

No. 806,263.

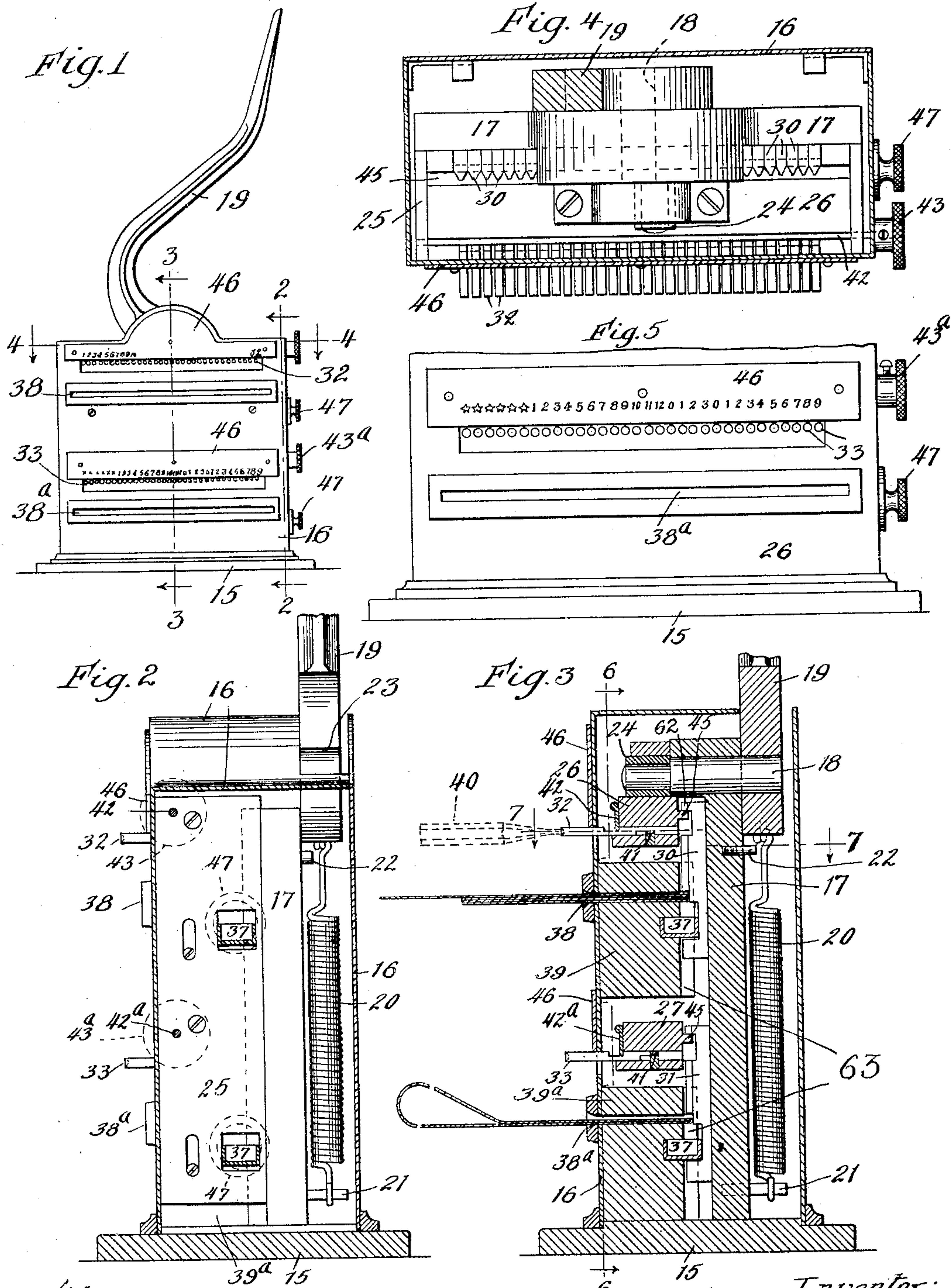
PATENTED DEC. 5, 1905.

A. D. JOSLIN.

MACHINE FOR PUNCHING RAILROAD TICKETS.

APPLICATION FILED FEB. 3, 1905.

