E. R. CANFIELD.

RULE PUNCH.

APPLICATION FILED JULY 10, 1911.

1,168,600.

Patented Jan. 18, 1916.

2 SHEETS—SHEET 1.

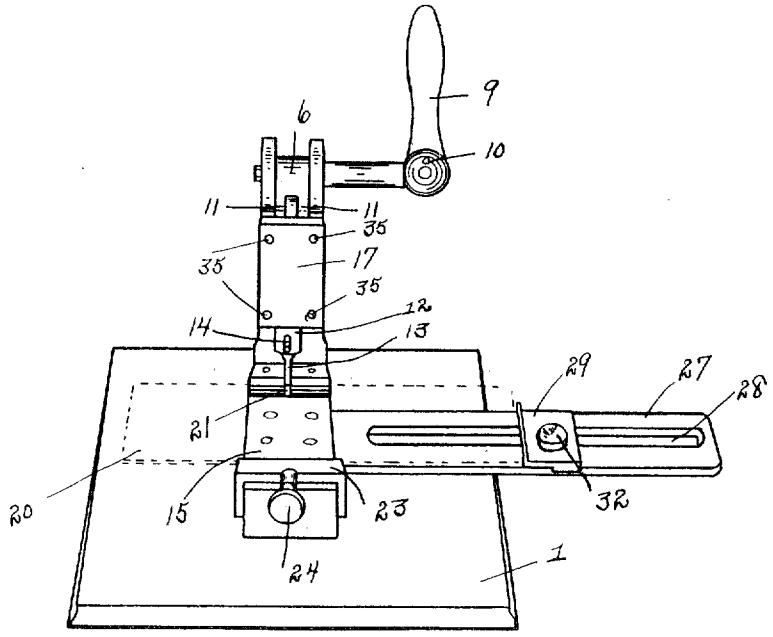


Fig 1

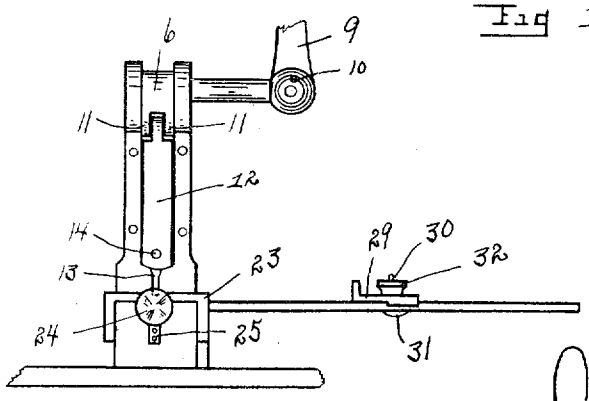


Fig 2

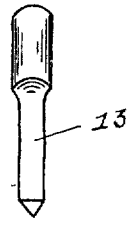


Fig 4

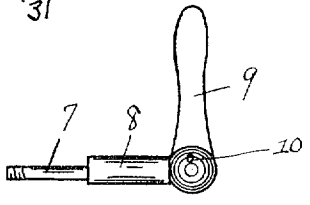


Fig 3

WITNESSES:

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INVENTOR

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2 SHEETS—SHEET 2.

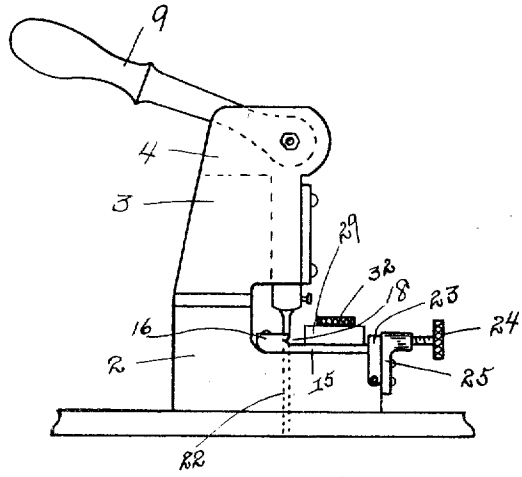


Fig 5

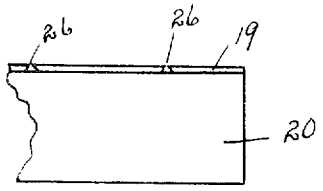


Fig 6

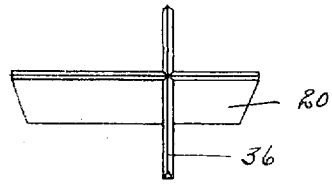


Fig 7

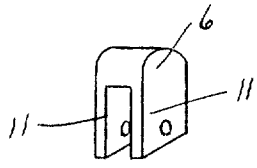


Fig 8

WITNESSES:

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UNITED STATES PATENT OFFICE.

