

PRESS FOR STAMPING RAISED CHARACTERS ON PRINTING PLATES.

Patented Jan. 18, 1910.

946,824.



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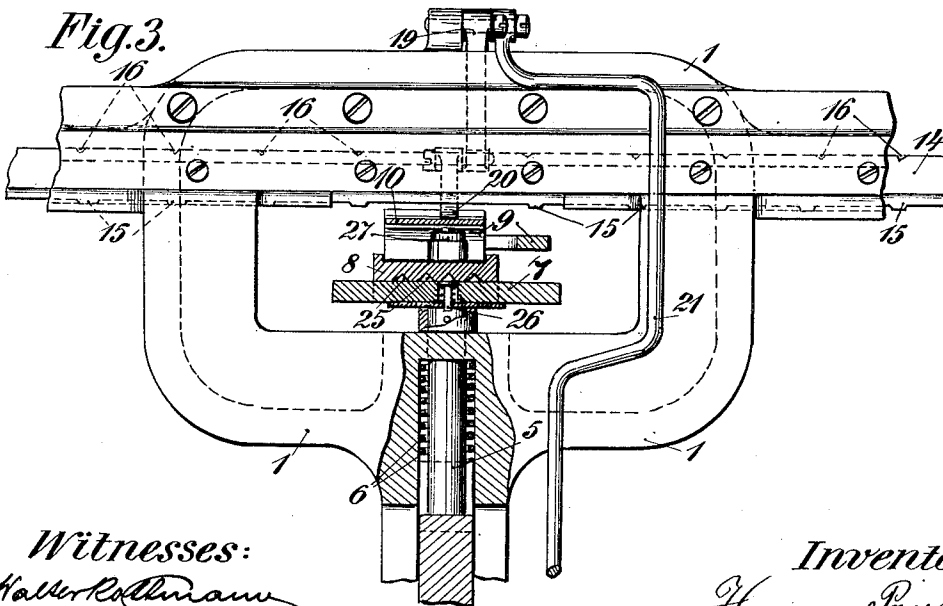
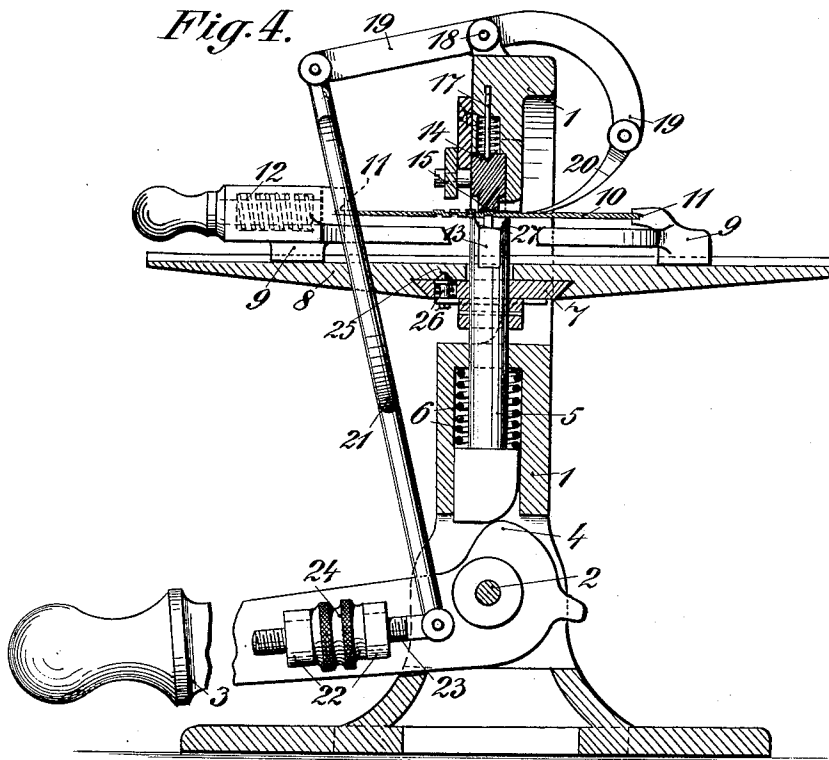
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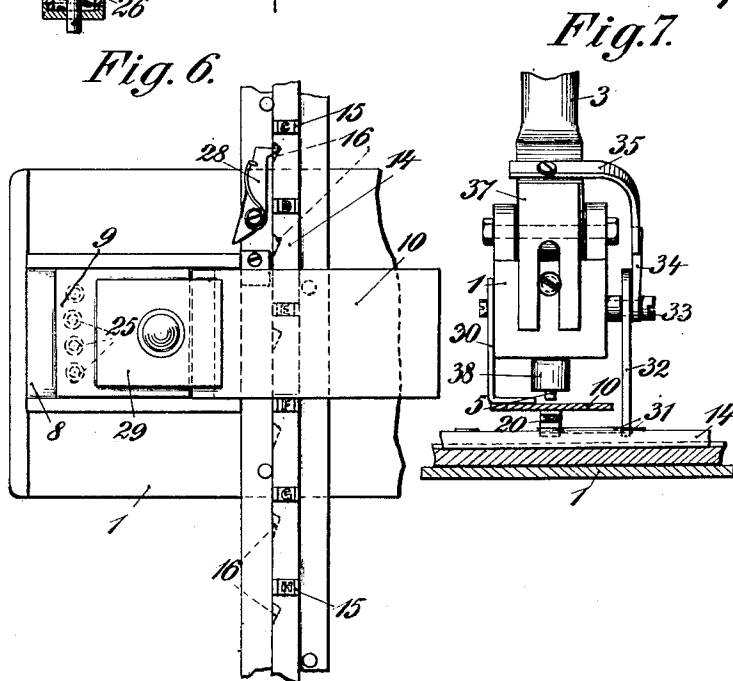
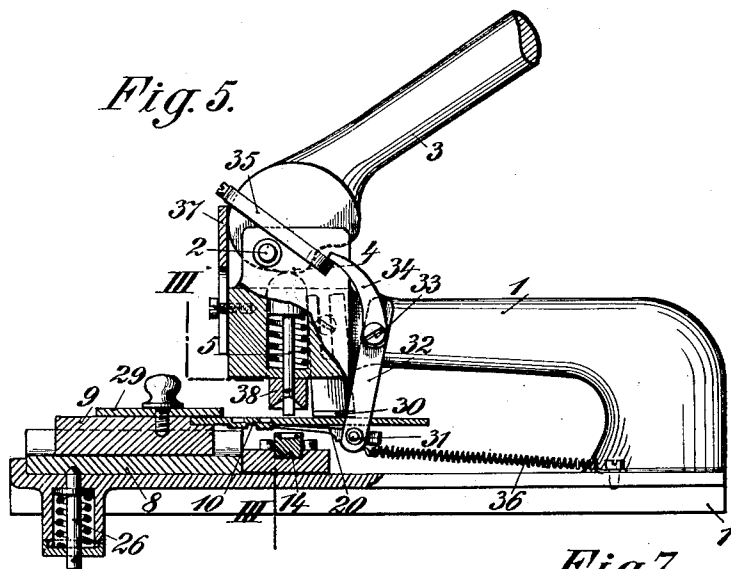
3 SHEETS—SHEET 2.