3 SHEETS—SHEET 1.



Witnesses

Wm. Geiger
J. M. Munday

Inventor:

Alexander D. Joslin

By Munday, Pratt & A. M. Munday

Attorneys

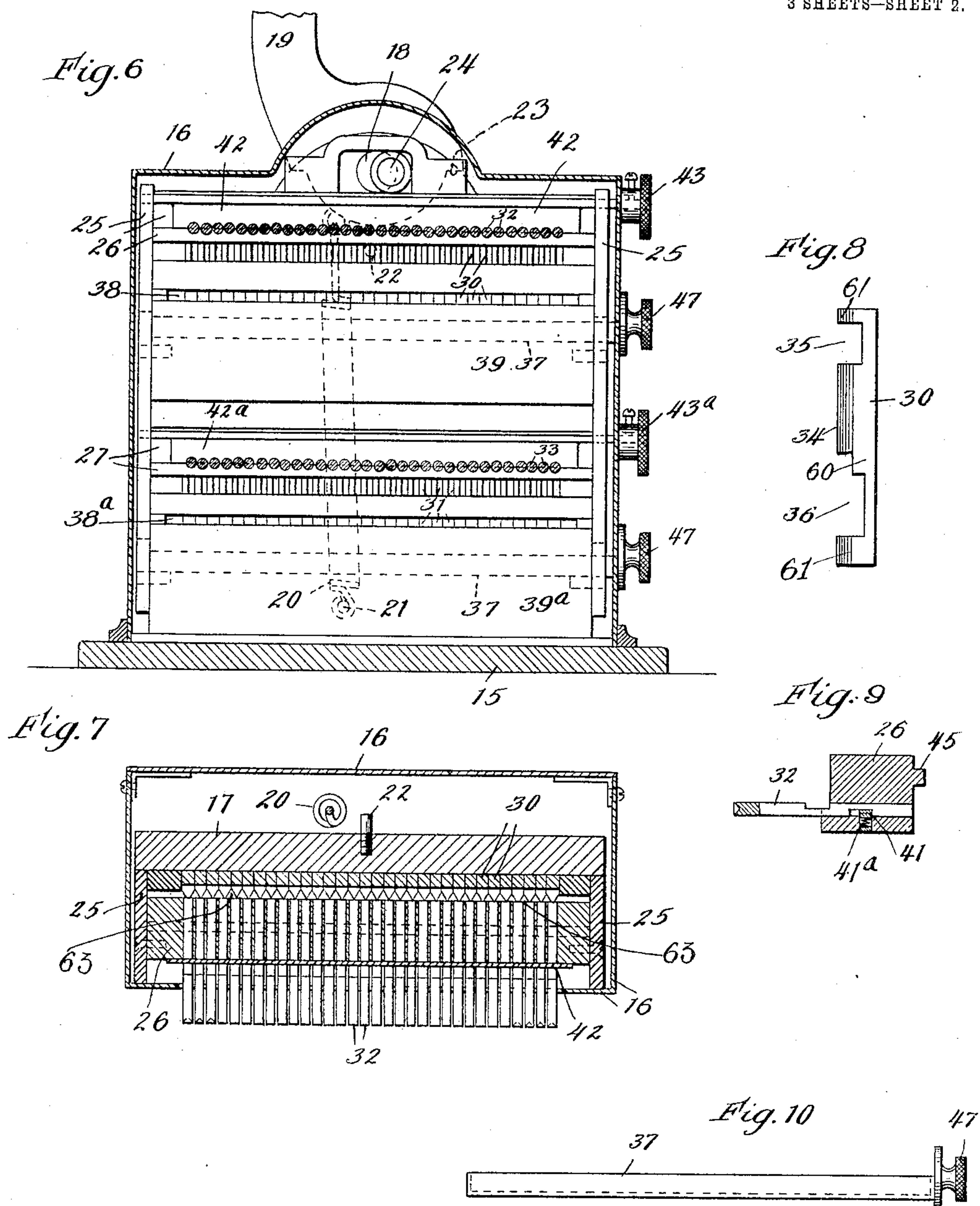
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3 SHEETS—SHEET 3.

Fig. 11

6	7	8	9	0	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	0	1	2	3	4	5	6	7	8	9
MONTHS																	DAYS									
THE LIMIT DATE WILL BE CANCELLED WITH L PUNCH IN PROPER SQUARES ABOVE																										
ISSUED BY -																										
MADISON CENTRAL RAILROAD																										
GOOD FOR ONE PASSAGE VIA THE ROUTE AND TO THE																										
DESTINATION INDICATED BY PUNCH CANCELLATIONS IN THE																										
MARGIN OF EACH COUPON AND WHEN THE DATE OF SALE																										
IS LIKEWISE INDICATED IN THE OPPOSITE COUPON.																										
SUBJECT TO THE FOLLOWING CONDITIONS.																										