EUGENE R. CANFIELD, OF UTICA, NEW YORK, ASSIGNOR TO CHICAGO LINO TABLER COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

RULE-PUNCH.

1,168,600. Specification of Letters Patent. Patented Jan. 18, 1916.

Application filed July 10, 1911. Serial No. 637,643.

To all whom it may concern:

Be it known that I, EUGENE R. CANFIELD, citizen of the United States, residing at Utica, in the county of Oneida and State of New York, have invented certain new and useful Improvements in Rule-Punches, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to a rule punch, and I declare the following to be a full, clear, concise, and exact description thereof sufficient to enable any one skilled in the art to which it appertains to make and use the same reference being had to the accompanying drawings in which like reference characters refer to like parts throughout.

The object of the invention is to provide a device, to be used in connection with type setting, whereby to make absolutely perfect joints in horizontal and vertical tabular rules. Such a device is of particular value in the art in view of the fact that heretofore in printing tabular lines it has not been possible to join the lines crossing at right angles to each other. While perfect horizontal or vertical lines can be printed, such as appear on railroad time-tables, no means has been found by which the lines running at right angles make a satisfactory contact or meeting with the lines which they cross. The given and unbroken lines are printed with what are termed rules, supported on the slug which carries the type. Various means have been proposed and tried by which to print such intersecting or crossing lines and have them run into contact with those printed by such rules. None of such means have been satisfactory, as there still remains an unsightly break in the lines at the point of intersection. By the use of my device a plate or thin slug is used, the upper edge of which lies in the plane of the type-face and is narrowed to print a line of desired width. The edge of the plate which rises above the body of the type-slugs is perforated with such number of notches as may be needed for the insertion therethrough of the said rules, which are generally triangular in cross-section. In a given piece of work one of these rules which makes a vertical printed line, lies at a given distance from the edge of the work and the corresponding notches in a set of plates will be equally distanced from the edge of the work. Correspondingly the notches for the next vertical rule will be equally distanced from the former rule or the edge of the work. A set of such plates, of greater or less number might be notched by a press having a gang of punches, to be severally adjusted for punching all the notches in one plate at once. I prefer, however, to use a single punching member and use a gage which will be adjusted, first to position the corresponding notch in all the plates and then readjusted for the other sets of corresponding notches. An adjustment of the gage, or of each of the punches in a gang, is necessary in either case, but as the number of notches may be different in different pieces of work, from one in two or three plates to several in a number of plates, and as the gage is more accessible and easier adjusted I prefer and show the invention in the form of a single punch instead of a gang of punches.

My device therefore is constructed to perforate or notch the edge of a plate or slug to adapt it to receive crossing rules, the notches being made at such points as the work requires and regularly spaced in each of the several slugs.

The device comprises a triangular shaped punch actuated by a cam or eccentric controlled by a lever handle. There is also an adjustable carriage for spacing the notches, and means for holding the slug or rule from lateral displacement.

Other features will appear by reference to the drawings in which:

Figure 1 is a perspective view of the device; Fig. 2 is a front elevation showing certain parts removed; Fig. 3 is a detail view of a handle and immediate parts; Fig. 4 is a detail enlarged of a punching member; Fig. 5 is a side elevation of the device; Fig. 6 is a detail fragmentary view of a slug showing the holes made by the punch; Fig. 7 is a perspective view of a slug or rule showing a lino-tabler rule inserted in the hole of the slug in the manner to make a perfect joint; Fig. 8 is a detail enlarged of a link employed.

Referring more particularly to the drawings, the device is secured to a platform 1, and comprises a metallic casting having a base 2 and an overhanging member 3. Said overhanging member 3 is recessed at 4 for the reception of a pivotal mounted link 6 raised and lowered by shaft 7 eccentrically secured in an integral manner with shaft 8

upon the outer end of which is mounted lever handle 9 by pin 10. Link 6 is provided with depending lugs 11—11 adapted to pivotally secure punch holding member 12. Member 12 is recessed for the reception of punch 13, which is held in said recess by set screw 14. Recess 4 is partially closed by plate 17 secured in position by screw bolts 35.

