

(Model.)

E. P. MOWERS.
PRINTER'S RULE.

No. 438,255.

Patented Oct. 14, 1890.

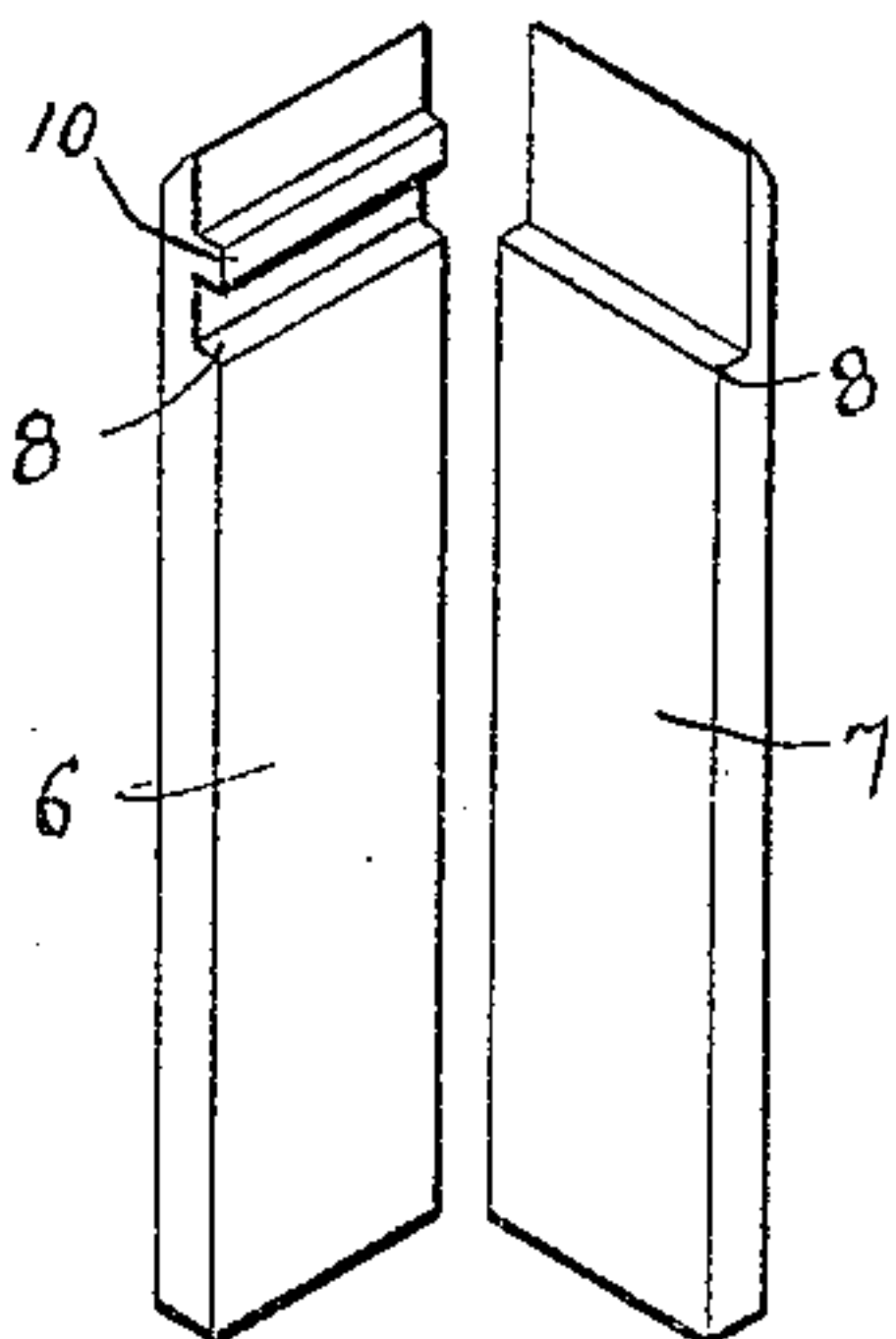
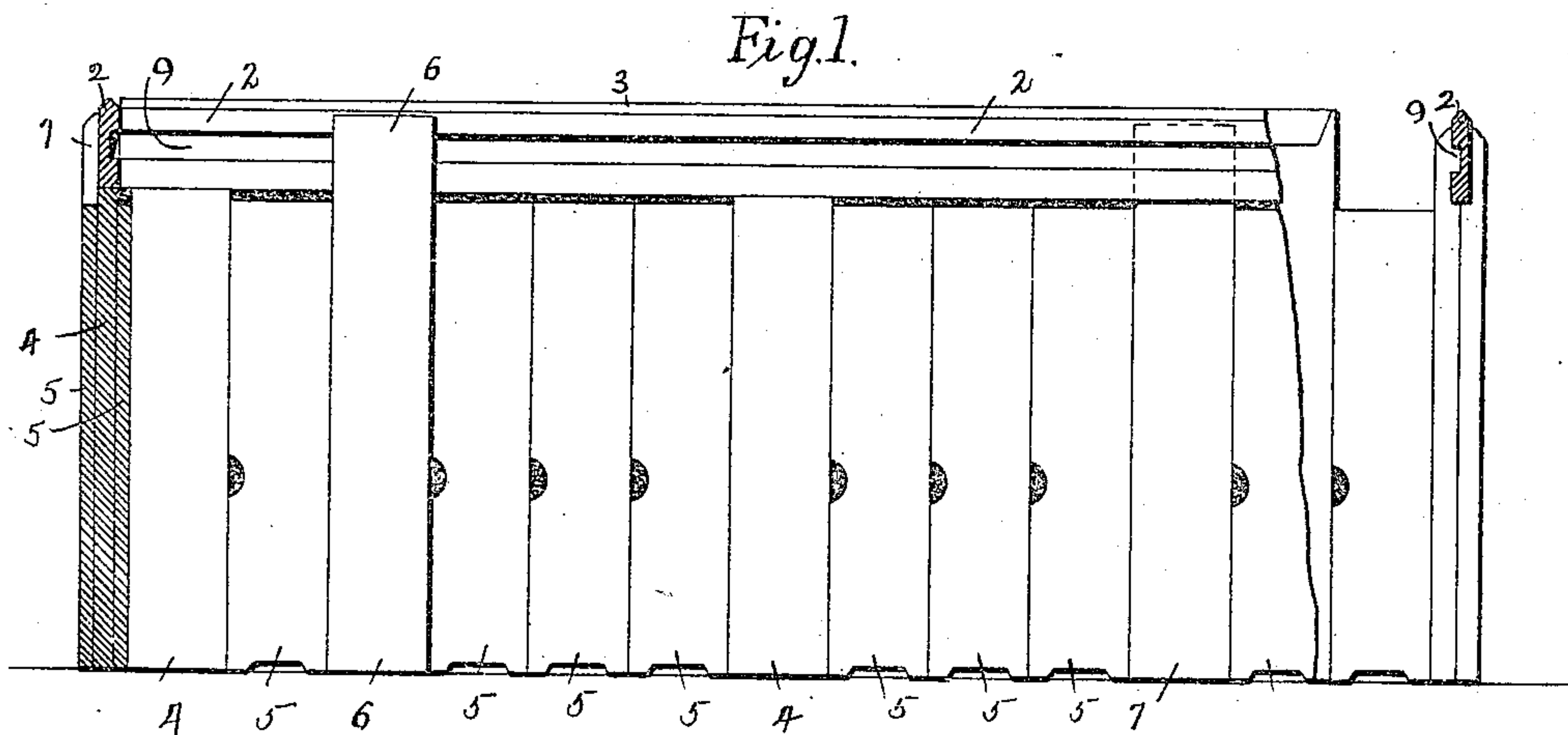


