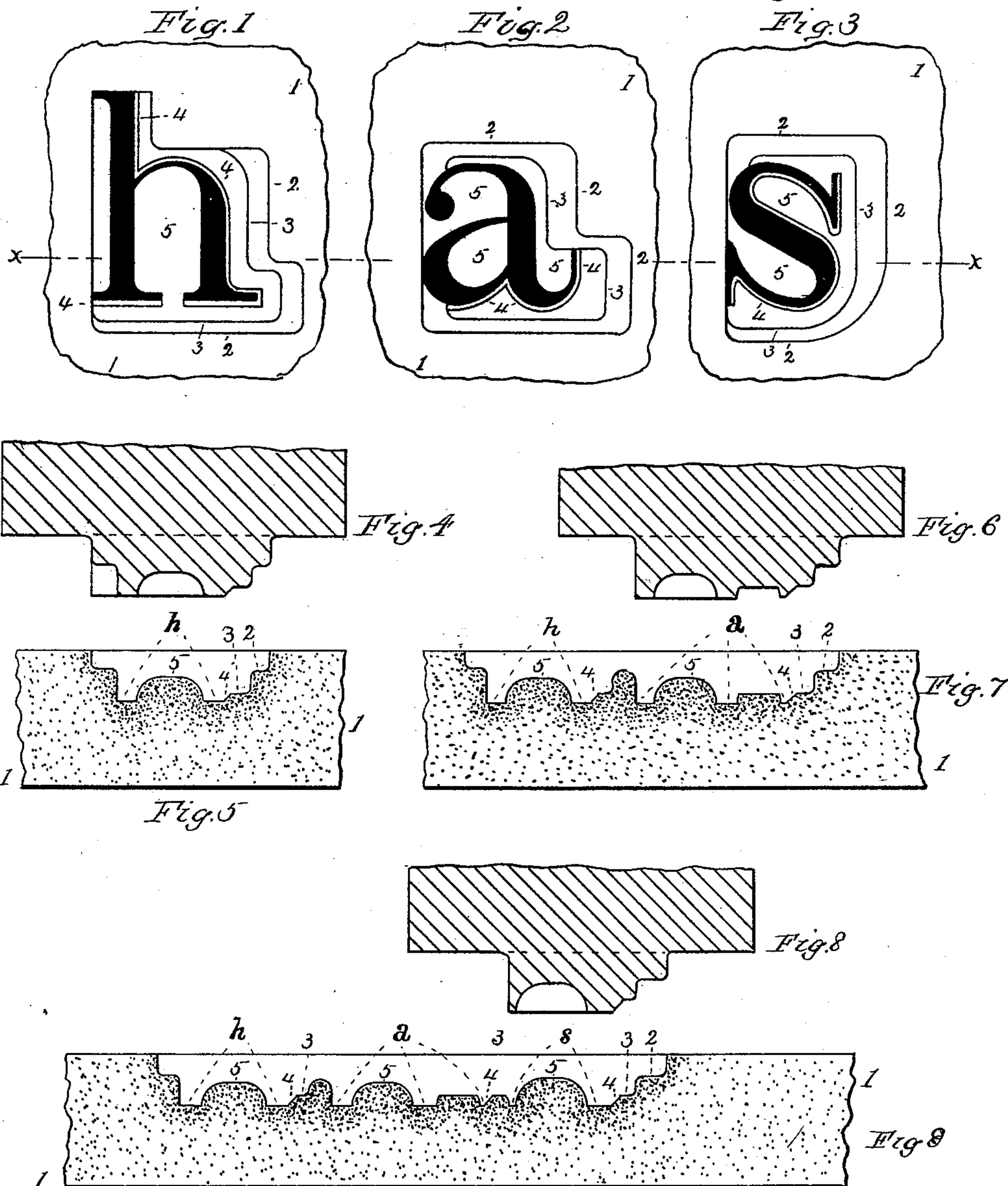


(No Model.)

C. L. REDFIELD.  
METHOD OF FORMING MATRICES.

No. 481,308.

Patented Aug. 23, 1892.



Witnesses

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# UNITED STATES PATENT OFFICE.

