

(No Model.)

T. THEIS.  
TICKET PUNCH.

No. 422,998.

Patented Mar. 11, 1890

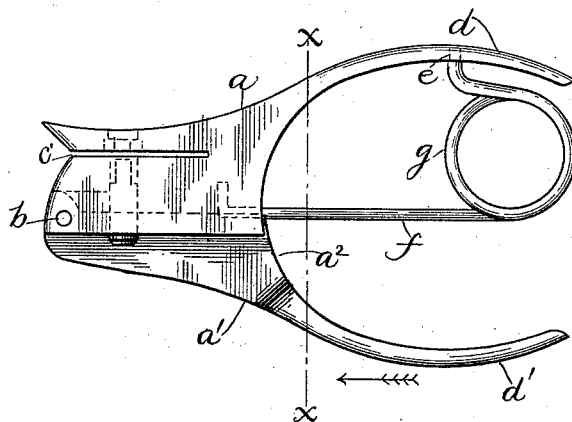


FIG. 1.

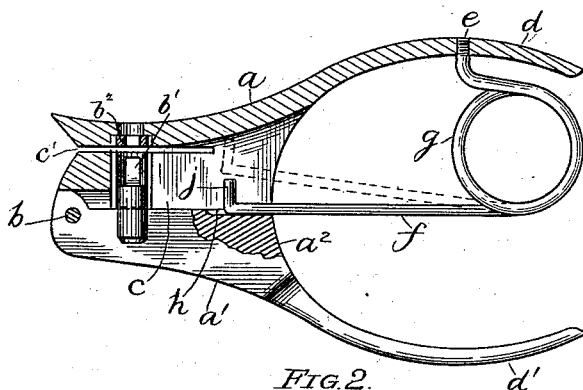


FIG. 2.

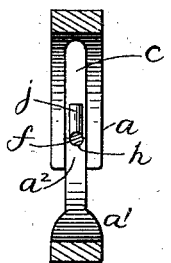


FIG. 3.

Witnesses:

J. Halpenny  
J. L. Lathen

Inventor:

Theodore Theis  
By Lindley & Decker  
his Attys.

# UNITED STATES PATENT OFFICE.

THEODORE THEIS, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE RAND, McNALLY  
& COMPANY, OF SAME PLACE.

## TICKET-PUNCH.

SPECIFICATION forming part of Letters Patent No. 422,998, dated March 11, 1890.

Application filed August 24, 1889. Serial No. 321,870. (No model.)

*To all whom it may concern:*

Be it known that I, THEODORE THEIS, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Ticket-Punches, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a side view of a ticket-punch having my improvement applied thereto. Fig. 2 is a like view, partly in longitudinal section; and Fig. 3 is a transverse sectional view taken upon the line  $xx$ , Fig. 1, viewed in the direction of the arrow there shown.

Like letters of reference in the different figures indicate like parts.

In the construction of ticket-punches as heretofore made it has been found difficult to construct and attach the spring to the handles or jaws for expanding the latter, so as to prevent breakage, and the expense of repairs in this respect to a railway company is considerable.

The object of my invention is to overcome this objection and to so construct and combine a spring in connection with a ticket-punch that it may be readily attached to the punch or removed therefrom and replaced when worn out and weakened, that breakage may be avoided upon compression of the spring, and that said spring may form a stop to limit the movement of the jaws when compressed, all of which is hereinafter more particularly described and claimed.

Referring to the drawings,  $a$   $a'$  represent the jaws of the punch, which are hinged at  $b$  in the usual way. A recess  $c$ , Figs. 2 and 3, is formed in the jaw  $a$ , and the jaw  $a'$  is made sufficiently thin, as shown at  $a^2$ , to fit loosely therein, which construction prevents a lateral movement of said jaws with respect to each other. Integral with the jaws are handles  $d$   $d$ , with which to operate the punch.

The removable die  $b'$  and its counterpart  $b^2$  are inserted in the jaws in the usual way in operative proximity to the slot  $c'$  for the insertion of the ticket. Tapped into the handle  $d$  at  $e$  is a wire spring  $f$ , which is coiled upon itself, as shown at  $g$ , in order to give a sufficient length and a free movement of the spring to prevent undue strain thereon when the spring is compressed. A groove  $h$  is formed in the part  $a^2$  of the jaw  $a'$  for the reception of the spring  $f$ , as clearly shown in Figs. 2 and 3. The free end of said spring is bent upwardly, as shown at  $j$ , for the purpose of limiting the movement of the jaws when brought together. This feature is of importance, as it enables the device to be cheaply constructed, the springs being bent and cut in a forming-machine, and are interchangeable, so that should one become weakened from long use another may be easily substituted by removing the rivet  $b$  and securing the end of the spring in the handle at  $e$ .

By reason of my improvement a ticket-punch may be rendered more durable and its construction cheapened, while its operation is more satisfactory by reason of the greater elasticity of the spring when constructed and adjusted in the manner specified.

Having thus described my invention, I claim—

The combination, with a ticket-punch, of the spring  $f$ , having coil  $g$ , and bent portion  $j$ , one end of said spring being attached to the handle  $d$ , while the other is inserted in the recess  $c$ , in operative connection with the jaw  $a'$ , substantially as shown and described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

THEODORE THEIS.

Witnesses:

D. H. FLETCHER,  
J. HALPENNY.