Upon base 2 is mounted plate 15, which may be made integral with base 2. Said plate 15 is provided at one end with a platform 16 having in one edge a triangular shaped groove 18 adapted for the passage of a correspondingly shaped ridge 19 on a slug or rule 20. Said platform 16 is also centrally vertically recessed at right angles to groove 18 by a triangular shaped recess 21 adapted for the movement therealong of punch 13. Said recess 21 alines with a like recess 22 running clear through base 2 and platform 1 for the exit of the punchings.

In order to hold the slug or rule 20, when placed in position from lateral displacement, the device embodies a bridge 23 pivotally secured to base 2 in a manner whereby to permit a movement back and forth as determined by set screw 24 mounted in bracket 25 rigidly secured to base 2.

The device also embodies means for regulating the longitudinal disposition of notches 26 in slug or rule 20, made by punch 13. Said means comprises a bracket 27 secured with its top surface flush with that of plate 15 and having a longitudinal recess 28 for adjusting the gage 29 by means of bolt 30 provided with head 31 and adapted to screw mount thumb piece 32.

The operation of the device is comparatively simple. Gage 29 is first adjusted to the correct longitudinal position that will give the desired location of notches 26 on ridge of slug or rule 20. Slug 20 is then inserted in the machine, with ridge 19 adjacent groove 18, as indicated by dotted lines in Fig. 1. Screw 24 is then slightly tightened whereby to press bridge 23 against the adjacent edge of slug 20 in order to hold same in proper position to be acted upon by punch 13. When the rule 20 is thus inserted in the machine punch 13 is brought to bear upon ridge 19 by actuating lever handle 9.

Referring to Fig. 6 it will be observed that notches 26 are triangular in shape leaving a small opening at the top. The opening being just wide enough to admit the top edge of the lino-tabler rule 36, so that a perfect union will be made as may be seen in Fig. 7.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is:

1. In a device of the character described, a base having an overhanging member, a plate mounted on the base and having an elevated platform, a groove in said platform, said groove being adapted for the insertion of a ridge on a rule, means to hold said ridge of said rule in said groove, means for holding said rule in any given longitudinal position, and means for punching triangular notches in the ridge of said rule.

2. In a rule punch, a base having an overhanging portion, a plate mounted thereon and having an elevated port, a groove in the side of said port for the insertion of a ridge on a rule and means to hold in lateral manner said ridge of said rule in said groove, and means for punching triangular notches in the ridge of said rule, substantially as described.

3. In a rule punch of the character described, a base portion with an overhanging portion, a plate having a platform, a longitudinal groove in the side of said platform for the insertion of a ridge on a rule, means to hold in lateral manner said ridge of said rule in said groove, said means comprising a bridge and set screw, and means for punching triangular notches in the ridge of said rule held in any given longitudinal position, substantially as described.

4. In a rule punch of the character described, a base having an overhanging portion, a plate having a platform supported by said base, a triangular shaped groove in the side of said platform for the insertion of a ridge of a lino-tabler rule, a bridge pivotally supported to said base and held in adjusted position by a set screw whereby said ridge may be held in lateral manner in said groove, substantially as described.

5. In a rule punch, a base having an overhanging member, a plate having a platform, a groove in the side of said platform, for the insertion of a ridge on a lino-tabler rule, a bridge pivotally mounted to said base, a set screw bearing against said bridge, whereby to hold said bridge in adjusted position against said lino-tabler rule to confine said ridge of said rule in said groove, and a gage adjustably held along a bracket, whereby to hold said lino-tabler rule in given longitudinal position, to be punched.

6. In a lino-tabler rule punch of the character described, the combination of a base portion having an overhanging member, a plate supported by said base and having a lateral groove, said groove being adapted for the insertion of the ridge of a lino-tabler rule, a bridge pivotally mounted to said base and adapted to be held in given position by a set screw, whereby to hold in a lateral manner the ridge in said groove, means to hold said lino-tabler rule in given longitudinal position, and means for punching triangular notches in the ridge of said lino-tabler rule.

7. In a device of the character described, for making dove tail notches in the edge of a strip of metal such as used by printers, a punch, its operating mechanism and base, in

combination with a platform for receiving the strip, a shoulder at the inner side of said platform determining the depth of the notch to be cut by the punch, and means for clamping the strip against said shoulder while the punch operates.

In testimony whereof I have hereunto affixed my signature in the presence of two witnesses.

EUGENE R. CANFIELD.

Witnesses:
ELEANOR T. DE GIORGI,
T. L. WILDER.