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Witnesses:
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UNITED STATES PATENT OFFICE

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PRESS FOR STAMPING RAISED CHARACTERS ON PRINTING-PLATES.

946,824.

Specification of Letters Patent.

Patented Jan. 18, 1910.

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To all whom it may concern:

Be it known that I, HERMANN PAUTZE, a subject of the German Emperor, and resident of Gothenstrasse 14, Schöneberg, near Berlin, Germany, have invented certain new and useful Improvements in Presses for Stamping Raised Characters on Printing-Plates, of which the following is a specification.

My invention concerns a press for stamping raised characters on printing plates to be used in address-printing machines etc. Presses for the production of such printing-plates are already known, in which two concurrently working stamps impress the raised characters on the plates inserted between them. One of these stamps (the puncheon) carries the raised character, while the other stamp (the matrix) bears the incised character; a device which renders it absolutely necessary for the two stamps to work exactly opposite each other. The presses in which such stamps are used must work very precisely, and having in consequence to be most carefully constructed the cost-price is very considerable. These disadvantages are obviated by the present invention, inasmuch as with the same the raised characters are impressed only by means of a stamp (a matrix) bearing the incised type, and a counter-stamp having a flat surface, of which the size is about equal to the size of the rectangle formed by the type, and which remains the same for all characters. Through this stamping by means of a stamp having a flat surface and which remains the same for all characters, the material of the printing-plate on which the letters are to be formed, is pressed into the other stamp bearing the incised character, so that the latter is impressed quite massively on the printing-plate. Moreover, these characters, when they are later used for printing, leave a more beautiful impression, and, above all, during the stamping process, the flat-headed stamp does not require to meet so exactly the matrix, as in any case, the material of the printing-plate is forced into same. Then with this flat-headed puncheon the first-cost of the press is very considerably reduced. With the present invention there is also the advantage that a less hard material, for instance such as vulcan fiber—which has practically no stretching properties—can be used for the printing-plate, and