Fig. 2.

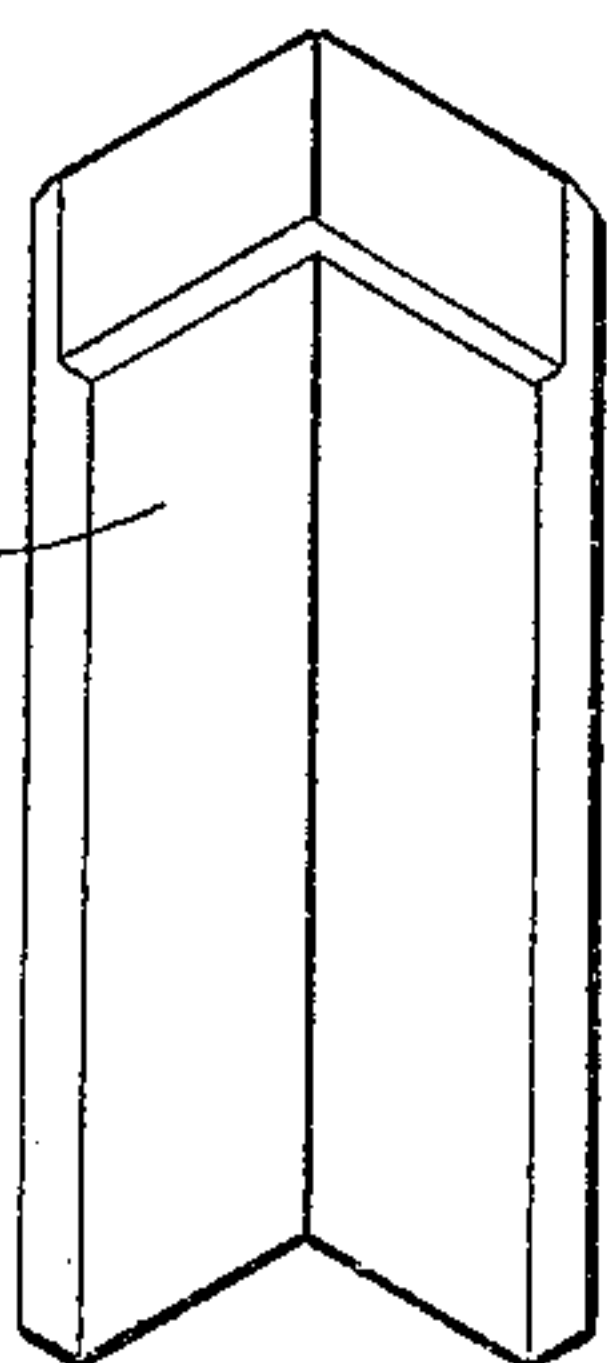


Fig. 3.

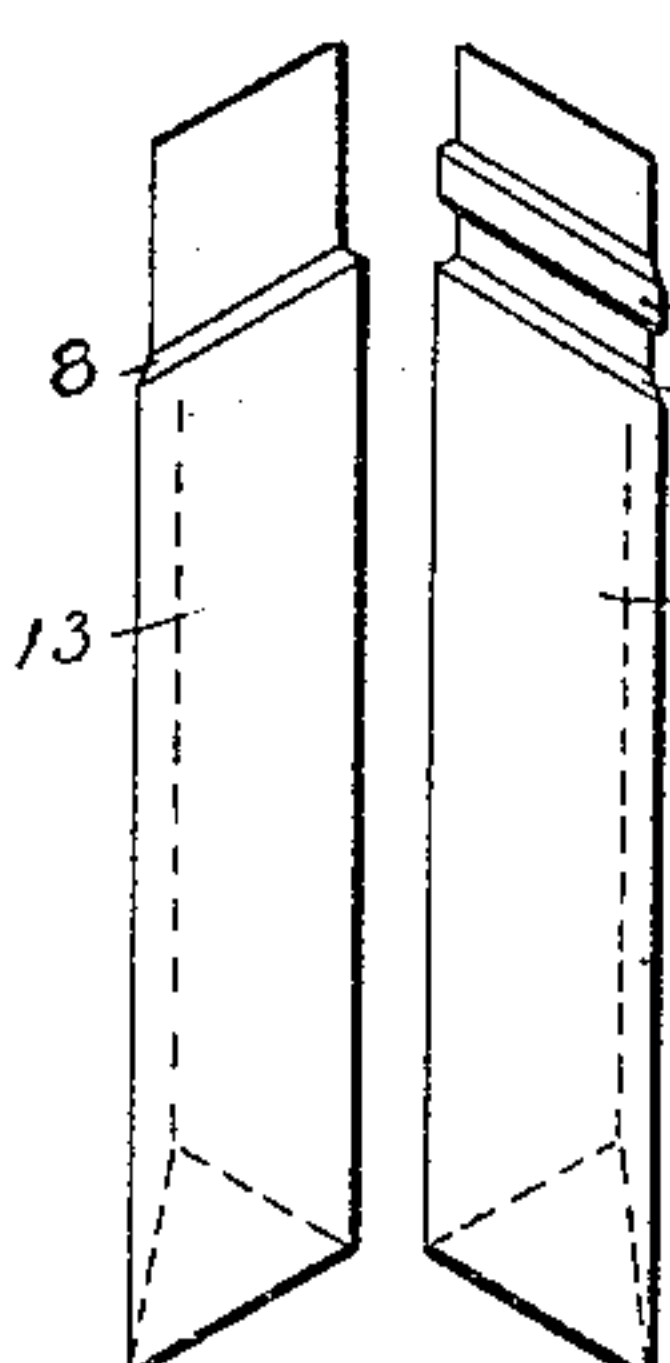


Fig. 4.