PURCHASER																									
WITNESS																									
FORM 12.																									
John Smith Jones, Genl Ticket Agent.																									
VIA THE LINE, AND TO THE DESTINATION																									
PUNCHED IN THE MARGIN BELOW, FROM BUFFALO.																									
ISSUED BY -																									
MADISON CENTRAL RAILROAD																									
FORM 12. VIA CHICAGO AND BUFFALO.																									
TO BUFFALO													TO DESTINATION												
ERIE RAILROAD													ERIE RAILROAD												
Grand Trunk Ry.													Grand Trunk Ry.												
L.S. & M.S. Ry.													L.S. & M.S. Ry.												
MICH. CENT. RR.													MICH. CENT. RR.												
NYC & S.F.L. Ry.													NYC & S.F.L. Ry.												
WABASH R.R.													WABASH R.R.												
B.R. & P.R. Ry.													B.R. & P.R. Ry.												
D.L. & W. R.R.													D.L. & W. R.R.												
ERIE RAILROAD													ERIE RAILROAD												
Lehigh Valley Ry.													Lehigh Valley Ry.												
NYC & H.R. R.R.													NYC & H.R. R.R.												
NYO & W. Ry.													NYO & W. Ry.												
Pennsylvania Ry.													Pennsylvania Ry.												
West Shore R.R.													West Shore R.R.												
ALBANY N.Y.													ALBANY N.Y.												
BOSTON Mass.													BOSTON Mass.												
Binghamton N.Y.													Binghamton N.Y.												
Cortland N.Y.													Cortland N.Y.												
EASTON Pa.													EASTON Pa.												
ELMIRA N.Y.													ELMIRA N.Y.												
ITHACA N.Y.													ITHACA N.Y.												
NEW YORK N.Y.													NEW YORK N.Y.												
Philadelphia Pa.													Philadelphia Pa.												
Rochester N.Y.													Rochester N.Y.												
Syracuse N.Y.													Syracuse N.Y.												
Springfield Mass.													Springfield Mass.												
Scranton Pa.													Scranton Pa.												
UTICA N.Y.													UTICA N.Y.												
Westport N.Y.													Westport N.Y.												
Wilkesbarre Pa.													Wilkesbarre Pa.												
Williamsport Pa.													Williamsport Pa.												
VIA THE LINE PUNCHED IN MARGIN ABOVE																									
FROM CHICAGO TO BUFFALO																									
ISSUED BY -																									
MADISON CENTRAL RAILROAD																									
ON CONDITIONS NAMED IN CONTRACT.																									
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ISSUED BY -																									
MADISON CENTRAL RAILROAD																									
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MONTHS																									
DAYS																									
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0 1 2 3 4 5 6 7 8 9																									

Witnesses:

Wm. Geiger
A. W. Munday

Inventor:
Alexander D. Joslin

By Munday, Evans & Adcock,
Attorneys

UNITED STATES PATENT OFFICE.

ALEXANDER D. JOSLIN, OF CHICAGO, ILLINOIS.

MACHINE FOR PUNCHING RAILROAD-TICKETS.

No. 806,263.

Specification of Letters Patent.

Patented Dec. 5, 1905.

Application filed February 3, 1905. Serial No. 243,945.

To all whom it may concern:

Be it known that I, ALEXANDER D. JOSLIN, a citizen of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Machines for Punching Railroad-Tickets, of which the following is a specification.

The object of this invention is to reduce as far as possible the necessity of keeping a large assortment of tickets at railroad-stations and also to materially reduce the labor and time required to issue tickets combining a plurality of connecting lines between common junctions and also to permit the use of a ticket which when issued shall possess new and superior features of safety against fraudulent manipulation, as well as a more uniform arrangement of essential printed matter for greater convenience of auditing.

The subject-matter of the invention is a machine to be used by railroad-station agents in punching what may be termed "plurality-route-interline" tickets—that is to say, tickets which are issued by one railroad for passage to a point on some other road and which carry on each coupon, as well as on the agent's stub, a list of different roads available for use between common junction-points, as well as a list of principal destinations reached by the various lines leading from the last junction-point, with a blank space in connection with said destinations in which to write in any destination located on either of the terminal lines not found in the printed list.