with this material the plate is, immediately after being impressed, ready for use without any particular further preparation.

In the accompanying drawings two different forms of the invention are shown.

Figures 1-4 show one of these forms viz: Fig. 1 in a vertical section with the different parts in their normal position. Fig. 2 in a horizontal section on line I—I of the Fig. 1. Fig. 3. shows the upper-part of the press in front view and in a section on line II—II of the Fig. 1, respectively. Fig. 4. is a vertical section similar to the one represented in Fig. 1., only in this case the position of the separate parts is shown during the process of stamping. Fig. 5 is a side-view and a partly sectional view respectively of a modified form of the press. Fig. 6 is a partly plan view of the Fig. 5 and Fig. 7 is a front view and a section on line III—III of the Fig. 5 respectively.

In the form of construction shown in Figs. 1-4, a hand-lever 3 is pivotally arranged on the axle 2 in the frame 1, and a projection 4 of this hand-lever abuts against the bottom end of a stamp 5 vertically guided in the frame 1. The stamp is held in its lower position by means of a spring 6. This stamp 5 projects through a guiding plate 7 which ordinarily rests on the frame 1, and on which, in dovetailed-guides, a table 8 is laterally shiftable. On this table a support 9 is arranged which is shiftable in a direction vertical to the moving-plane of the table. This support 9 serves to hold the plate 10 which is to be stamped, and for this purpose the former is provided with two grooves 11 into which the plate 10 is inserted, while a spring-governed, withdrawable bolt 12 catches in a notch made in the plate 10, and thus holds the plate fast.

The upper-end of the stamp 5 which projects through the table 8 carries a changeable die 13, which is the proper stamp, and which has, at its upper-end, a rectangular cross-section of about the same size as the type, and possesses an even and smooth surface. In the upper part of the frame 1, a bar 14 is movably arranged, and in which the characters 15 (for instance the alphabet) are incised. In order to assure the adjusted character in its position above the stamp 13,

the matrix-bar 14 is provided with notches 16 (Fig. 3) into which a spring-governed bolt 17 arranged in the frame 1 catches.

In the frame 1 there is further a double-armed lever 19 turnably arranged on the pivot 18, and to one arm of which a ratchet-finger 20 is pivotally fastened, while the other arm of the same is connected to the hand-lever 3 by means of a rod 21. Of course, by the lifting and pressing down of this hand-lever the ratchet-finger 20 is likewise moved in and out.

When the hand-lever 3 is pressed down, the nose 4 butts against the stamp-holder 5 and moves the same, together with the guiding-plate 7, the table 8, and the support 9 with the plate 10, upward against the matrix-bar 14. The arrangement may be preferably such a one that from the first only the stamp-holder 5 is moved upward, until the stamp 13 butts against the plate 10, and that hereupon the stamp-holder by means of a projection or the like carries the guiding-plate 7 and the table 8 with it, until the plate 10 butts against the matrix-bar 14.

On the hand-lever 3 being further pressed down, the characters are impressed inasmuch as the material is pressed by the flat stamp 13 into the type 15 which lies over it. (Fig. 4.) After the impressing the hand-lever 3 is again moved upward, whereby the stamp-holder 5, together with the table 8 carrying the plate 10 is moved downward into its original position. At the same time however, the ratchet-finger 20 strikes against the hinder edge of the raised character, and thereby pushes, when the hand-lever 3 is further moved upward, the plate 10 which is to be impressed and the support 9, on the table 8, so that a free place of the plate 10 is brought between the stamp 13 and matrix 15. By means of this arrangement an equal distance between all the characters is obtained, even between the letters "I" and "M," for, as will be easily perceived, the ratchet-finger 20 strikes against the small letter "I" later than against the broader "M," and consequently does not push the plate 10 so far as in the case of the letter "M."