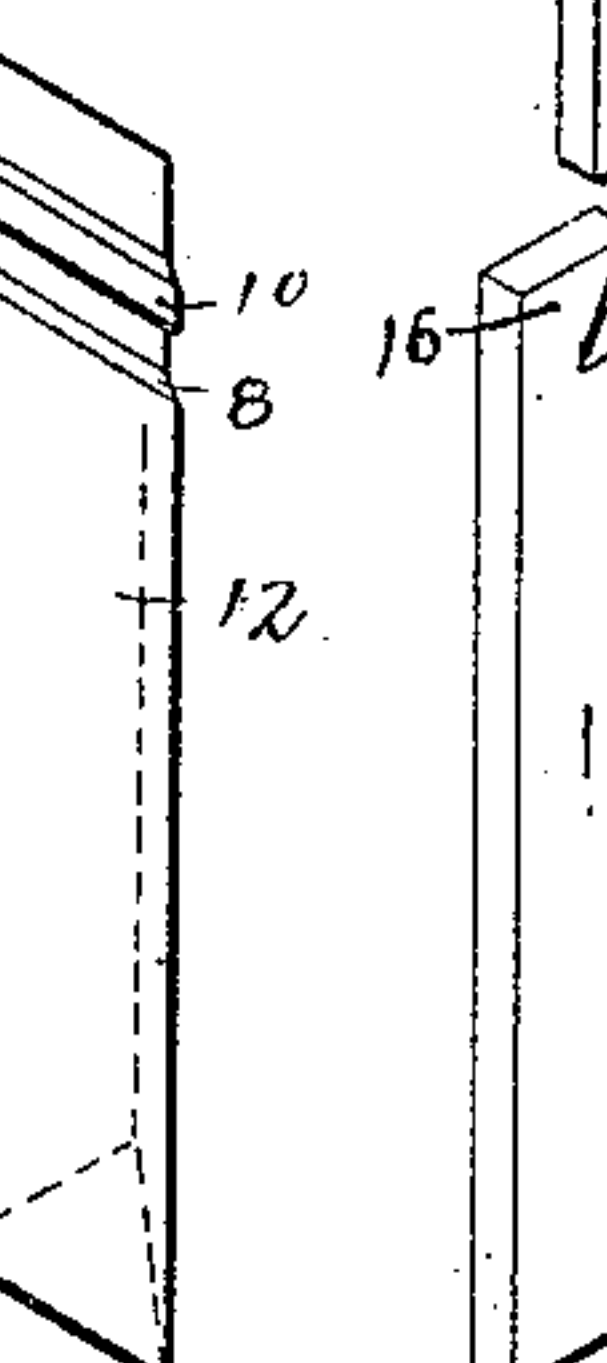


Fig. 5.

