A. G. STEVENSON.

PRINTING RULE.

APPLICATION FILED JULY 12, 1909.

1,049,165. Patented Dec. 31, 1912.

Fig. 1.

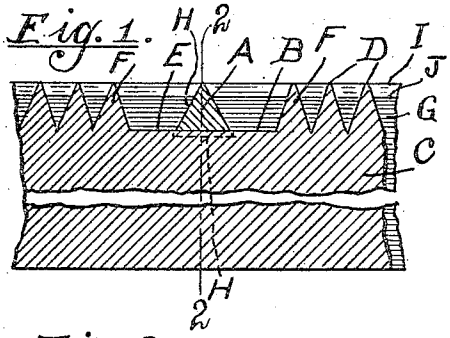


Fig. 2.

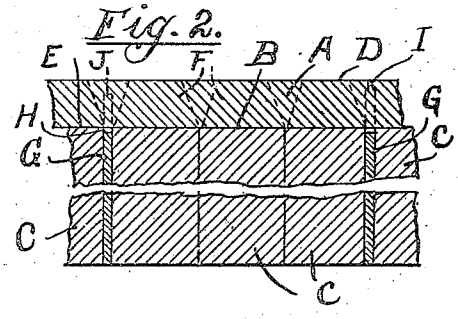


Fig. 3.

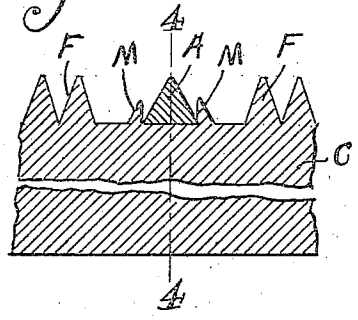


Fig. 4.

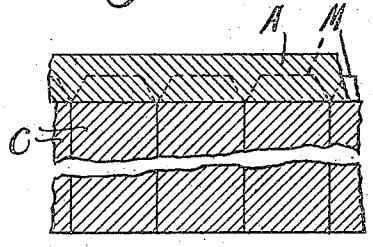


Fig. 5.

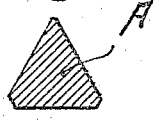


Fig. 6

Fig. 7.

Fig. 8.

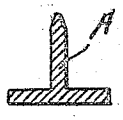


Fig. 9.

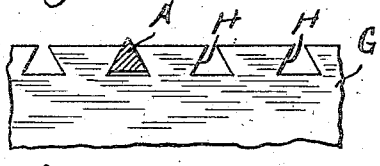


Fig. 10.

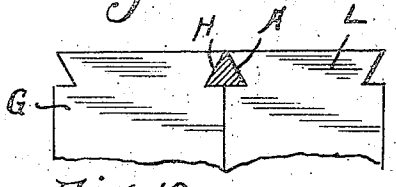


Fig. 11.

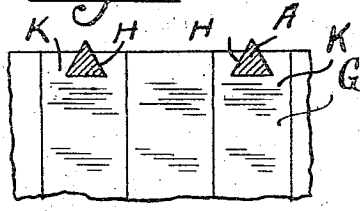
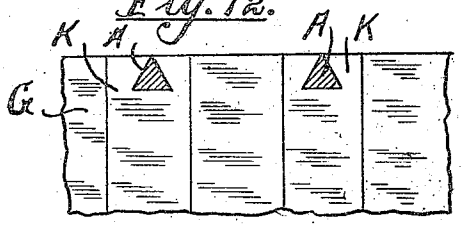


Fig. 12.



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UNITED STATES PATENT OFFICE.

ASHTON GEORGE STEVENSON, OF CHICAGO, ILLINOIS, ASSIGNOR TO CHICAGO LINO TABLER COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

PRINTING-RULE.

1,049,185. Specification of Letters Patent. Patented Dec. 31, 1912

Application filed July 12, 1909. Serial No. 507,217.