After the placing of a new type by the shifting of the matrix-bar 14, a new character can now be impressed. When a line of the address has been stamped (when, for instance, the plate is afterward to be used for printing addresses) the table 8, together with the support 9, carrying plate 10 is shifted sideways in order that a new line may be impressed. In order to provide for the lines having always an equal distance between them, and to secure the table 8 in its temporary position there are indentations 25 (Figs. 1 and 3) made on the under side of this latter, in which a springy de-

tent pin 26, arranged in the guiding plate 65 7, catches.

In order to be able to change the stroke of the ratchet-finger 20 when larger or smaller types are used, the bottom end of the rod 21 is pivotally fastened to a screw-spindle 23, which is journaled in projections 22 arranged on the hand-lever 3, and which can be shifted by means of a screw-nut 24.

To prevent the plate 10 being bent too far during the process of impressing, two projections or horns 27 are arranged on the upper end of the stamp-holder 5 near the flat stamp 13 and which, during the impressing, lie near the stamp 13 against the under side of the plate 10.

In the form of the press shown in Figs. 5-7, the analogous parts are denoted by the same figures of reference. In this form, the flat stamp, moved by the hand-lever 3, is above, and the matrix-bar 14 under the plate 10 to be impressed. For securing the matrix-bar 14 in its temporary position, a spring governed pawl 28 is provided, which catches into the notches 16 of the bar 14, and can be withdrawn by hand. 9 is the support which carries the plate 10 to be impressed; the latter being fastened to the former by means of a clamp-plate 29. The free end of the plate 10 glides under a guide 30 which is adjustably fastened to the frame

1. The ratchet-finger 20, which lies against the under side of the plate 10, is turnably fixed on an axle 31 fastened in the arm 32. The arm 32 is turnably fastened on a pivot 33 and is worked by means of a spring 36, so that the projecting-arm 34, connected with the arm 32, lies against a stop-bow 35 fastened to the hand-lever 3. When the latter is pressed down, the stop-bow 35 sets the arm 34 free, and the spring 36 pulls the arm 32 and the ratchet-finger 20 backward, thus allowing the impressing to be done. Through an upward movement of the hand-lever 3 the stop-bow 35 butts against the arm 34, and thereby moves again forward the arm 32 with the ratching-finger 20, thus causing the plate 10 to be shifted. The upward movement of the hand-lever 3 is limited by means of an adjustable stop-piece 37, and by the adjustment of which the stroke of the finger 20 can also be regulated. In order to prevent the plate 10 being bent too far while being impressed, a ring 38 with a sunken surface is,—in this form of construction,—fastened to the flat stamp 5, and which lies against the plate 10 during the stamping process.

In the examples represented, the single matrices are arranged on a bar, but the same could naturally also be connected together in the form of a ring or of a circular segment. Further, several matrices and stamps could be arranged for the impressing of

whole words and lines with one impress. The flat stamp, which remains the same for all characters, is not obliged to have a smooth surface and the same could also have other transsectional forms. Moreover, the construction of the separate parts of the invention can be accomplished in manifold ways, without changing the essential feature of the invention.

10 What I do claim as my invention, and desire to secure by Letters Patent, is:—

1. In a press for stamping raised characters on printing plates, in combination, a machine frame, a matrix bar bearing a number of incised characters and being lengthwise shiftable in the said machine frame, a single counter-stamp for all said characters also arranged in the machine frame and having a flat surface of about the same size as the rectangle formed by one type, means to secure the said matrix bar in its different positions opposite the said counter-stamp, and means to move the latter against the said matrix bar, a support for holding the plate to be stamped between the said matrix bar and counter-stamp and shiftable arranged in the machine frame, and means for shifting the said support after the stamping of a character, substantially as and for the purpose set forth.

2. In a press for stamping raised characters on printing plates, in combination, a machine frame, a matrix bearing a number of incised characters and shiftable arranged in the machine frame, a spring governed counter-stamp also arranged in the machine frame and having a flat surface of about the same size as the rectangle formed by the type, means to move the said counter-stamp against the said matrix, a support for holding the plate to be stamped and shiftable arranged in the machine frame, a finger for shifting the said support carrying the plate to be stamped, the said finger acting upon the last stamped character, and means to move intermittently the said shifting finger, substantially as set forth.

