

(No Model.)

R. B. HASTIE.

MATRIX IMPRESSION GUARD FOR TYPE FORMS.

No. 397,232.

Patented Feb. 5, 1889.

Fig. 1.

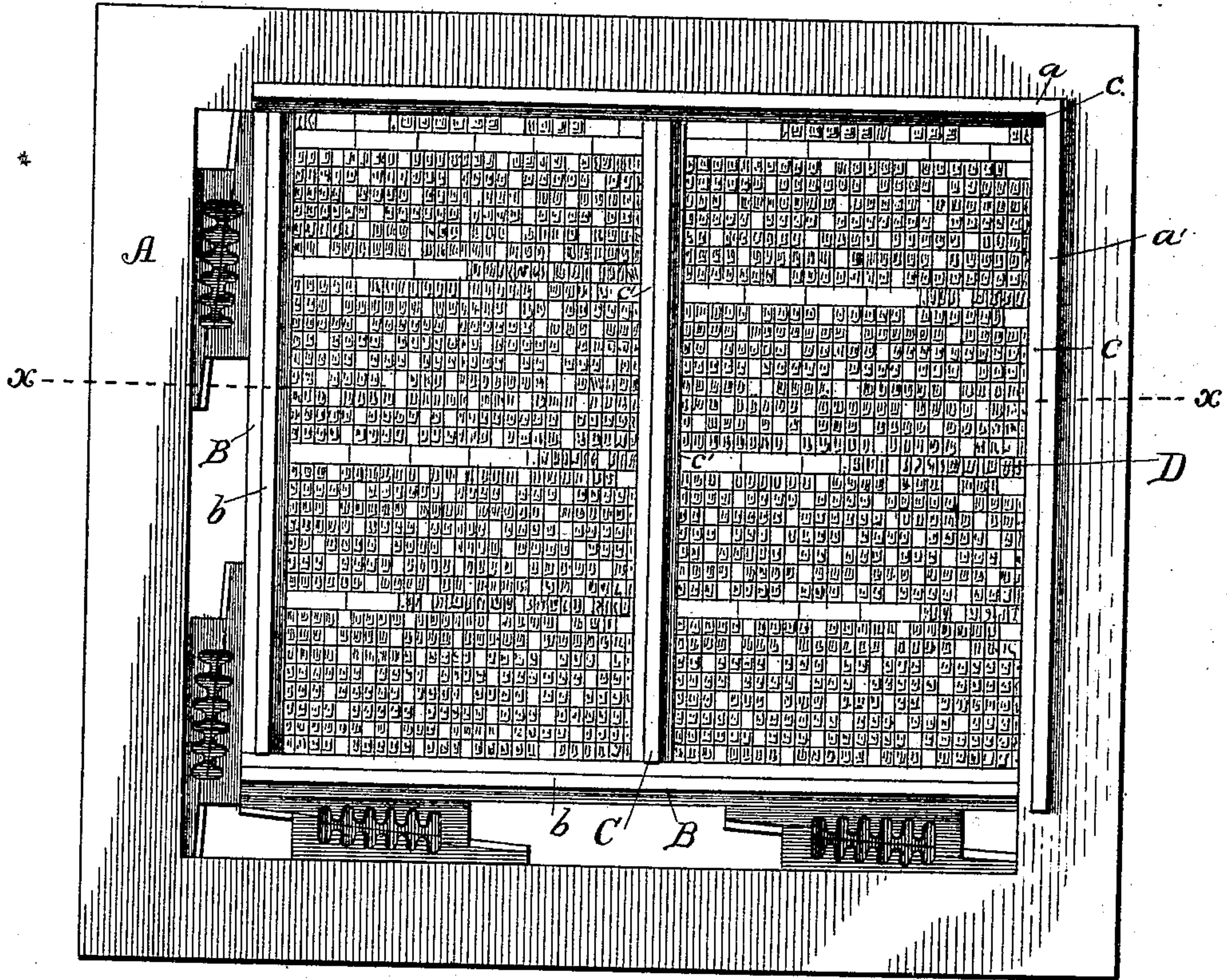


Fig. 2.