To all whom it may concern:

Be it known that I, ASHTON G. STEVENSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Printing-Rules; and I hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in printing rules for vertical lines, the object being to provide a rule and fastenings therefor whereby the rule will be secured in proper relative position upon a column of slugs commonly known as "linotype" slugs, and consists in the features of construction and combinations of parts hereinafter fully described and claimed.

In setting up tabulated matter on linotype and similar machines two methods are in common use by which rules may be inserted for producing vertical lines on the printed sheet between columns of figures, etc. One method is to saw narrow slots in the upper edges of the slugs and insert in the slots thus produced narrow rules having their printing surfaces in a plane with the characters on the slug. This method has never come into general use as the burs or fins left by the saw or the small particles of lead produced by same are cleared away with difficulty and the result is either poor or expensive work. The other method, which has come into some use but not to any great extent is to produce the slots in the slugs to receive the narrow rules by casting them in when the slug is cast. This is apparently an ideal method but a great many and what might be termed prohibitive conditions have arisen.

To properly set forth the useful field which my invention covers it is necessary to describe, to some extent, the process of producing a linotype slug. A series of matrices are assembled having in their faces the reverse of the characters which they are to produce and the openings or holes in said matrices are of a depth to produce the net height of the characters. By net height is meant the height, measured on the type from the face of the type to the shoulder of same or to that surface upon which the printing characters are formed or built up, and which is commonly termed quad high. The net height is then the difference between the height of the type and the height of the quad and in ordinary sets of linotype fonts is forty-three-thousandths of an inch. In casting a linotype slug the surface which represents the height of the quad is also what is termed the face of the mold and no slot or opening can be cast in the slug below this surface. This fact necessitates a complete change of matrices in the linotype machine when it is desired to set up tabulated matter and cast slots in the slugs to receive narrow rules. So much expense is involved and so much time is consumed in making the necessary adjustments that but very few of these machines have come into use.

To overcome these objections and produce a system by means of which vertical ruling can be accomplished in connection with any linotype or similar machine and with almost no additional expense is the particular object of my invention. To do this I produce a rule and a system of fastenings therefor which can be secured on a column of linotype slugs within the net height of the characters on the slugs or between the quad height and type height and which will require at the outside not more than ten extra matrices added to a font and at an expense of but a few cents each.

In the accompanying drawings illustrating my invention: Figure —1— is an enlarged vertical fragmentary section of my preferred shape of rule in position on the slugs and provided with my preferred form of fastening. Fig. —2— is a fragmentary section of my rule taken on the line 2—2 of Fig. —1—. Fig. —3— is a view similar to Fig. —1— but showing securing means integral with the slugs. Fig. —4— is a view similar to Fig. —2— taken on the line 4—4 of Fig. —3—. Figs. —5—, —6—, —7— and —8— are sections showing modified forms of my rule. Figs. —9— and —11— are views showing modifications of the fastening means shown in Figs. —1— and —2—. Figs. —10— and —12— are views showing modifications of the cross rule shown in Figs. —1— and —2—.

My rule is comprised of a strip of metal A preferably an equilateral triangle in cross-section, as shown in Fig. —1—, and so formed that either corner or edge may be used as a printing rule. As shown in Fig.

—1— all the edges may be of the same width to print the same style of line so that it would not be necessary to place any particular edge uppermost, or as illustrated in Fig. —5— each edge may differ from the others in width, in using which it would of course be necessary to select the proper edge to place uppermost to print the width of line desired. The essential features of this rule are that it shall have a flared base and that its height shall be the same as that from the shoulder B of the slug C to the face D of the characters thereon, commonly called face. The shoulder B being also identical with the height of the quad or blank which would be cast with the set of matrices in use in the machine.

The slug C is cast with the blank surface E between the printing characters F to receive and support the rule A, and to secure the latter in proper relative position thereon thin leads G are provided adapted to be received between adjacent slugs and when the whole is locked in the form to be held firmly in place in an obvious manner. Said leads G are provided with downwardly flared openings H in their upper edges adapted to receive the rule A and when firmly pressed downward to their proper position to bear on the lateral faces of the rule A and hold same firmly down against the blank faces of the slugs and when locked in the form to prevent any movement of the rule relative to the slug.