It has heretofore been a common practice to indicate by a hand-punch in the body of the ticket the different roads forming the selected route, as well as the destination, a separate punching being given for each item indicated. In the tickets thus punched the date of sale is indicated separately on each coupon and stub by the common practice of stamping on the back with a ribbon dating-stamp. By means of my invention, however, I indicate the complete route and destination on one margin of each coupon and of the agent's stub by a single punching operation, and in like manner I indicate upon the opposite margin of each coupon and the agent's stub the date of sale by a single punching operation. In order to accomplish this result, the printed particulars to be canceled on the ticket by the punching must register with the punches in the machine, and when the ticket is folded in

order to permit it to be entered in the slot in the machine said particulars must also register on the several coupons, one with another, so that they may all be punched simultaneously and in the same operation. All these features of the invention are fully explained in the description given below and illustrated in the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a front elevation of the machine. Figs. 2, 3, and 4 are sections on the lines 2 2, 3 3, and 4 4, respectively, of Fig. 1. Fig. 5 is a partial enlarged front elevation. Fig. 6 is a vertical section of the machine on the line 6 6 of Fig. 3. Fig. 7 is a section on the line 7 7 of Fig. 3. Figs. 8, 9, and 10 are detail views of portions of the machine. Fig. 11 shows the ticket.

In said drawings, 15 represents the base of the machine, and 16 a suitable casing supported upon the base.

17 is a vertical plate forming a frame for the moving parts of the machine and mounted on the base, and in this plate the shaft 18 of the operating-lever 19 is given a bearing. A spring 20 is attached to the base of the lever and to a pin 21, secured in the plate 17, and acts to return the lever after each operation. A stop 22, secured in the plate, limits the movement of the lever in one direction by its contact with a shoulder 23 upon the lever. The shaft 18 carries at the end opposite that to which the lever is secured an eccentric 24, and through this eccentric the lever depresses and lifts a vertically-movable frame consisting of the vertical end plates 25 and connecting members 26 and 27. This frame supports the punches, as explained later on, and there are two sets of them, one above the other, and both adapted to be operated by the lever 19. The upper set of punches are shown at 30 and the lower set at 31, and each is provided with a series of setting or selecting pins corresponding in number and position to the punches, those of the upper punches being shown at 32 and those of the lower punches at 33. Both sets of punches are alike in construction and are shown in detail at Fig. 8. As illustrated, they are made from flat metal, with V-shaped knife portions 34, with notches 35, whereby they may be actuated both up and down, with notches 36, giving room to the drawers 37, arranged under the cutting parts and adapted to catch the punchings therefrom.

The frame in its downward movement carries the cutters 34 of such of the punches as have had their setting-pins moved into operative position in the notches 35, down through the ticket, which is inserted at the aperture 38 in the stationary block 39, as will be understood at Fig. 3.

The setting-pins are alike in the case of both series of punches and are adapted to be pushed in to engage the punches by means of a pointed pencil or stylus 40. The pins of the upper punches are inserted in the cross member 26 and those of the lower punches 27, the cross members being bored out to receive them. The movements of the pins are limited by stops 41, entered in each of them in cut-out portions of their under surfaces, as plainly shown at Fig. 3, and the upper surface of the pins is also cut out, as shown in said figure, and a hinged plate 42, attached to the front of the frame member 26 and operated by a knob 43 at one end of the machine, is entered in these cut-out portions of the entire series of upper pins, and when swung upon its hinges, which are at its top, the plate throws the pins outward or withdraws them from their operative positions. When pushed back by the pencil, the inner ends of the pins enter the notches 35 of the punches, so that when the movable frame is depressed by the eccentric any punch corresponding to a pin so positioned will be carried down and cut the ticket, while the punches whose setting-pins have not been pushed in remain idle. The retracting-plate 42 may be operated to withdraw the pins after each punching operation, or in case a number of tickets are to receive the same punches the operation may be repeated with each ticket before returning the pins. A plate 42^a, similar in all respects to plate 42, is hinged to frame member 27 and operated by a knob 43^a and operates to throw out the lower pins, which are cut out on top in the same manner as plate 42 operates on the upper pins. Said lower pins select and operate the lower punches in the same way as the upper pins select and operate the upper punches and are provided with similar stops 41.

In the case of the ticket illustrated the punches indicating the lines of railroad and destination are punched by one set of punches and the dates by the other set at separate operations, the ticket being first folded and one edge inserted in the aperture 38 and then after that edge has been punched the ticket is taken out and its other edge is inserted at the lower aperture 38^a and operated upon by the lower punches. The ticket when punched by the lower punches is usually placed in the machine, as shown in broken lines, with the top edge of the head of the ticket turned down, so that it may be punched in unison with the edge presented to those punches. The lower aperture 38^a is formed in a stationary block 39^a, similar to the block 39. The frame mem-

bers 26 and 27 are each provided with projecting shoulders 45, entering the notches 35 of the punches, so that the punches are lifted by them when the movable frame returns to its normal position with the return of the operating-lever. On the front of the machine immediately above each of the sets of setting-pins are indicating-plates 46, upon which are figures, words, or other characters serving as a guide to the agent in pushing in the proper pins, as will be understood from Figs. 1 to 5.