3. In a press for stamping raised characters on printing plates, in combination, a machine frame, a matrix bearing a number of incised characters and shiftable arranged in the machine frame, a spring governed counter-stamp also arranged in the machine frame and having a flat surface of about the same size as the rectangle formed by the type, said counter-stamp wholly or partly encompassed by a counter-press ring, means to move the said counter-stamp against the said matrix, a table shiftable arranged in the machine frame, a support for holding the plate to be stamped arranged on the said table and shiftable in a direction vertical to the moving-plane of the said table, a finger for shifting the said support carrying

the plate to be stamped, the said finger adapted to act upon the last stamped character, means to move intermittently the said shifting finger, and means for adjusting the stroke of the said shifting finger, substantially as set forth.

4. In a press for stamping raised characters on printing plates, in combination, a machine frame, a matrix bearing a number of incised characters and shiftable arranged in the machine frame, means for securing the said matrix in the adjusted position, a spring governed counter-stamp also arranged in the machine frame and having a flat surface of about the same size as the rectangle formed by the type, said counter-stamp wholly or partly encompassed by a counter-press ring, a cam turnably fixed to a pivot in the machine frame and adapted to act upon the said counter-stamp, a hand-lever for turning the said cam, a table shiftable arranged in the machine frame, a support for holding the plate to be stamped arranged on the said table and shiftable in a direction vertical to the moving-plane of the said table, a finger for shifting the said support carrying the plate to be stamped, the said finger adapted to act upon the last stamped character, means in connection with the said hand-lever to move the said shifting finger, and means for adjusting the stroke of the said shifting finger, substantially as set forth.

5. In a press for stamping raised characters on printing plates, in combination, a machine frame, a matrix bearing a number of incised characters and shiftable arranged in the machine frame, means for securing the said matrix in the adjusted position, a spring governed counter-stamp also arranged in the machine frame and having a flat surface of about the same size as the rectangle formed by the type, said counter-stamp wholly or partly encompassed by a counter-press ring, a cam turnably fixed to a pivot in the machine frame and adapted to act upon the said counter-stamp, a hand-lever for turning the said cam, a guiding plate arranged in the machine frame, a table shiftable fixed on the said guiding plate, a support for holding the plate to be stamped arranged on the said table and shiftable in a direction vertical to the moving plane of the said table, means to move the said guiding plate together with the said table and support against the said matrix, a double-armed lever pivotally fixed in the machine frame, a ratchet-finger pivotally fastened to one arm of the said double-armed lever and arranged to act upon the last stamped character, a screw spindle journaled in projections fastened to the said hand-lever, a link connected to the other arm of the said double armed lever

and to the said screw spindle, and a screw nut on the latter, substantially as set forth.

6. In a press for stamping raised characters on printing plates, in combination, a machine frame, a matrix bearing a number of characters and shiftably arranged in the machine frame, a number of notches in the said matrix corresponding with the number of characters, a spring governed detent pin adapted to engage into the said notches, a spring governed stamp-holder also arranged in the machine frame, a counter-stamp changeably fixed on the said stamp-holder and having a flat surface of about the same size as the rectangle formed by the type, said counter-stamp wholly or partly encompassed by a counter-press ring, a cam turnably fixed to a pivot in the machine frame and adapted to act upon the said stamp-holder, a hand-lever for turning the said cam, a guiding plate arranged in the machine frame, a table shiftably fixed on the said guiding plate, a number of indentations in the underside of the said table, a spring governed detent pin in the said guiding-plate and adapted to engage into

the said indentations, a support for holding the plate to be stamped, arranged on the said table and shiftable in a direction vertical to the moving-plane of the said table, means to move the said guiding-plate together with the said table and support against the said matrix, a double-armed lever pivotally fixed in the machine frame, a ratchet-finger pivotally fastened to one arm of the said double-armed lever and arranged to act upon the last stamped character, a screw spindle journaled in projections fastened to the said hand-lever, a link connected to the other arm of the said double-armed lever and to the said screw spindle, and a screw nut on the latter, substantially as set forth.

In testimony whereof I have hereunto signed my name this 30th day of September 1907, in the presence of two subscribing witnesses.

HERMANN PAUTZE.

Witnesses:

HENRY HASPER,
WOLDEMAR HAUPT.