It is obvious that the lead G may be made of brass or some metal suitable for a cross rule and that the upper edge J instead of being below the face of the type may be type high as shown at I and be used as a cross or horizontal rule.

Instead of forming the openings H singly in a long strip of lead as shown in Figs. —1— and —2— they may be formed along the edge of the lead continuously and properly spaced to suit the requirements as shown in Fig. —9— so that any one or more of the openings may be used in which to insert rules as desired. Also, as shown in Figs. —11— and —12— the supporting leads and cross rules can be formed of short pieces K carrying the openings H for the rule and pieces of similar material but without openings used to fill in between the pieces K or as illustrated in Fig. —10— the cross rule may be built up of pieces L of the proper length and having in either end an opening adapted to receive one-half of the rule and which when assembled will have the openings H in the proper places to properly aline the rules.

Instead of the leads with openings H to secure the rule in place projections M may be cast or formed upon the surface of the slug similar to the characters cast thereon and by the use of similar matrices, said projections M being spaced apart so as to receive the base of the rule A between them and retain the rule laterally in relation to the slug. In casting a number of slugs for use in a column the slight inaccuracies in the positions of the projections M will cause a distorting pressure to be exerted upon the rule A when the matter is locked in the form, this distorting pressure will cause the lower edges of the rule A to embed themselves slightly into said projections M and thereby prevent movement of the rule away from the surface of the slug.

I do not herein claim the rule holding lugs or projections which are integral with the type bodies, that particular improvement being the subject matter of my application, Serial No. 570,333 filed July 5, 1910.

It is obvious that if the tabulated matter being set up was of such a character that there was no space for the projections M that the bases of the adjacent characters could be used in place of same to hold said rule, in relation to the slug.

In Fig. —6— a special narrow section of rule is shown having the base narrower than the other sides and adapted to be used where the rule or line printed by same is desired to be very close to the adjacent characters.

In Figs. —7— and —8— are illustrated further modifications of my rule, the method of their use being obvious from the sections shown.

My rule is very simple in its application and very economical in cost, labor and time to manipulate.

I claim as my invention:

1. The combination with the so-called "linotype" character slugs, of a ruling member equal in depth to the net height of the characters on said slugs, the latter equipped at intervals with plane surfaces between adjacent characters disposed in alinement, when the slugs are assembled in column, and supporting said rule, and means projecting above said plane surfaces and engaging and holding the said rule.

2. The combination with the so called "linotype" character slugs, of a ruling member flared at its base and equal in height to the net height of the characters on said slugs, the latter equipped with plane faces receiving and supporting said rule, and means projecting above said plane faces confining the rule laterally thereon.

3. The combination with the so-called "linotype" character slugs of a ruling member flared at its base and equal in height to the net height of the characters on said slugs, the latter equipped with blank faces receiving and supporting said rule and means confining the latter laterally thereon, comprising a transverse member of practically the same depth as the slug adapted to be received between adjacent slugs and pro-

vided with transverse openings at its upper edge adapted to receive the rule and retain the latter in proper relative position on the slugs when the whole is locked in the form.

4. The combination with the so-called "linotype" character slugs of a ruling member flared at its base and equal in height to the net height of the characters on said slugs, the latter equipped with blank faces receiving and supporting said rule and means confining the latter laterally thereon, comprising a transverse member of practically the same depth as the slug adapted to be received between two adjacent slugs, its upper edge being adapted to act as a cross rule, and provided with openings at its upper edge adapted to receive the rule and retain the latter in proper relative position on the slugs when the whole is locked in the form.

5. The combination with the so-called "linotype" character slugs of a ruling member having three edges any one of which may be used as a ruling edge and of a depth from any edge to its opposite base equal to the net height of the characters on said slugs, the latter equipped with blank faces receiving and supporting said rule and means confining the latter laterally thereon.

