May 16, 1933. A. R. JORGENSON ET AL 1,909,360

TICKET PUNCH

Filed Nov. 21, 1931

Fig. 1.

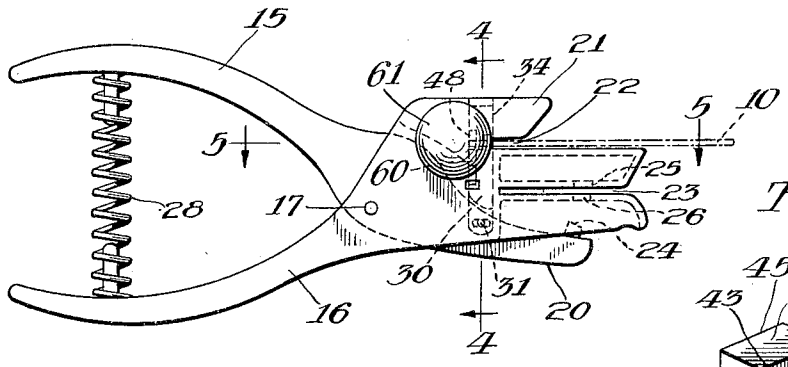


Fig. 3.

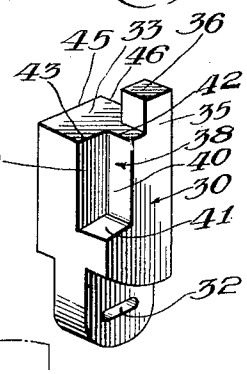


Fig. 6.

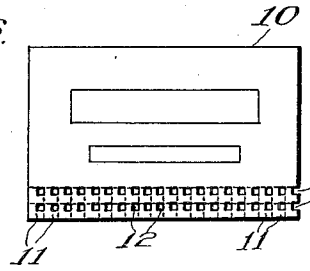


Fig. 2.

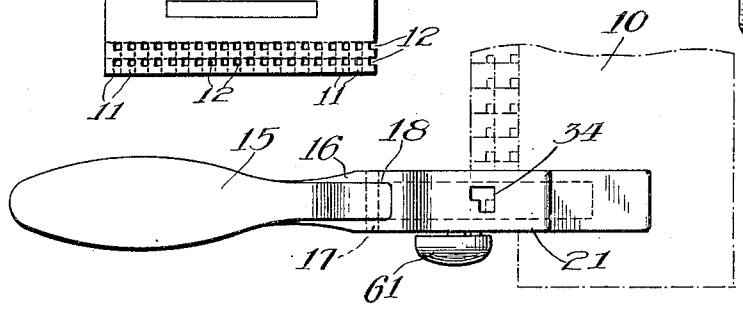


Fig. 4.

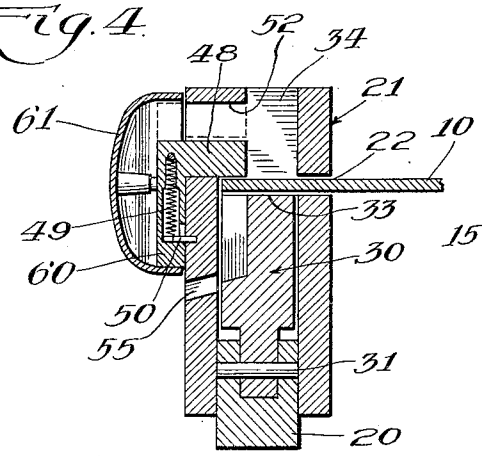
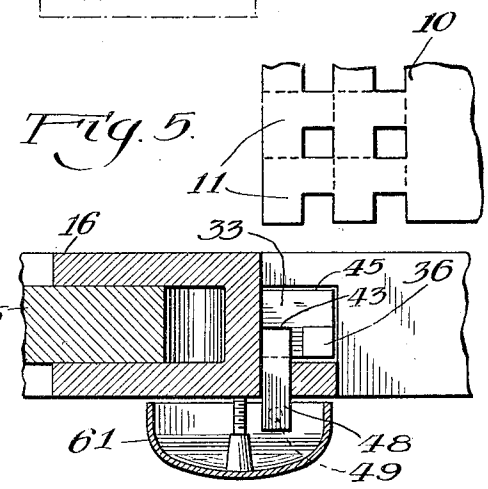


Fig. 5.



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UNITED STATES PATENT OFFICE

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TICKET PUNCH

Application filed November 21, 1931. Serial No. 576,602.

The invention relates to ticket punches, and is particularly adapted to be employed in ticket punches of the type commonly employed by railroad conductors, etc.

One form of the invention is embodied in a ticket punch which may be employed for cancelling rides in a commutation ticket, or for cancelling an entire ticket. The means for cancelling rides in a commutation ticket includes a punch member adapted to sever a small section from the commutation ticket, the punch member and ticket being preferably formed in such manner that an ordinary business card, or the like, can not be properly alined in the punch to have it perform its functions. The punch member co-operates with a second punch member to sever a small portion from the section first severed from the commutation ticket. Means controlled by the second severing, or other cutting operation, is adapted to give an audible signal to indicate to an inspector, or the like, that the conductor has collected a fare from the passenger.