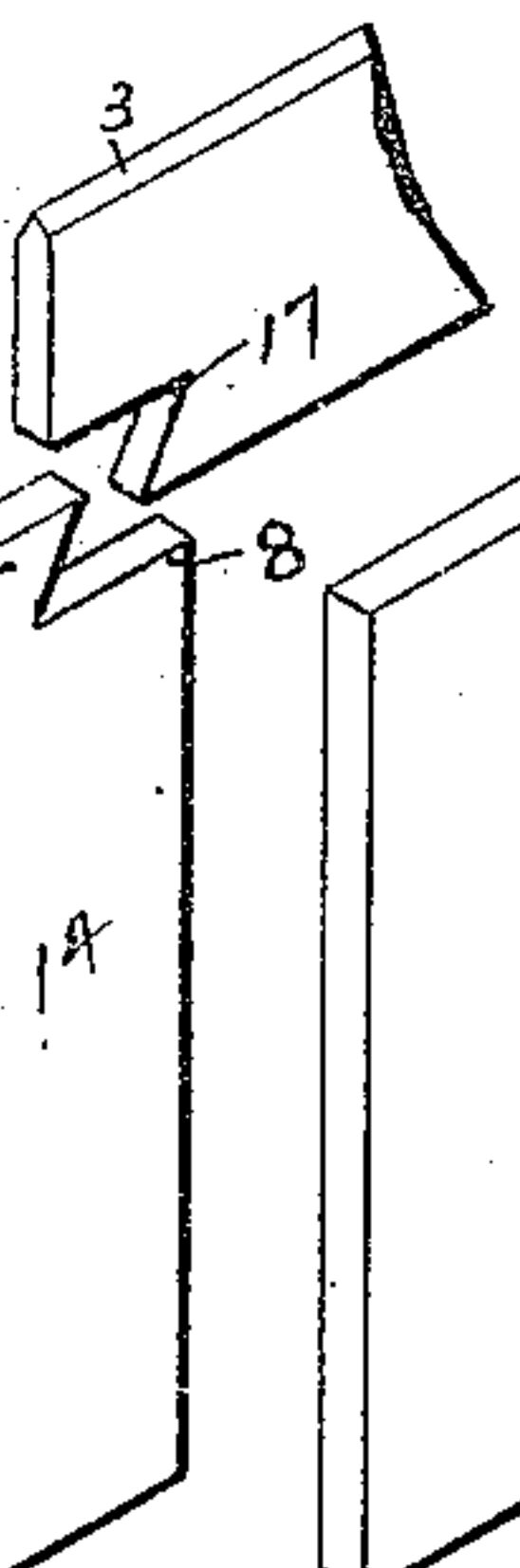


Fig. 6.



Fig. 7.

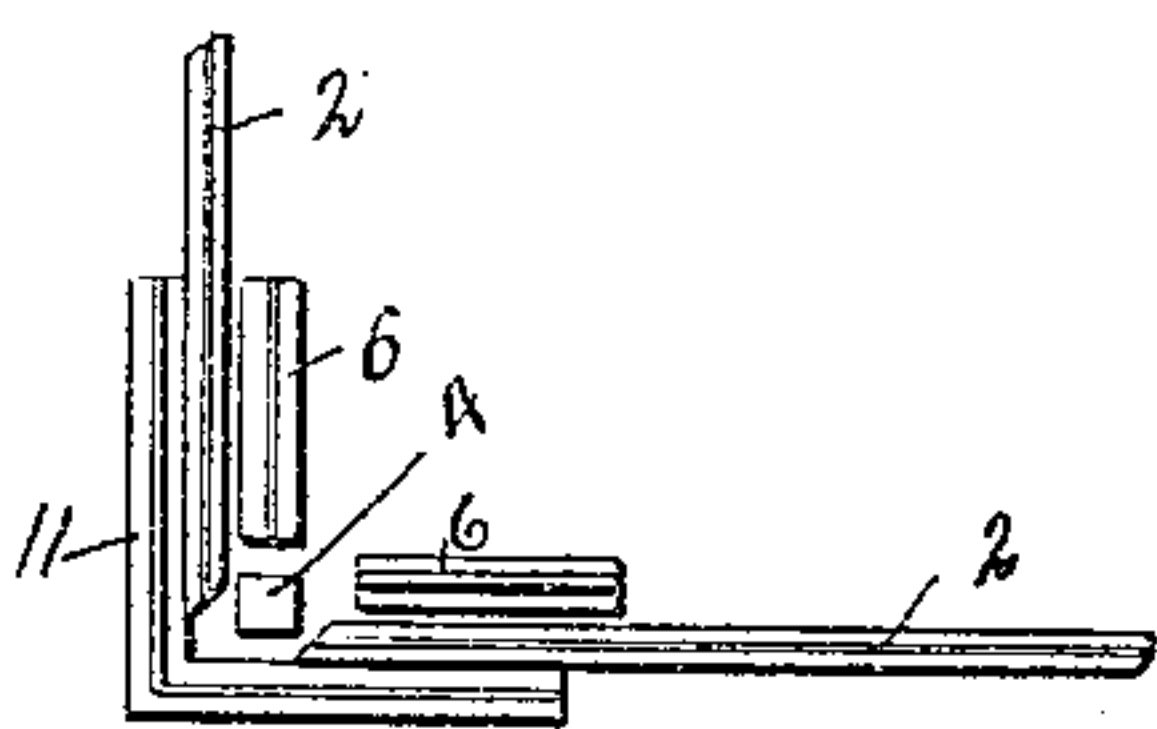


Fig. 8.

