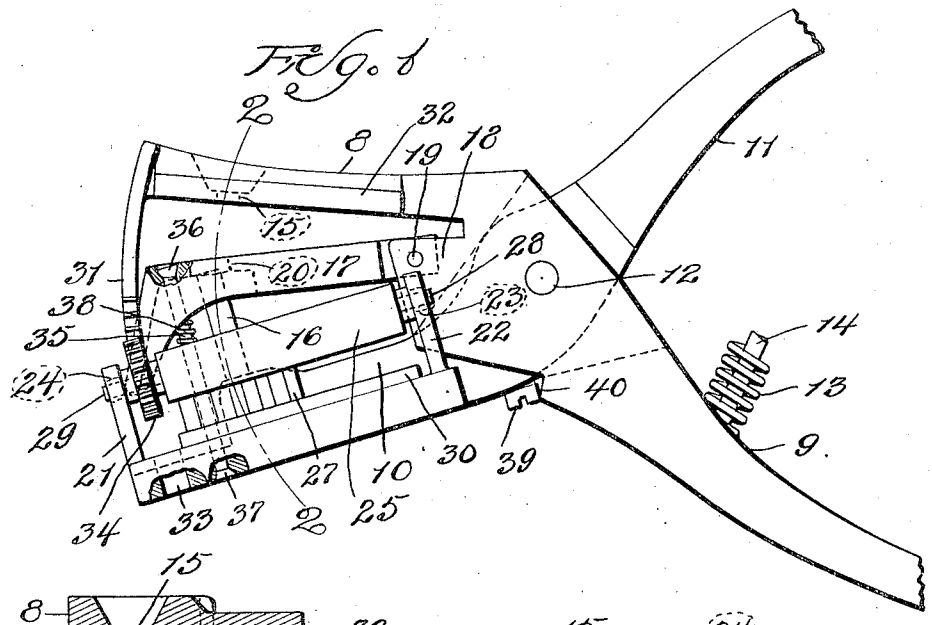
April 15, 1924. 1,490,359

J. S. BALL

VALIDATING TICKET PUNCH

Filed May 28, 1923

Fig. 1



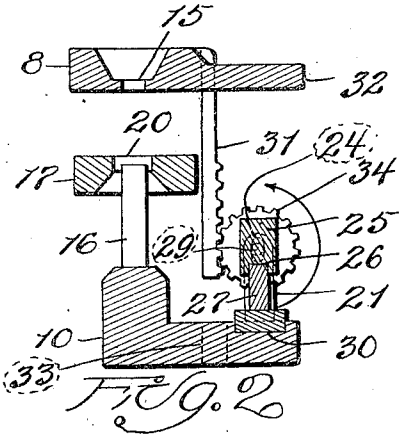


Fig. 2

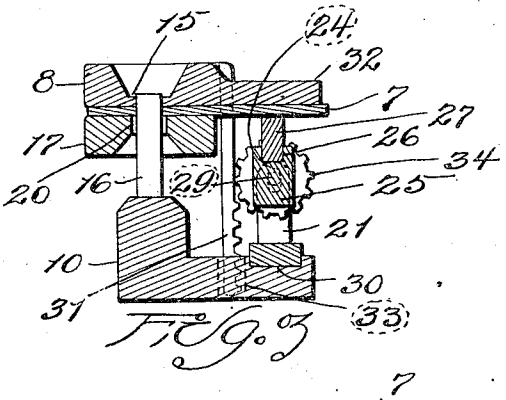


Fig. 3

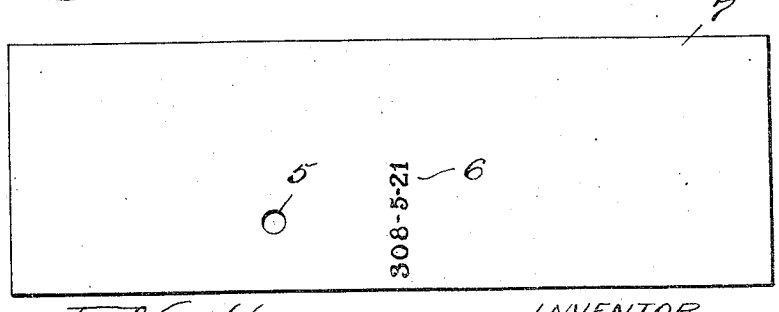


Fig. 4

INVENTOR
JAMES S. BALL,
by Arthur C Eckert ATTORNEY.

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UNITED STATES PATENT OFFICE.

JAMES S. BALL, OF ST. LOUIS, MISSOURI.

VALIDATING TICKET PUNCH.

Application filed May 28, 1923. Serial No. 641,941.

To all whom it may concern:

Be it known that JAMES S. BALL, a citizen of the United States of America, residing at St. Louis, State of Missouri, has invented certain new and useful Improvements in Validating Ticket Punches, of which the following is a specification.

The object of my invention is to devise a validating ticket punch to be used primarily by railroad conductors and auditors.

In checking over the collection of tickets by railroad conductors by auditors it becomes highly advantageous in order to prevent misappropriation of tickets that the tickets when punched shall not only be perforated in the conventional way, but shall have printed thereon the train number and the date. This is likewise true of the passenger's ticket check. My ticket punch prints the train number and the date at the same time that it makes the perforation.

A further object is to devise a ticket punch that will be simple in construction, easily operated, made of few and simple parts that lend themselves readily to multiple production and that will be small in size.

With these and other objects in view, my invention has relation to certain novel features of construction and arrangement of parts as will be hereinafter more fully described, pointed out in the claims and illustrated in the drawings in which—

Fig. 1 is a fragmental side elevation of my device, and

Fig. 2 is a cross-section taken along the line 2—2 of Fig. 1 showing my punch in a non-punching, non-printing position, and in which

Fig. 3 is a section similar to Fig. 2, but showing the punch in a punching and printing position.