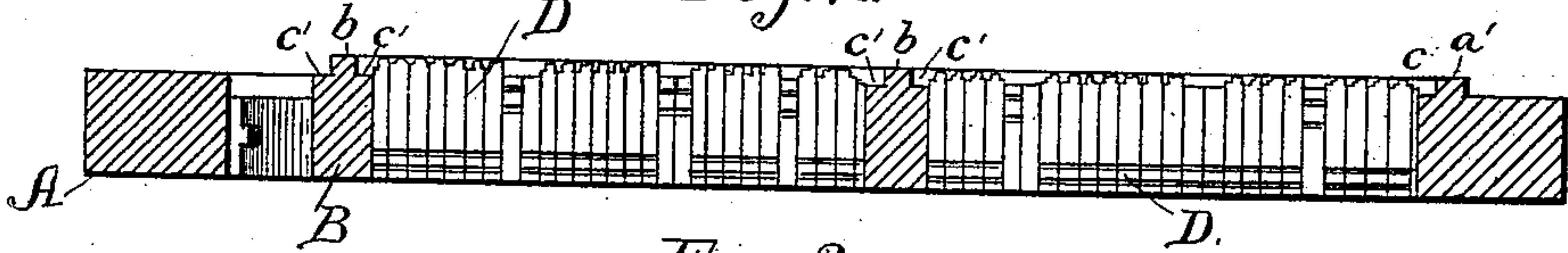


Fig. 3.

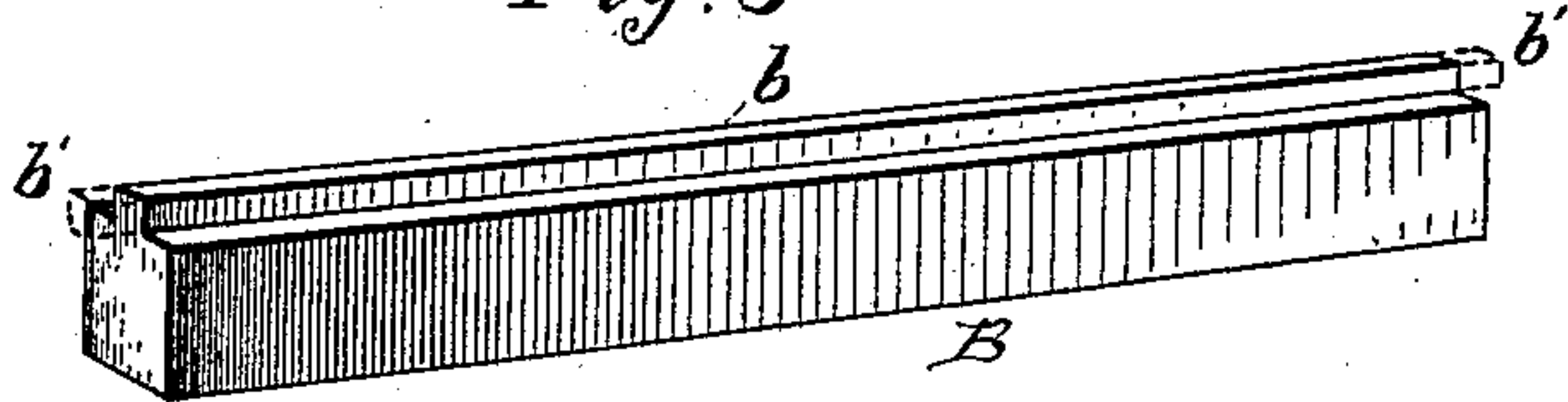


Fig. 5.

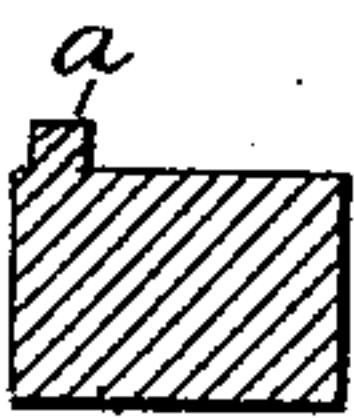


Fig. 6.