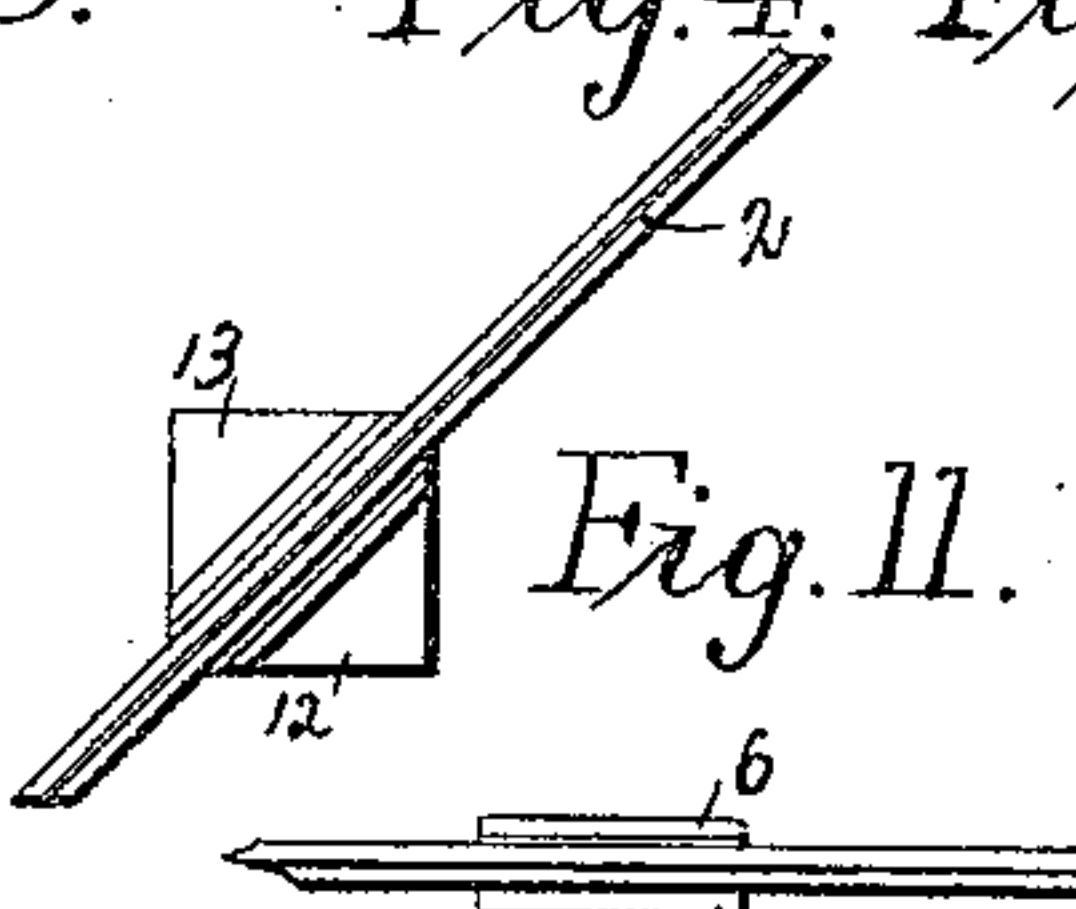


Fig. 9.

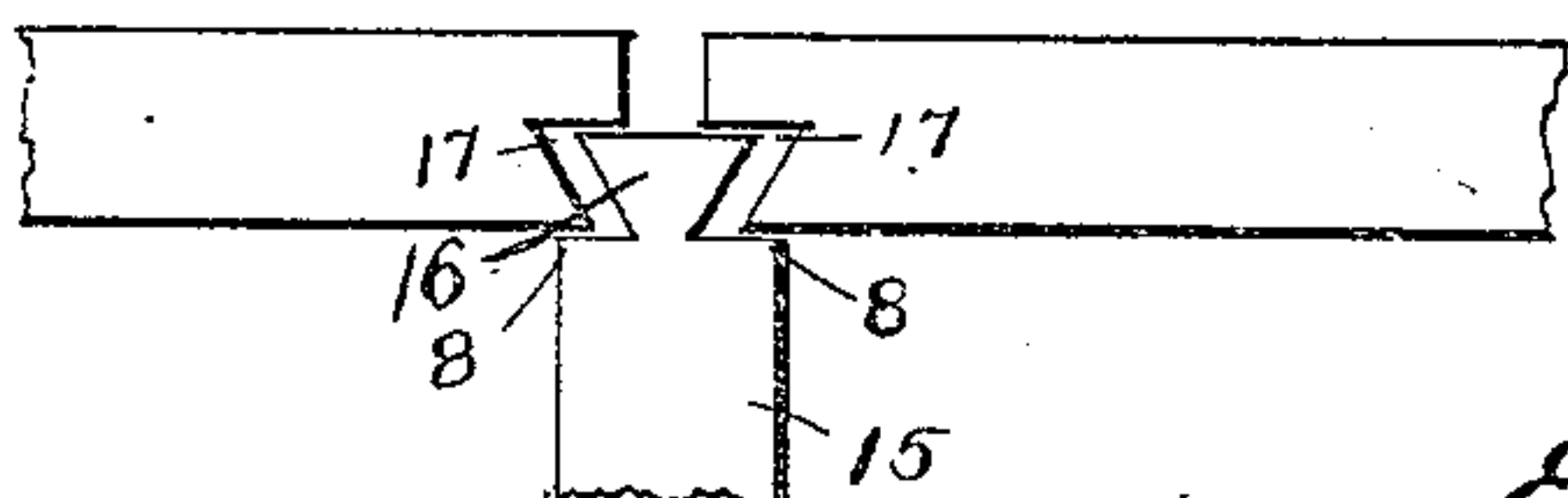


Fig. 10.