The ticket, as shown, consists, first, of an agent's stub; second, coupon of issuing line reading to first junction; third, coupon of first connecting line, and, fourth, coupon of terminal line, which latter embodies also the contract portion of the ticket. The ticket is indented so that it may be separated at each of the lines 54, 55, and 56, and the perforations made by the machine are made along the indented lines and appear upon both sides of these lines, as shown in Fig. 11. The punchings, being thus formed upon the edges of the several sections of the ticket, are not liable to be plugged, because any such fraud would be detected when the sections are torn apart. Of course I do not wish to be limited to a ticket having any particular number of sections or coupons, as the machine can be used with a greater or less number than that embodied in the ticket illustrated. The drawers 37 are provided with pulls 47, whereby they may be taken out and emptied.

To secure successful operation of the machine, the printed matter on the upper and lower margins of each coupon and agent's stub of the ticket must be located with exact reference to the working punches in each series in the machine. These punches are numbered consecutively on the outside of the machine directly over the selecting-pins, and each coupon and the agent's stub are likewise numbered directly on the margin in conjunction with the railroads and destinations, including the blank destination-space. These numbers serve as an index or guide in setting the proper punches for service. For instance, referring to the ticket shown, in routing the same beyond the issuing lines' junction if it is desired to use the Lake Shore & Michigan Southern Ry. (No. 3) to Buffalo and the N. Y. C. & H. R. R. (No. 11) thence to destination—say New York, (No. 22,)—all that is required for the operator to do is to push in successively the pins numbered "3," "11," and "22" in the upper series, insert the folded proper margin of the ticket, and punch with one downward movement of the lever. The operation of punching the date is accomplished in a similar manner, except that the contract-coupon being vertically longer than the others, its upper margin bearing date characters, must be adjusted for insertion in the slot, as shown in the drawings. The setting of the date-punches is done but once daily and then only to the ex-

tent of changing from previous to present day of the month. The date characters, figures, or words on ticket need no index or guide numbers, as the figures representing days are repeated, the months indicated by figures "1" to "12," inclusive, and the years by stars directly over the selecting-pins on outside of machine. The width of the ticket of course exactly equals the length of the slot in the machine, so that when entered therein it will with certainty be in its proper position relative to the punches. The two series of punches here combined in one machine may be mounted separately in separate machines with the same result as to operation. The stops 41 are also designed to exert friction on the setting-pins, so that the latter will be held from shifting in or out through the jarring of the machine. To adapt the stops to the performance of this function, they are provided with lifting-springs 41^a, whereby they are forced up against the pins so as to create the desired friction therewith.

The portions of the punches below the knife portions 34 act as stops to limit the entrance of the ticket within the machine, forming as they do a back wall to the ticket-opening, and the portions of the punches which thus act is indicated at 60, Fig. 8. The portions 61 of the punches act to guide the punches between the plate 17 in the rear and the blocks 39 and 39^a in front, so as to insure correct position of the cutting portions with the countering-dies 63. The lips 62 of the punches engage the shoulders 45 so that the punches are lifted with the frame members 26 and 27. It will further be noted that the punches are arranged side by side in a long series, each in bearing contact with its neighbors and without any kind of separating devices between them. This construction is very desirable, particularly because it economizes room, enabling me to put a large number of punches within a convenient width of the coupon-ticket. The punches also act as side guides to each other. It will be further noted that countering-dies 63 are formed on the inner faces of blocks 39 and 39^a in registering position with the punches, so that the latter are adapted to form notches in the edge of the ticket, and that the parts of the punches by which the ticket is positioned are adapted to admit the ticket until its edge is in proper position to be notched by the punches.

I claim—

1. The combination in a ticket-punching machine, of two series of male punches, a support for the ticket with each series of punches, such support provided with dies countering the punches, means with each series of punches for selecting the ones to be operated, and a single lever actuating both series of punches.

2. The combination in a ticket-punching machine, of two series of male punches, a support for the ticket with each series of punches,

each support provided with dies countering the punches, means with each series of punches for selecting the ones to be operated, a device for actuating the selected punches common to both series thereof, and means for actuating said device.

