

R. THOMAS.
MATRIX SETTING DEVICE.
APPLICATION FILED MAY 16, 1910.

1,024,296.

Patented Apr. 23, 1912.

Fig. 1.

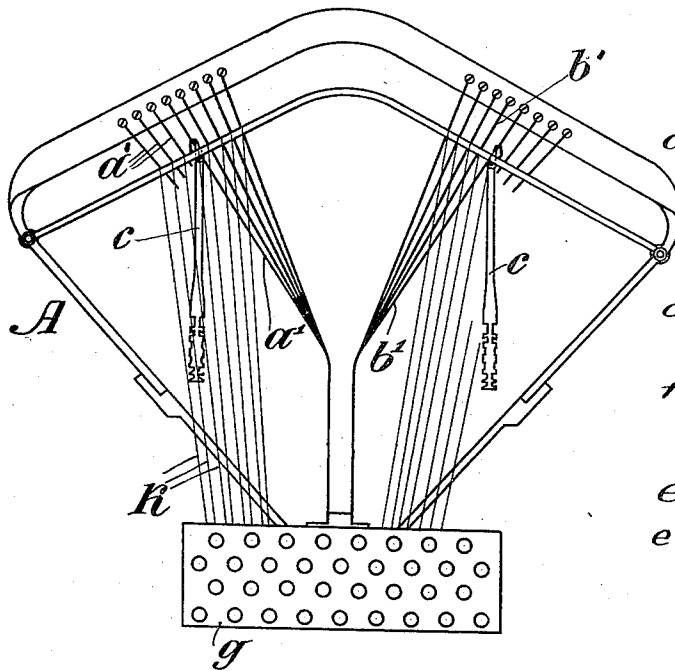
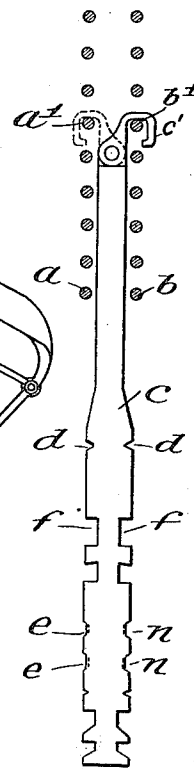


Fig. 2.



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MATRIX-SETTING DEVICE.

1,024,296.

Specification of Letters Patent.

Patented Apr. 23, 1912.

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To all whom it may concern:

Be it known that I, RUDOLF THOMAS, a subject of the German Emperor, residing at Charlottenburg, Germany, have invented certain Improvements in Matrix-Setting Devices, of which the following is a specification.

This invention relates to certain improvements in matrix setting devices, and more particularly in that class of such devices wherein the matrix bars are arranged in a plurality of groups upon the cage or equivalent supporting means, from each of which groups the matrix bars are adapted to be conveyed to the point of setting during the use of the machine, and the object of the invention is to provide a device of this general character wherein the matrix bars of the respective groups are so constructed and arranged as to be capable of interchange so that the bars of one such group may readily be substituted for or interchanged with corresponding bars of another group, each matrix bar being for this purpose provided with plural matrix surfaces, so that by such simple interchange of the bars of the respective groups the matrix surfaces may be quickly and conveniently renewed in such a fashion as to add materially to the life of the machine and lessen the inconvenience and expense ordinarily attendant upon such renewal, or to increase the range of adaptability of the machine for use.

The invention consists in certain novel features of the construction, and combinations and arrangements of the several parts of the improved matrix setting devices, whereby certain important advantages are attained, and the machine wherein the same are employed is rendered more durable, simpler, less expensive and otherwise better adapted and more convenient for use, all as will be hereinafter fully set forth.

The novel features of the invention will be carefully defined in the claims.

In order that my improvements may be the better understood, I will now proceed to describe the same with reference to the accompanying drawings, wherein I have illustrated one embodiment of my invention, in which drawings—

Figure 1 is a plan view of the machine constructed in accordance with my inven-

tion; and Fig. 2 is a diagrammatic vertical sectional view on an enlarged scale, taken through the guide wires.

In these views, A is a basket and *g* is the key board. The matrix bars *c* are normally held at the rear end of the basket on the guide wires *a*¹, *a*², *b*¹, *b*², the guide wires of the left hand side or half of the basket or cage being those indicated by *a*¹, *a*², and those for the right hand side or half of the basket being marked *b*¹, *b*². In the drawings, there is but one of the matrix bars *c* comprising a group at the right hand side of the cage and detachably supported upon the wires *b*¹, *b*² and there is another similar group on the left hand side complementary to the group on the right hand side supported upon the guide wires *a*¹, *a*² as in the well known construction of matrix setting machines of this type. As shown herein, the wires *a*¹, *a*², for one group or series of matrix bars are situated similarly to the wires *b*¹, *b*² of the other group or series and the matrix bars are detachably connected with said wires as, for example, by means of hooks such as are shown at *e*¹ in the drawings, wherein it will be seen that the matrix bars of one of the respective groups or series may be removed from their appropriate guide wires and substituted for the similarly suspended matrix bars upon correspondingly positioned guide wires for the other complementary group or series so that the respective groups of matrix bars may be interchanged from one side of the machine to the other at will. The matrix bars of both groups or series are provided at their edges adjacent to the line casting device (not shown) with matrix surfaces such as are shown at *e*, *e*, on the drawing, it being customary in machines of this type to reproduce the matrix surfaces so that either light or heavy faced characters may be reproduced at will from the same matrix bars, and the matrix surfaces thus produced upon the edges of the bars of one group or series are complementary to those upon the same edges of the matrix bars comprised in the group or series at the other side or half of the machine.