Fig. 7.

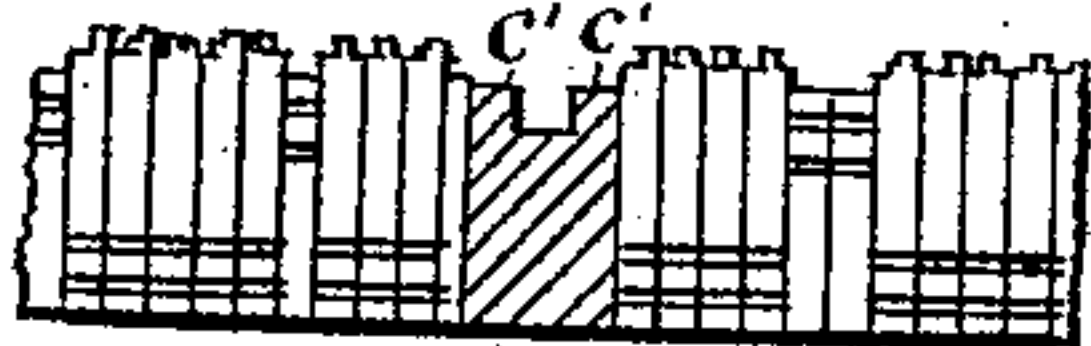
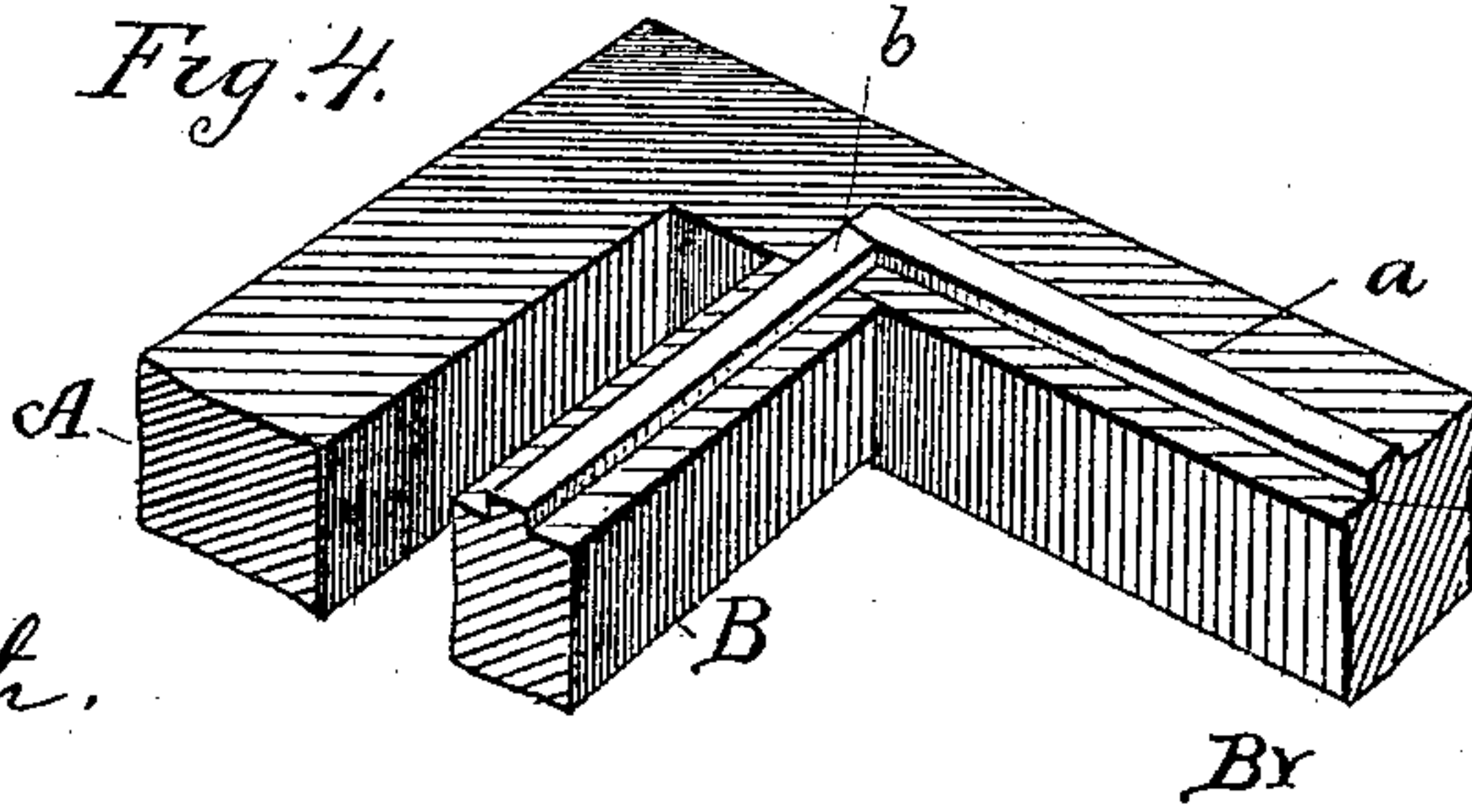