Ticket punch devices which embody the invention insure that fares will be collected from all of the commuters on a train as the conductor will not assume the risk of having an inspector note that no audible signal is given when he punches what is supposed to be a commutation ticket.

Other objects and advantages will become apparent as the following description progresses, reference being had to the accompanying drawing wherein:—

Figure 1 is a side elevation of a ticket punch which embodies the invention.

Fig. 2 is a plan view of the improved ticket punch, a portion of a ticket being shown in dot and dash lines.

Fig. 3 is a perspective view of a punch member which forms part of the improved ticket punch.

Fig. 4 is an enlarged section taken on line 4—4 of Fig. 1.

Fig. 5 is an enlarged section taken on line 5—5 of Fig. 1, and

Fig. 6 is a front elevation of a ticket adapted to be employed in connection with the improved punch.

The ticket shown in Fig. 6 is more fully shown and described in our co-pending application, Serial No. 576,603, filed Nov. 21, 1931. The ticket is designated generally by the reference character 10 and has suitable data (not shown) on its face, indicating the points between which the ticket may be used. Along one edge of the ticket 10 are two rows of "rides" or sections 11. These "rides" or sections 11 are usually numbered consecutively. As shown, each section 11 is preferably rectangular in form and has one of its corners cut-out, as at 12. The sections 11 may also be described as "L-shaped", if the cut-out portions are taken into consideration.

Referring now to Figs. 1 to 5, inclusive, wherein a preferred form of the invention is illustrated, it will be noted that the improved punch comprises levers or handles 15 and 16, which are pivoted to each other by a pin 17, the handle 16 being provided with a slot 18 which accommodates a portion of the handle 15.

The handles 15 and 16 are provided with jaws 20 and 21, respectively. The jaw 21 of the handle 16 is provided with ticket-receiving slots 22 and 23. The free end of the jaw 20 is provided with a punch pin 24 which is adapted to pass through apertures 25 and 26 provided in the jaw 21 on either side of the slot 23. The purpose of this construction will presently appear.

A compression spring 28 disposed between the handles 15 and 16 yieldingly holds them in the positions wherein they are shown in Fig. 1. A punch member 30 is loosely pivoted to the jaw 20 by a pin 31 which passes through a slot 32 provided in the lower end of the punch member 30 (see Figs. 1, 3 and 4).

The punch member 30 is preferably pro-

vided with a substantially flat top surface 33, the edges of which are adapted to cooperate with the bottom edges of a slot 34 formed in the jaw 21. An alining lug 35 projects upwardly from the surface 33 and is preferably formed integral with the punch member 30. The top surface of the alining lug 35 is designated by the reference character 36. The cross-sectional area of the lug 35 is substantially identical in size and shape with the areas of the cut-out portions 12 provided in the sections 11 of the ticket 10 so that when a ticket 10 is inserted in the punch in the manner illustrated in Figs. 1, 2 and 4, the lug 35 will fit snugly in one of the cut-out portions 12 and thus correctly position the ticket with respect to the other parts of the punch.

The punch member 30 is notched, as at 38. The notch is formed with vertically disposed surfaces 39 and 40 and with a horizontally disposed surface 41. The surfaces 40 and 39 meet the surface 33 at the cutting edges 42 and 43, respectively.

When the handles 15 and 16 are in their fully opened positions, as illustrated in Fig. 1, the lug 35 projects into the lower end of the slot 34 provided in the jaw 21. This construction prevents one from inserting a business card, or the like, into the punch and bringing it into a position wherein the punch member 30 can cut off a section having an area equalling the area of one of the sections 11. In other words, if the device is to function as hereinafter described, the ticket introduced into the slot 22 must have sections which have cut away portions 12 as illustrated in Fig. 6.

Referring to Fig. 4, it will be noted that the top surface 33 of the punch member 30 normally lies flush with the bottom surface of the slot 22. It is readily understood that if the handles 15 and 16 are displaced toward each other against the action of the spring 28, the punch member 30 will move upwards in the slot 34 and that certain edges of the top surface 33 will co-operate with the lower edges of the slot 34 to sever a section 11 from a ticket 10 inserted in the slot 22 (see Fig. 4). The edges of the punch member 30 which perform this cutting operation are identified by the reference characters 45 and 46 in Fig. 3. After one of the sections 11 has been severed from the ticket 10, the conductor continues to displace the handles 15 and 16 toward each other so that the severed section 11 is driven up into the slot 34.

A second punch member or die 48 projects into the slot 34 and into the path of the severed section 11 which is pushed upwards through the slot 34. The die 48 engages a small square of the severed section 11. A tension spring 49 has one end secured to the die 48 and has its other end secured to a pin 50 which projects from the jaw 21. The spring 49 yieldingly holds the die 48 in the position wherein it is shown in Fig. 4, but when the severed section 11 is pushed upwards through the slot 34 the die moves upwards with the severed section against the action of the spring 49 until it strikes a shoulder 52 provided in the jaw 21. Continued displacement of the punch member 30 towards the top of the slot 34 will cause the die 48 to cooperate with the cutting edges 42 and 43 to sever a small portion from the severed section 11 so that the spring 49 may retract the die 48 and drive portions severed from the section 11 down into the notch 38. The portion thus severed from the section 11 may be ejected from the punch through a slot 55 provided in the jaw 21.