6. The combination with the so-called "linotype" character slugs of a ruling member having three edges of varying width, any one of which may be used as a ruling edge and of a depth from any edge to its opposite base equal to the net height of the characters on said slugs, the latter equipped with blank faces receiving and supporting said rule and means confining the latter laterally thereon.

7. The combination with the so-called "linotype" character slugs of a ruling member of an equilateral triangular cross section and thus having three edges any one of which may be used as a ruling edge, said rule being equal in height from any edge to its opposed base to the net height of the characters on said slugs, the latter equipped with blank faces receiving and supporting the rule and means confining the rule against movement relatively to the slugs in all directions.

8. A type form which has a substantially level top surface and type rising therefrom, in combination with a rule resting on and supported throughout its length by said top surface and a plurality of projections rising above said top surface, engaging opposite sides of said rule and serving to hold said rule on said surface, substantially as described.

9. A type form which has a substantially level top surface and type rising therefrom, in combination with a rule resting throughout its length on said form and rising to the height of said type and a plurality of projections rising above said top surface, of less height than said type, engaging opposite sides of said rule and holding it upon said surface, substantially as described.

10. A type form having a substantially level top surface and type rising therefrom, in combination with a thin plate between the lines of type, said plate having a substantially triangular opening at its upper edge and a correspondingly shaped rule held in the opening of said plate and thereby held upon said surface of the form, substantially as described.

11. As a new article of manufacture, a type form rule for application upon the level top surfaces of type forms comprising a straight wire-like piece of metal of uniform substantially triangular cross section and having one edge flattened or blunted forming a printing edge, said piece being of a height approximating forty-three thousandths of an inch, substantially as described.

12. As a new article of manufacture, a type form rule for application upon the level top surfaces of type forms comprising a straight wire-like piece of metal of uniform substantially triangular cross section and having printing edges of different widths the height of said rule being substantially equal to the net height of the printing characters with which it is associated, as and for the purpose specified.

13. As a new article of manufacture, a type form rule for application upon the level top surfaces of type forms comprising a wire-like, straight piece of metal of uniform triangular cross section presenting three printing edges, said rule being of a height from each printing edge to the opposite base approximating forty-three thousandths of an inch, substantially as described.

14. As a new article of manufacture, a printer's type form rule for application upon the level top surfaces of type forms said rule having three printing edges so disposed that but one may be used at a time and being of a height from each printing edge to the opposite base approximating forty-three thousandths of an inch, substantially as described.

15. A type form which has a substantially level top surface and type rising therefrom, in combination with a rule of uniform substantially triangular cross section, the base of said rule resting on and secured to said surface and the altitude of the rule equaling the altitude of said type, substantially as described.

16. A type form which has a substantially level top surface and type rising therefrom, in combination with a rule of uniform substantially triangular cross section, the base of said rule resting on said surface and the

altitude of the rule equaling the altitude of said type above said surface, and means rigidly securing said rule against lateral movement on said surface but allowing longitudinal movement of the rule thereon.

17. A type form having a substantially level top surface and type rising therefrom, in combination with a separate metallic rule fastened upon said level top surface of the form and rising to the height of the faces of the type thereon, said rule being of uniform substantially triangular cross section, as and for the purpose specified.

18. The combination with a printing form composed of a series of slugs having alined spaces to form a slot, of a rule mounted in said slot, and locking means for said rule, said locking means comprising a transverse bar which is in sections, the contiguous ends of said sections having recesses, and the aforesaid rule being located between the sections within the recesses.

19. The combination with a printing form composed of a series of slugs having alined spaces to form a slot, of a rule mounted in said slot, said rule comprising a base and a ridge formed centrally along the upper face thereof, and locking means for said rule, said locking means comprising a transverse bar which is in sections, the contiguous ends of the sections having recesses, and the aforesaid rule being located between the sections within the recesses.

In testimony whereof I have signed my name in presence of two subscribing witnesses.

ASHTON GEORGE STEVENSON.

Witnesses:
EDWARD F. WILSON,
HARRY H. REYNOLDS.