Fig. 4.



ATTEST.

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# UNITED STATES PATENT OFFICE.

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## MATRIX IMPRESSION-GUARD FOR TYPE-FORMS.

SPECIFICATION forming part of Letters Patent No. 397,232, dated February 5, 1889.

Application filed June 18, 1888. Serial No. 277,463. (No model.)

*To all whom it may concern:*

Be it known that I, ROBERT B. HASTIE, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Matrix Impression-Guards for Type-Forms; and I do 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 the means employed to produce impression or matrix guards around forms of types and the like in locking them up preparatory to making therefrom matrices for electrotyping or stereotyping; and the object of the invention is to improve the construction of the matrix-guards by combining them with the chases and furniture used for the purpose, so that the work of preparing the form for the impression of the matrix material may be accomplished with greater facility and certainty and with much less expenditure of valuable time than is possible with the implements heretofore provided for the purpose.

To these ends the invention consists in the novel features of construction and combination of parts hereinafter described, and pointed out in the claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a plan view of my improved guard-chase and furniture-guards surrounding a form of types locked therein; and Fig. 2 is a central vertical transverse section of the chase, guards, and form of Fig. 1. Fig. 3 is a perspective view of one of my improved furniture-guards, the dotted lines showing a modified construction of the same; and Fig. 4 is a perspective view of the upper left-hand corner of the guard-chase and the modified guards fitted therein. Fig. 5 is a cross-section of one bar of the guard-chase, showing a modification in the arrangement of the guard. Fig. 6 is a cross-section of a modified form of the middle stick placed between two pages of types. Fig. 7 is a vertical section of a central part of a form, showing the middle strip of Fig. 6 in place between the pages, the outer sides of the form to be surrounded by guards, as in Fig. 1.

Heretofore the chases provided for the purpose of inclosing types, &c., for electrotyping have been plain metal frames, and the guards with which it is necessary to surround the form and separate the pages were built up of detached pieces of type-high and low furniture, involving more or less labor and difficulty in the proper arrangement and fitting of the pieces together and a considerable expenditure of the costly time of the operator.

