacts with the stop B of the punch, at which time such numbered space will exactly coincide with the dies of the punch, so that upon operating the punch the space will be entirely removed. If, however, in applying the punch to the ticket the conductor does not move the ticket to the right or the punch to the left until the edge of the ticket contacts with the stop B, the numbered space to be removed will not exactly coincide with the dies of the punch, but will project to the left thereof, so that when the punch is operated only part of such space will be removed and more or less of its left-hand portion will remain upon the ticket, as seen in Fig. 2. When the punch is again applied to the ticket to remove the next succeeding space, the edge of this partially-unremoved space will contact with the stop B of the punch and prevent the dies of the latter fully coinciding with the next succeeding space to remove the latter when the punch is operated, with the result that when by one careless application of the punch any one of the numbered spaces has been only partially removed it is never possible thereafter to completely remove any of the succeeding numbered spaces by the regular operations of the punch.

The holder of the ticket will not consent to two applications of the punch to his ticket for one ride, even if the first application is intended to remove only the unremoved portion of the space which should have been removed for the preceding ride, so that after the punch has once been carelessly applied to the ticket and only part of a space removed

the error cannot thereafter be readily corrected, and succeeding applications of the punch in a sufficiently careless manner not to remove the entire width of a numbered space at each application will result in there remaining upon the ticket at succeeding operations a larger and larger portion of the numbered space which should have been removed, so that finally a substantially full space which ought to have been removed will be left upon the ticket and the holder thereof gain a ride at the loss of the company.

Now my invention overcomes this difficulty in the following manner, reference being had to Figs. 3, 4, and 6. The ticket shown in Figs. 3 and 4 is substantially the same as that shown in Figs. 1 and 2, excepting that each of the numbered spaces is provided with a perforation C, and the punch shown in Fig. 6 is substantially the same as that shown in Fig. 5, excepting that there is provided an open space or recess D between the stop B' and the body of the punch for a purpose hereinafter described. The punch is applied to the ticket and operated to remove the numbered spaces in the same manner as in the use of the old form of ticket and punch. So long as the punch is properly applied to the ticket, so as to completely remove a numbered space at each operation, the stop co-operates with the ticket (with the right-hand edge of the numbered space to be removed) in the same manner that the stop of the punch in Fig. 5 coöperates with the ticket of Figs. 1 and 2; but if by any carelessness on the part of the conductor he fails to completely remove a numbered space at any given operation, as indicated, for instance, in Fig. 4, then at the next succeeding operation the stop B of the punch will enter the recess in the upper left-hand corner of the partially-removed space and abut against the right-hand edge of the next succeeding numbered space, which is to be removed at that operation of the punch, so that when the punch is operated such numbered space will be entirely removed together with the portion of the preceding space which had been left upon the ticket at the preceding operation. It will thus be seen that the point of contact of the stop of the punch with the ticket, by which the movement of the ticket to the right or punch to the left is limited, is always the left-hand edge or wall of one of the perforations in the ticket, so that such points of contact or stop-surfaces are fixed and invariable in relation to the numbered spaces and in no way dependent upon the complete removal of preceding spaces, as was the case in the old form of ticket and punch. In this manner if only part of a numbered space be removed at any operation, owing to a careless application of the punch to the ticket, it does not prevent the next succeeding numbered space being entirely removed at the next operation, as was the case with the old form of ticket and punch, and thus instead of the

result of one careless operation being necessarily carried on through all succeeding operations until the ticket is used up with consequent loss to the company, as before explained, the new ticket enables the effect of any careless operation to be overcome and canceled at the next succeeding operation. The resultant advantages are twofold, in that it not only enables the effect of one careless operation to be immediately removed by the next succeeding operation with the consequent protection to the company, but the provision of the perforations and the novel form of punch, by permitting such correction, renders it unnecessary for the conductor to exercise such great care, as heretofore, in applying his punch to the ticket, thus facilitating his work where he has but a limited time in which to punch the tickets of all passengers in his charge.

In the particular ticket shown in Figs. 3 and 4 the perforations are substantially square and are located at the upper left-hand corners of the respective numbered spaces. Neither this particular shape of the perforations nor this exact location of them relatively to the numbered spaces is essential to my invention. The perforations might be round, for instance, and instead of being located as shown they might be located at the middle of the respective numbered spaces or intermediate such spaces, the punch being modified accordingly to cooperate with them. It will also be evident that it is not absolutely essential that each numbered space be provided with a perforation, since perforations in alternate spaces or in spaces at still wider intervals would to a greater or less extent answer the purpose of my invention.

Inasmuch as the arrangement and numbering of the spaces upon my new ticket are substantially the same as upon the old, it will be understood that such particular arrangement and numbering are not an essential feature of my invention and may be varied without departing from it. Thus instead of the numbers being placed directly upon the spaces they might, for instance, be placed upon the body of the ticket around its edge and imme-

diately adjacent the respective spaces. In such case it would not be absolutely essential that the margin of the ticket outside these numbers be separated into distinct spaces by printed lines, the numbers themselves being relied upon to identify the spaces, or where the spaces separated by printed lines are employed the ticket could be used without the spaces being numbered at all. The foregoing, however, are modifications applicable as well to the old form of ticket as to my new one, and inasmuch as the ticket shown in Figs. 1 and 2 is the old form of ticket commonly used and hence thought to be best adapted for the purpose I consider the modified form of such ticket shown in Figs. 3 and 4 to be the best form for my new ticket.

The dies of punches of this character usually have one of their edges made of some irregular shape, differing in different punches assigned to different conductors, by which an examination of the ticket discloses by what punch and conductor the preceding numbered space or spaces were removed, the removal of the spaces leaving an irregular line along the edge of the ticket, as seen in Figs. 2 and 4. Having thus fully described my invention, I claim—

A ticket of the character described, consisting of a main body portion, and a margin adapted to be removed in successive spaces by means of a punch, said ticket having predetermined fixed stop-surfaces to cooperate with the stop of the punch to arrest the latter at the proper points to cause it to completely remove the several spaces regardless of the complete or incomplete removal of preceding spaces, said fixed stop-surfaces being formed by the walls of openings provided in the ticket and projecting into the spaces to be removed a sufficient distance to be cut into by the dies of the punch at one operation and receive the stop thereof at the next operation, substantially in the manner and for the purposes set forth.

FRANK C. CALDWELL.

Witnesses:

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