3. The combination in a ticket-punching machine, of two independent series of male punches, a support for the ticket with each series of punches provided with dies countering the punches, a depressible frame for actuating the punches of both series, means with each series for selecting the punches to be operated, and means for depressing said frame.

4. The combination in a ticket-punching machine of two independent series of male punches, a support for the ticket with each series of punches provided with dies countering the punches, means with each series for selecting the punches to be operated, and means for actuating the selected punches.

5. The combination in a ticket-punching machine, of two separate series of male punches, a separate support for the ticket under each series, countering-dies on such supports, means with each series for selecting the punches to be operated, and means common to both series for actuating the selected punches.

6. The inclosed ticket-punching machine having two slits or openings each adapted to admit a folded edge of the ticket, and arranged one above the other, two separate series of punching devices, one at each opening, and a single lever for actuating said punches.

7. The inclosed ticket-punching machine having two slits or openings each adapted to admit a folded edge of the ticket, and arranged one above the other, and provided with supports for the ticket extending inward to the outer line of the punches, countering-dies on such supports, two series of punches one above each opening, and means for actuating the punches.

8. The inclosed ticket-punching machine having two slits or openings each adapted to admit a folded edge of the ticket, and arranged one above the other, two series of punches one at each opening and adapted to act on said folded edge of the ticket, a support for the ticket at each opening provided with countering-dies and means for actuating the punches.

9. The inclosed ticket-punching machine having two slits or openings each adapted to admit a folded edge of the ticket, and arranged one above the other, two separate series of punches, one at each opening, means for selecting the punches to be operated, and means for actuating the punches.

10. The inclosed ticket-punching machine having two slits or openings each adapted to admit a folded edge of the ticket, and arranged one above the other, two separate series of punches one at each opening, means

with each series of punches for selecting the ones to be operated, and means for actuating the punches.

11. The ticket-punching machine having two apertures each adapted to admit the folded edge of the ticket, a separate series of punches for each aperture, means with each series for selecting the punches to be operated, and means for operating the punches.

12. The ticket-punching machine having two apertures each adapted to admit the folded edge of the ticket, and located one above the other, a separate series of punches for each aperture, means with each series for selecting the punches to be operated, and means for operating the punches.

13. The combination in a ticket-punching machine of two series of vertically-movable punches, each punch having a shoulder whereby it may be engaged, two series of selecting-pins each pin whereof corresponds to and is adapted to engage one of the punches, and an actuating device carrying all of said pins.

14. The combination in a ticket-punching machine, of two series of vertically-movable punches, one above the other, each punch having a shoulder whereby it may be engaged, two series of selecting-pins each of which corresponds to and engages one of the punches, a vertically-movable frame carrying all the pins, and means for actuating the frame.

15. The combination in a ticket-punching machine of two series of vertically-movable punches, each punch having a shoulder whereby it may be engaged, two series of selecting-pins, each pin whereof corresponds to and is adapted to engage one of the punches, means for returning the pins of both series to normal position, and an actuating device carrying the pins.

16. In a ticket-punching machine, a series of punches arranged in a row opposite the opening at which the ticket is inserted, the

punches having extensions forming a back to said opening and serving to limit the entrance of the ticket within the opening.

17. In a ticket-punching machine, a series of punches arranged in a row opposite the opening at which the ticket is inserted, the punches having cutting portions and also having other portions adapted to limit the entrance of the ticket within the opening.

18. In a ticket-punching machine, a series of independent punches arranged side by side in a row and in contact with each other, whereby economy of room is obtained and each punch is guided at the side by its neighbors.

19. In a ticket-punching machine, a series of independent punches arranged side by side in a row and without separating devices between them, whereby economy of room is obtained and each punch is guided at the side by its neighbors.

20. In a ticket-punching machine, the series of independent punches arranged side by side in sliding contact each with its neighbors, in combination with means for actuating the punches, and means for guiding the punches in front and rear.

21. In a ticket-punching machine, the combination of a support for the ticket, counter- ing-dies on such support, means for positioning the ticket, and movable punches located with their cutting portions in coacting relation to the counter- ing-dies, whereby the punches are enabled to cut notches in the projecting edge of the ticket at the desired points.

22. The ticket-punching machine having a series of punches each provided with a cutting portion 34 and with a guiding portion 61 at the lower end, in combination with counter- ing-dies and the plate 17.

ALEXANDER D. JOSLIN.

Witnesses:

H. M. MUNDAY,
EDW. S. EVARTS.