Witnesses
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UNITED STATES PATENT OFFICE.

EUGENE P. MOWERS, OF ST. PAUL, MINNESOTA, ASSIGNOR TO HIMSELF, AND
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PRINTER'S RULE.

SPECIFICATION forming part of Letters Patent No. 438,255, dated October 14, 1890.

Application filed January 14, 1890. Serial No. 336,949. (Model.)

To all whom it may concern:

Be it known that I, EUGENE P. MOWERS, of St. Paul, Ramsey county, Minnesota, have invented certain Improvements in Printers' Rules, of which the following is a specification.

My invention relates to the rules used by printers in the composition of tabulated matter or any work requiring ruled lines; and it consists in providing an improved form of rule which can be inserted in place between the type and above the quadrat-spaces after the matter is set up without disarranging or displacing the type or quadrats, and which from its construction is much less expensive than the ordinary form of rule; and it also consists in providing supports which can be set up with the type, and to which the rules can afterward be secured.

The rule in ordinary use is formed of a strip of sheet-brass of any desired thickness and width equal to the height of the type with which it is used. In the setting up of the matter these rules have to be placed in position as the work of composition progresses, thus requiring, as in the case of tabulated work, more time and labor than if the work could be done without setting up the rules in place at the time. Where curved, diagonal, or other ornamental style of ruling is required, the work of composition is slow, because of the time consumed in setting up the matter in the irregular spaces next the rules. By the use of my improved rule, on the other hand, the matter can be set up solidly, as though no rules were to be used, and then the rules, whether horizontal, vertical, diagonal, or curved, are slipped into place, thus saving a large percentage of time to the compositor, and since the rules are narrow strips placed wholly above the quadrats they contain only a fraction of the amount of brass or other materials used in the ordinary form of rule, thus making a large saving in the first cost of the rules.

My improved rule is formed of a strip of sheet-brass or other suitable material, in thickness and length and line-finish like the ordinary rule, but in width or height slightly less than the difference in height of the quadrats and type. This rule is supported in

place above the quadrats by means of suitable supports, which serve to hold the rule firmly in place at exactly the height of the surrounding type-face and above and out of contact with the quadrats underneath. These supports are set up with the type and quadrats in the proper places to receive the rules as the matter is composed and the rules afterward fitted to them, in the manner hereinafter described.

In the accompanying drawings, forming a part of this specification, in which the views are all uniformly enlarged, Figure 1 is a side elevation of my improved rule shown in position in and upon its supports, other vertical rules being shown in section. Fig. 2 is a detail of a pair of the clasp-supports, which serve to embrace and support the rule against the lateral or downward movement. Fig. 3 is a detail modified form of clasp-supports formed in a right angle to receive and protect the meeting ends of the rules at right angles to each other. Figs. 4 and 5 are details of other modified forms of clasp-supports triangular in form to receive and hold rules diagonally arranged in the matter. Fig. 6 is a detail of a modified form of support and rule adapted to be dovetailed together, and used where there is not sufficient space to admit of supports of the form shown in Fig. 2. Fig. 7 is a detail of the support adapted to be placed underneath the rule. Fig. 8 is a detail plan view showing the arrangement of an angle-support, its meeting rules, and other supports arranged within the angle, the parts being slightly separated. Fig. 9 is a detail elevation of a modified support similar to that shown in Fig. 6, showing the meeting ends of the rules slightly separated therefrom. Fig. 10 is a detail plan view of the angle-support with the rules and other supports fitted in place, and Fig. 11 is a detail plan view of the rule clasped by the triangular supports shown in Figs. 4 and 5.

In the drawings, 2 represents my improved rule formed of sheet metal, the upper edge or the face 3 being finished in the ordinary manner and the lower edge being left square in the usual manner.

4 are the short blank-supports, made of sheet metal, as shown in Fig. 7, and adapted to be

placed along underneath the rule, which bears upon it and is firmly supported against the pressure which may be sustained while used in printing.

5 5 are the quadrats, of the usual form and material shown in Fig. 1, set up with the supports and with the rule slightly above them.

6 and 7 are other supports which are arranged in pairs—one on either side of the rule—and thus serve to embrace it and hold it against lateral movement. These supports are provided with shoulders 8, upon which the rule rests when the supports clasp the same with their shouldered faces in contact, the space between the cut-away portions of the supports being equal to the thickness of the rule.