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## METHOD OF FORMING MATRICES.

SPECIFICATION forming part of Letters Patent No. 481,308, dated August 23, 1892.

Application filed July 14, 1890. Serial No. 358,688. (No model.)

*To all whom it may concern:*

Be it known that I, CASPER L. REDFIELD, 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 the Method of Forming Matrices, of which the following is a specification.

My invention relates to stereotype-matrices produced by the impression of type-dies in sequence into a compressible matrix material.

The object of the invention is to provide a means for preventing injury to completed character impressions by impressions made in close proximity to them and also to widen the impressions back of the faces, so that perfect plates can be cast from the matrices. This I accomplish by forming a plurality of offsets in such portions of the walls of the impressions as are likely to be crowded over by succeeding impressions and also sloping the walls from the face to the nearest offset. In forming the matrix I preferably use type-dies of the character disclosed in an earlier application, Serial No. 336,849, filed by me January 13, 1890, in which claim is made to such dies.

In the drawings accompanying this application, Figures 1, 2, and 3 show face views, respectively, of matrices of the letters "h," "a," and "s." Fig. 4 is a longitudinal section of the die for the letter "h;" Fig. 5, the matrix produced by that die; Fig. 6, a similar section of the die for the letter "a," and Fig. 7 the impression produced by it next to the preceding character; Fig. 8, a similar section of the die for the letter "s," and Fig. 9 the impression made by it following the two preceding characters. Figs. 5, 7, and 9 are vertical sections of the matrix on the line  $x x$  of Figs. 1, 2, and 3.

In the several drawings, 1 designates a matrix-body of paper or other material adapted to receive the type impressions, and the letters "h" "a" "s" represent the faces of the character impressions therein, selected for purposes of illustration. These selected characters will sufficiently illustrate the plan upon which all character impressions may be made according to my improved method. In the walls of the impressions I form offsets 2, conforming substantially to the outline of the characters

and extending around all portions, except the rear edges and the tops of tall characters. This offset is made widest in the forward wall of each character and in the lower walls of characters, as "g" or "y," that extend below the general line of impressions.

Intermediate the offsets 2 and the character-faces I form in the wall other offsets 3, smaller in superficial area and extending around a more limited portion of the face than the offsets 2. The extent and contour of these offsets 3 vary according to the requirements of different character-faces; but in general they surround the hair-lines and the portions of characters that are liable to be injured by succeeding impressions.

Around the forward edges of the characters, and occasionally around the hair-lines, I form the portion of the walls between the faces and offsets 3 into inclines 4 for the better protection of the face from distortion by later impressions and to enable better castings to be made from the matrix by reason of the tapering shape of the impressions. The portions of the matrix material in the interior of characters between the stems I give a rounded form, as shown at 5, and the angles of the offsets 2 and 3 I also round. By these means the character-faces are preserved from distortion as successive impressions are made, and in casting from such matrices there is no liability of the metal adhering to the matrix.

Having described my invention, what I claim is—

1. The method of forming stereotype-matrices, which consists in making the impressions successively, forming offsets in the walls of the impressions, and rounding the edges of the offsets, substantially as set forth.

2. The method of forming matrices for stereotyping, which consists in producing type-face impressions by successively-impressed dies and forming retreating offsets in the walls around the portions of the character-faces that are not adjacent to preceding impressions, substantially as set forth.

3. The method of forming matrices for stereotype-plates, which consists in forming the impressions by type-dies impressed in sequence and compressing the adjacent material and forming an offset partially surrounding

each character and an intermediate offset surrounding a less portion of the character, substantially as set forth.

5 4. The method of forming matrices for stereotyping, which consists in impressing dies successively in a matrix-body, forming small offsets close to the portions of the character-faces requiring most protection and larger offsets embracing the smaller and farther re-  
10 moved from the face and extending around those portions requiring least protection, substantially as set forth.

5. The method of forming stereotype-matrices, which consists in making the impressions successively, forming offsets in portions 15 of the walls thereof, and rounding the edges of the offsets and also the material intervening the separate stems of each character, substantially as set forth.

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Witnesses:

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