At their edges opposite to those whereat the matrix surfaces *e*, *e*, are produced, the matrix bars are provided with other matrix

surfaces as indicated at n, n , on the drawing, correspondingly located with respect to the surfaces e, e , except that they are normally directed away from the line casting means and consequently are incapable of employment for producing characters when the matrix surfaces e, e are in use, and since the surfaces e, e , of the bars of one group are complementary to the surfaces e, e , of the bars comprised in the other group or series, the matrix surfaces n, n , for the bars of the respective groups are also complementary to each other so that when the groups of bars are interchanged in position, the machine will still be provided with the appropriate quatum of matrices.

In the ordinary construction of machines of this type, the corresponding wires in the two groups, as a^1 and b^1 , wherewith an individual matrix bar, as c , may be interchangeably engaged, are designed and adapted to convey matrix bars having different or distinctive matrix surfaces e, e , wherefore it is not ordinarily possible to interchange the bars of one group or series with correspondingly situated or suspended bars in the other complementary group or series without rendering the machine inoperative, but according to my invention the auxiliary and normally inoperative matrix surfaces n, n , upon the bars of each group are different from and complementary to the oppositely arranged matrix surfaces e, e , of the same group or series of bars, and are similar to and correspond with the matrix surfaces e, e , of the bars of the other group or series, so that when the bars of the respective groups are reversed and interchanged in position as above described, the matrix surfaces n, n , of the bars of each group will be substituted for similar and corresponding matrix surfaces e, e of the bars of the other group, and being positioned facing the line casting means by reason of the reversal of the bars requisite for their interchange, will serve to permit continued operation of the machine in the ordinary way without material modification in the structure thereof. Thus, for example, premising the bar c normally suspended from the guide wire b^1 and comprised in the group at the right hand side of the machine, to be provided with matrix surfaces e, e for reproducing variations of the character "e" when approached to the line casting means, and the bar of the group at the left hand side of the machine, normally suspended upon the guide wire a^1 to be provided with matrix surfaces e, e , for reproducing variations of the character "e," the matrix surfaces n, n , for the bar c will be designed to reproduce the character "e" when reversed and interchangeably suspended upon the wire a^1 at the left hand side of the machine, while the bar of the group normally suspended from the guide

wire a^1 will be provided with auxiliary or supplemental matrix surfaces n, n , adapted to reproduce variations of the character "e" when such bar is substituted for the bar c and suspended from the guide wire b^1 at the right hand side of the machine and in reversed position with respect to the line casting means. The distinctive but complementary matrix surfaces n, n , and e, e thus produced at the opposite edges of the matrix bars in each group or series comprised in the machine permit of readily renewing the matrix surfaces when the same become worn by simple interchange and reversal of the bars at opposite sides of the machine, so that the life of the matrix bars is greatly augmented without material increase in expense, and it will also be seen that the matrix surfaces n, n , of the several bars may be adapted for reproducing variations of the characters reproduced by the matrix surfaces e, e , upon corresponding bars in such a way as to permit the use of the bars in connection with a widely increased range of work.

As shown herein, the matrix bars are provided at opposite sides with suitable grooves f for engagement with the holding bars ordinarily provided in machines of this type, and in view of the duplication of these grooves due to the adaptation of the bars for being reversely positioned with respect to the line casting means, the bars should be made of increased width in order that sufficient material may be left remaining between said grooves. As a consequence the two groups or sets of wires a^1, a^1 , and b^1, b^1 should also be separated at a greater distance than in the structures heretofore in use.

In order to permit of conveniently ascertaining whether or not the matrix bars have already been transferred or interchanged, all such bars in the group or series at one side of the cage or basket as, for example, the right hand side, are provided with notches as indicated at d in the drawing. If on inspection these bars are found suspended upon the wires at the opposite side of the machine, it will be at once evident that they have already been transferred or interchanged from their initial positions.

Although it is thought to be obvious it might be well to state that the matrix bars are released through depression of the keys on the key board g by means of the releasing wires h .

While it has been hereinbefore stated that the matrix bars c are supported by hooks c^1 it is to be particularly stated that there is employed in conjunction with each of the matrix bars c but one supporting hook c^1 positioned to one side of the matrix bar c , which arrangement prevents the matrix bar, when turned for the purpose of interchang-

ing with the matrix of a second group or series, from being inadvertently applied to the same wire.

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

10 1. A device of the character described having two groups of matrix bars provided with two different and complementary series of matrix surfaces adapted to be correspondingly positioned with respect to line casting means, each of said matrix bars being provided with a single supporting means.

15 2. A device of the character described having two groups of matrix bars the opposite edges whereof are provided, respectively, with different and complementary series of matrix surfaces adapted to be correspondingly positioned with respect to line casting means, each of said matrix bars being provided with a single supporting means.

20 3. A device of the character described having two groups of matrix bars the opposite edges whereof are provided, respectively, with different and complementary series of matrix surfaces adapted to be correspondingly positioned with respect to line casting means, and a single supporting member for each matrix bar whereby the said matrix bars may be supported in reverse relation to such line casting means.

4. A device of the character described comprising two groups of matrix bars, the opposite edges whereof are provided, respectively, with different and complementary series of matrix surfaces adapted to be correspondingly positioned with respect to line casting means, each of said matrix bars being provided with a single supporting means.

5. A device of the character described comprising two groups of matrix bars, each bar being provided with a single supporting member, the bars of each group being provided with complementary series of matrix surfaces, the bars of one group being capable of interchange with the bars of the second group.

6. A device of the character described comprising two groups of matrix bars provided with two different and complementary series of matrix surfaces adapted to be correspondingly positioned with respect to line casting means, each of said matrix bars being provided with a single supporting hook positioned to one side thereof.

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

RUDOLF THOMAS.

Witnesses:

HENRY HASPER,
WOLDEMAR HAUPT.