In order to secure the rule against upward movement or displacement when in position, I prefer to form the rule with a longitudinal groove 9 in one of its sides, and provide a tongue 10 upon one of the pair of supports 6, adapted to fit into said groove, so that when the rule is in place the tongue engaging the groove will hold it down upon the shoulders 8.

Where light or thin rules are brought together to form a right angle, as is frequently necessary in tabulated work, I prefer to use the angle-support 11, as shown in Fig. 3, and to miter the meeting ends of the rules, as shown in Figs. 8 and 10, so that they may tightly fit into the corner of the support 11. A small blank-support 4, placed in the angle of the support 11, serves to fill the corner and support the ends of the rules, while the rules are clasped by the supports 10, placed inside of the angle and abutting against the blank-support 4. The ends of the rules are thus firmly supported and prevented from spreading outward as pressure is brought to bear upon them and ink wedged into the interstices. Where the rule is of ordinary thickness, it is unnecessary to use the angle-support, the rule being simply supported by the supports 4, 6, and 7. Where it is necessary to run the rule diagonally through the matter, in some cases it may be preferred or more convenient to use the triangular supports 12 and 13 instead of the supports 6 and 7, although ordinarily either form may be used at pleasure. In some cases, on account of the closeness of the type to the rule, there is not sufficient space for the use of the supports to clasp or embrace the rule, in which case I prefer to use the modified form of support 14 and 15, as shown in Figs. 6 and 9, the form 14 being used at the end of the rule-line and the form 15 intermediate of the ends of the rule-line to receive the abutting ends of two rules. These supports are provided with a dovetailed top 16, adapted to engage a notch 17 of corresponding shape in the end of the rule, whereby the rule is held firmly when in position upon the shoulders of the support and also upon the top of the support.

The manner of using my improved rule is as follows: In the composition of the matter

the proper forms of supports, as may be desired or may be necessary from the character of the work, whether 4 or 6 and 7, or 11, or 12 or 13, or 14 and 15, are set up with the type and quadrats at such points and places as may be necessary to receive and hold the rule in the desired position, or the matter may be composed and the supports afterward inserted in the proper positions by the removal of quadrats. With the progress of the work, or after the completion of the composition, as may be desired, the rule is slipped between the pairs of clasp-supports and along the top of the blank-supports 4, the groove 9 sliding along the tongue 10, and the rule being entirely supported upon the supports and above and out of contact with the quadrats, which are part of the type-metal and of irregular heights, less than the height of the blank-supports 4. Wherever necessary from the proximity of the type, the dovetail supports 14 and 15 are used, instead of the other forms of supports, to receive and secure the ends of the rule. When the rule is of greater thickness than the space between the cut-away portions of the supports 6 and 7, blank-supports 4 may be inserted between the supports to separate them sufficiently to receive the rule and to assist in supporting it.

The various sizes and faces of rules and sizes and forms of supports are constructed, preferably, upon the "point system," so called, thus adapting them to be used with the different sizes of ordinary type.

While I have shown and described supports for the rule of substantially the dimensions of the type and quadrats, it is obvious that they may be made of greater or less width, as may be desired, and as for particular purposes may be most convenient.

I claim—

1. As an improved article of manufacture, printers' rules, in combination with movable supports therefor set up with the type.

2. As an improved article of manufacture, the combination of printers' rules in height less than the difference in height between the type and quadrats and supports set up with the type removably securing the rules above the quadrats and in line with the face of the surrounding type, substantially as described.

3. The combination, with the type and quadrats, of the printer's rule 2, having a longitudinal groove 9 in one side, and supports set up with said type and quadrats and engaging with said rule and supporting the same against lateral and downward pressure, with the face of the rule in alignment with the face of the type, substantially as and for the purposes set forth.

4. The combination of the printer's rule 2, having a longitudinal groove 9, and the supports 6 and 7, having the shoulders 8 and a tongue 10 upon one of them adapted to engage with said groove, substantially as and for the purposes set forth.

5. The combination of the printer's rule 2,

having the groove 9, the blank-support 4, the support 7, having the shoulder 8, and the support 6, having the shoulder 8 and the tongue 10, adapted to be used substantially
5 as and for the purposes set forth.

6. The combination, with movable type, of supports set up therewith and rules arranged in position upon said supports after the com-

position of the matter, substantially as described.

In testimony whereof I have hereunto set my hand this 28th day of December, 1889.

EUGENE P. MOWERS.

Witnesses:

A. MAE WELCH,
T. D. MERWIN.