By my improvements (referring to Figs. 1 and 2 of the drawings) the chase A has upon the upper face of two of its adjacent sides two projecting strips or flanges, *a a'*, which are cast integral with the chase or formed thereon in any convenient manner. The body of the chase is of the usual height, (lower than the types,) and the strips or flanges which are to act as guards upon two sides of the form secured in the chase are made so that their upper faces are in the same plane as the faces of the types of the form. The projections or guards *a a'* are formed a short distance from the inner edge of the chase, so as to leave a margin, *c*, for the bevels by which electrotypes and stereotype plates are secured to their supporting-blocks. In case these bevels are not required on all sides of the plates, either of the guards may be formed nearer to the inner edge of the chase, as shown in Fig. 5. It is sometimes desired to have the bevels only upon the sides of the plate, in which case if the chase is designed only to take in octavo pages or pages sidewise, as in Fig. 1, the guard *a* may be near to the edge of the chase; or if the chase is only to receive a single quarto page or pages lengthwise the guard *a'* may be near to the edge and the guard *a* remote to provide the bevel. I prefer, however, the construction shown in Fig. 1, with the margins *c* inside both the guards, so that the chase may be adapted to receive pages arranged either sidewise or lengthwise.

In order to provide corresponding guards for the other two sides of the form, I have produced the furniture B, the body of which is lower than the type, and upon the upper side of the body is formed the central longitudinal flange or rib, *b*, which is type-high, to serve as the guard. To provide for the before-mentioned bevels on the plates, a margin,



$c'$ , is left on both sides of this guard  $b$ , so that either side of the furniture-guard may be placed next the types.

The middle stick or guard,  $C$ , which is placed  
5 between two pages of types, may have its central portion type-high, as in the furniture  $B$ , a piece of this guard-furniture being used for the purpose; or the central part of the middle stick or strip may be grooved out, (so  
10 shown in Fig. 6,) serving to make the dividing line between the two pages of the plate.

The use of my guard-chase and guard-furniture is obvious, as shown. The two pages of types  $D$  being imposed on the stone, with  
15 a middle stick,  $C$ , between them, the guard-chase is placed over them with its guard sides close against two sides of the form. Close against the other two sides thereof are placed two pieces of the guard-furniture. Between  
20 them and the chase are fitted the quoins and the form locked up. There is thus most expeditiously and efficiently produced all around the form the line of guards necessary to equalize the impression and keep the wax or other  
25 plastic substance of which the matrix is formed from spreading.

In Figs. 3 and 4 is shown a modification of my guard-furniture, in which the end of the guard-strip is extended, as at  $b'$ , beyond  
30 the body of the furniture, so as to lie over the margin  $c$  of the adjacent guard and form a close joint therewith around the form. For many purposes, however, it is desirable to omit these projections  $b'$  and leave the openings between the guard-flanges for the escape  
35 of air from between the form and the matrix material.

The printer or electrotypewriter will of course observe that the guard-chase hereinbefore  
40 described may be used with the old means for producing guards upon the sides of the form remote from the chase, and also that the improved furniture-guards may be used on all four sides of a form to be locked in a common  
45 low chase; but the full advantage of my invention will be derived only in the use of my

guard-chase in combination with my furniture-guards, as set forth herein.

Having thus described my invention, what I desire to secure by Letters Patent is—

1. The matrix guard-chase having guard-strips formed upon its upper side, as and for the purpose set forth. 50

2. The matrix guard-chase having upon its upper side type-high guards formed near its inner edge, having low margins  $c$  between the guards and said edge, substantially as described. 55

3. The matrix guard-furniture consisting of the low body having upon it a central longitudinal guard-strip type-high, substantially as described. 60

4. The matrix guard-furniture consisting of the low body having upon it a central longitudinal guard-strip type-high, said guard-strip extending beyond the end of the body to form a close joint with an adjacent guard, substantially as described. 65

5. In a matrix type-form, the middle strip or stick of low body having a central longitudinal groove to define the dividing-line between the pages of the plate, substantially as described. 70

6. The combination, in a matrix type-form, of a matrix guard-chase having guard-strips upon its upper side with matrix guard-furniture having a central guard-strip upon it, substantially as described, said guard-strips surrounding the form, as and for the purpose set forth. 75

7. The combination, in a matrix type-form, of a matrix guard-chase having guard-strips upon its upper side with matrix guard-furniture having a central guard-strip upon it and a middle strip having a central longitudinal groove, substantially as described. 80

In testimony whereof I affix my signature in presence of two witnesses.

ROBERT B. HASTIE.

Witnesses:

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T. JNO. NEWTON.