The die 48 is provided with a downwardly extending lug 60 which is engageable with a bell 61 mounted on the jaw 21, the construction being such that when the die 48 is retracted by the spring 49, the lug 60 will strike the bell 61 so that an audible signal will be given.

Briefly, the operation of the above described punch is substantially as follows: The conductor inserts the commutation ticket 10 in the slot 22 in such manner that the cut-out portion 12 of the section 11, which is to be severed, will receive the alining lug 35. The handles 15 and 16 are then squeezed so that the section 11 will be severed from the ticket 10 and so that a portion of the section 11 will be severed therefrom in such manner that the lug 60 will strike the bell 61. As stated above, this gives the audible signal.

The improved punch may also be employed in connection with tickets which are good for only one ride. If such a ticket is inserted in the slot 23 and the handles 15 and 16 are displaced toward each other, the punch pin 24 will cut a small disk from the ticket indicating that it has been cancelled.

While we have shown and described certain embodiments of our invention, it is to be understood that it is capable of many modifications. Changes, therefore, in the construction and arrangement may be made without departing from the spirit and scope of the invention as disclosed in the appended claims, in which it is our intention to claim all novelty inherent in our invention as broadly as possible, in view of the prior art.

What we claim as new, and desire to secure by Letters Patent, is:

1. A ticket punch comprising a jaw having a punch member movable therewith, a second jaw having an opening into which said punch member may pass, said punch member being adapted to co-operate with the edges of said opening to sever a section from a ticket, and a die movably mounted in said second jaw and adapted to co-operate with said punch member to sever a portion of said section from it.

2. A ticket punch comprising a jaw, a

punch member operatively connected to said jaw, a second jaw having an aperture therein, said punch member and the edges of said aperture being adapted to sever a section from a ticket, a lug carried by said punch member and projecting into said aperture when said punch is in a ticket-receiving condition, and a die mounted in said second jaw and adapted to co-operate with said punch member to sever a portion of said section from it.

3. A ticket punch comprising a jaw, a punch member loosely pivoted to said jaw, a second jaw having a slot for receiving said punch member, a lug projecting from said punch member and adapted to be placed in a notch formed in a ticket, said punch member and the edges of said slot being adapted to sever a section from said ticket, and means carried by one of said jaws and adapted to co-operate with said punch member to sever a portion of said section from it.

4. A ticket punch comprising a jaw, a punch member having one end pivoted to said jaw, said end of said punch member being movable laterally with respect to its pivotal axis, a second jaw adapted to co-operate with said punch member to sever a section from a ticket, and means movably mounted in said second jaw for co-operating with said punch member to sever a portion of said section from it.

5. A ticket punch comprising means for severing a section from a ticket, and means including a die movably mounted in the punch for cutting a notch in said section.

6. In a ticket punch having audible means for indicating the completion of the punching operation, means for severing a section from a ticket, and common means severing a portion of said section from it and actuating said audible means.

7. In a ticket punch provided with audible means for indicating the completion of the punching operation, the combination of a jaw, a punch member operatively connected to said jaw, a second jaw having an aperture therein, said punch member and the edges of said aperture being adapted to sever a section from a ticket, and a die movably mounted in said second jaw and adapted to co-operate with said punch member to sever a portion of said section from it, said die being adapted to actuate said audible means.

8. In a ticket punch provided with audible means for indicating the completion of the punching operation, the combination of a jaw, a punch member operatively connected to said jaw, a second jaw having an aperture therein, said punch member and the edges of said aperture being adapted to sever a section from a ticket, and a die mounted in said second jaw and adapted to co-operate with said punch member to sever a portion of said section from it, said die being adapted to actuate said audible means.

9. A ticket punch comprising a jaw, a punch member operatively connected to said jaw, a second jaw having an aperture therein, said punch member and the edges of said aperture being adapted to sever a section from a ticket, and a spring-pressed die movably mounted in said second jaw and adapted to co-operate with said punch member to sever a portion of said section from it.

10. In a ticket punch provided with audible means for indicating the completion of the punching operation, the combination of a jaw, a punch member operatively connected to said jaw, a second jaw having an aperture therein, said punch member and the edges of said aperture being adapted to sever a section from a ticket, and a spring-pressed die movably mounted in said second jaw and adapted to co-operate with said punch member to sever a portion of said section from it, said die being adapted to actuate said audible means at the completion of the punching operation.

11. A ticket punch comprising a jaw, a punch member operatively connected to said jaw, a second jaw having an aperture therein, said punch member and the edges of said aperture being adapted to sever a section from a ticket, a spring-pressed die movably mounted in said second jaw and adapted to co-operate with said punch member to sever a portion of said section from it, and a stop member in the first mentioned jaw for limiting displacement of said die by said punch member.

In testimony whereof, we have hereunto affixed our signatures, this 29th day of October, 1931.

ALFRED R. JORGENSON.
RALPH O. MOODY.