Fig. 4 is an enlarged plan of a ticket that is punched and printed showing the relative positioning of the punch and printed legend.

The object of my device is to punch and print a ticket 7 as shown in Fig. 4 in which the circle 5 designates the perforation or punch and in which numeral 6 designates the printed legend in which 308 indicates the train number, the 5 the month of May and 21 the day of the month.

I have incorporated in my device as many of the features of a standard punch as is compatible with my purpose and structure. Numeral 7 designates the ticket that is to be operated upon. Numeral 8 designates the upper jaw having the handle 9 formed integral therewith and numeral 10 designates the lower jaw having the handle 11 formed integral therewith. The upper jaw 8 and the lower jaw 10 are pivotally secured together by the jaw pivot 12 shown in Fig. 1. In Fig. 1 the handles 9 and 11 are broken away showing only a portion of each in order to conserve space. A coiled spring 13 is positioned on a rod 14, and secured at its one end to the handle 9 as best shown in Fig. 1. The rod 14 is also secured at its one end to the handle 9 as best shown in Fig. 1. The other end of the rod 14 is secured to the handle 11 in the conventional manner and the spring 13 is secured at its upper end to the rod 14 in such manner as to normally maintain the jaws 8 and 10 in the position shown in Fig. 1. This structure is conventional and is, therefore, not all shown on the drawing. The jaws 8 and 10 are closed against the tension of the spring 13. In the upper jaw 8 is formed the die 15. Rotatively opposite the die 15, secured to the lower jaw 10, is positioned the punch 16 which may have any cross section. A circular section is shown. Numeral 17 designates a floating jaw pivotally secured to a finger 18 formed integral with the upper jaw 8 as best shown in Fig. 1 by means of the floating jaw pivot 19. A hole 20 is formed near the free end of the floating jaw 17 of such size to permit the punch 16 to pass therethrough and so positioned that in the opening and closing of the jaws the punch 16 will pass through the hole 20 and the die 15. On the lower jaw 10 are formed two integral standards 21 and 22 having bearings 23 and 24 formed therein in horizontal alinement. Numeral 25 designates a type stick having the groove 26 formed therein which permits the positioning therein of the removable type 27. On the ends of the type stick 25 are formed the journals 28 and 29 which pass through the bearings 23 and 24. The structure thus far described permits the rotation of the type stick 25. Numeral 30 designates an ink pad secured to the lower jaw 10.

In the operation of my device the type 27 must be brought in contact with the ink pad when the device is in the non-punching, non-

printing position and must be brought in contact with the ticket 7 when brought to a punching and printing position. This process makes necessary the revolving of the type stick 180 degrees when the jaws 8 and 10 are brought from the position shown in Fig. 2 to the position shown in Fig. 3. The ticket 7 is positioned between the upper jaw 8 and the floating jaw 17 when the device is in the open position shown in Fig. 2. In order to accomplish the rotation of the type 27 a rack 31 is formed integral with a lateral integral extension 32 of the upper jaw 8. The rack 31 has its teeth formed on the outer side and is of such length that in the closed position of my device it will not extend beyond the lower jaw 10 through the hole 33 in the lower jaw 10. On the journal 29 is keyed the pinion 34. The pinion 34 is of such diameter and so positioned and has teeth of such a pitch diameter as to mesh with the teeth of the rack 31. It will be seen, therefore, that when the rack 31 is moved that the pinion 34 and hence the type stick 25 will be rotated. By selecting the proper size and number and pitch diameters of the teeth on the rack 31 and the pinion 34, the movement of the type stick can be made that of a rotation of 180 degrees when my device is brought from the position shown in Fig. 2 to that shown in Fig. 3. The bearings 23 and 24 must be slot bearings in order to permit the journals 28 and 29 to move vertically to a slight degree in order to permit the operation previously described. A pin 35 having the heads 36 and 37 formed at its end is positioned loosely in holes in the lower jaw 10 and in the floating jaw 17 as shown in Fig. 1. A coiled spring 38 is wrapped around the pin 35 and is of such length that it is put in compression when my device assumes the position shown in Fig. 3, but is neither in tension nor compression in any other position. This is a conventional construction and is for that reason not further described. In order to limit the open position of the jaws 8 and 10 a screw head 39 is secured in the lower jaw 10 as best shown in Fig. 1 so as to engage a recess 40 formed in the upper jaw 8 when the jaws are in the position shown in Fig. 1.

What I claim and mean to secure by Letters Patent is—

1. In a device of the character described, an upper jaw having a die formed therein and a rack suspended therefrom, a lower jaw having a punch formed therein and a type stick rotatively secured between standards formed thereon, a pinion secured to said type stick, said pinion being in mesh with said rack.

2. In a device of the character described, a jaw having a die formed therein, and means for producing rotation suspended therefrom, a second jaw having a punch formed thereon and a type stick rotatively secured thereon, a rotating means secured to said type stick, said rotating means in operative engagement with the means for producing rotation on said first jaw.

3. In a device of the character described, a jaw having a die formed thereon and means for producing rotation suspended therefrom, a second jaw having a punch formed thereon, an inking pad secured thereto and a type stick rotatively secured thereon, a rotating means secured to said type stick, said rotating means in operative engagement with the means for producing rotation on said first jaw, said type stick and the inking pad of said second jaw so positioned relatively, that when the device is in a non-printing position one face of said type stick will be in contact with the inking pad on said second jaw.

In testimony whereof I affix my signature.

JAMES S. BALL.