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F. H. BROWN, J. E. HANRAHAN & G. A. BOYDEN.

BACKING FOR MATRICES.

APPLICATION FILED MAY 17, 1905. RENEWED FEB. 8, 1907.

Fig. 1.

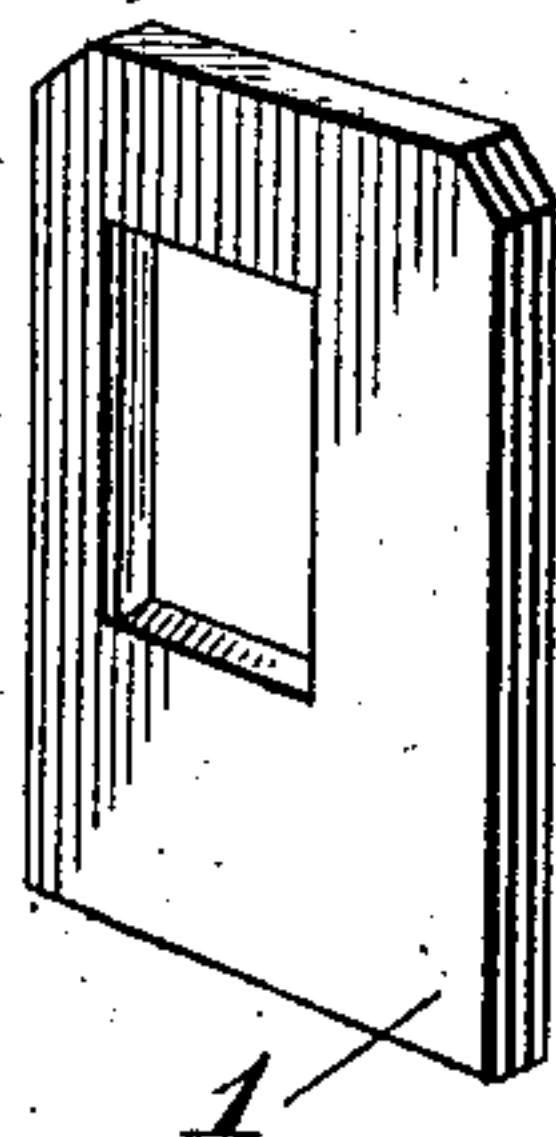


Fig. 2.

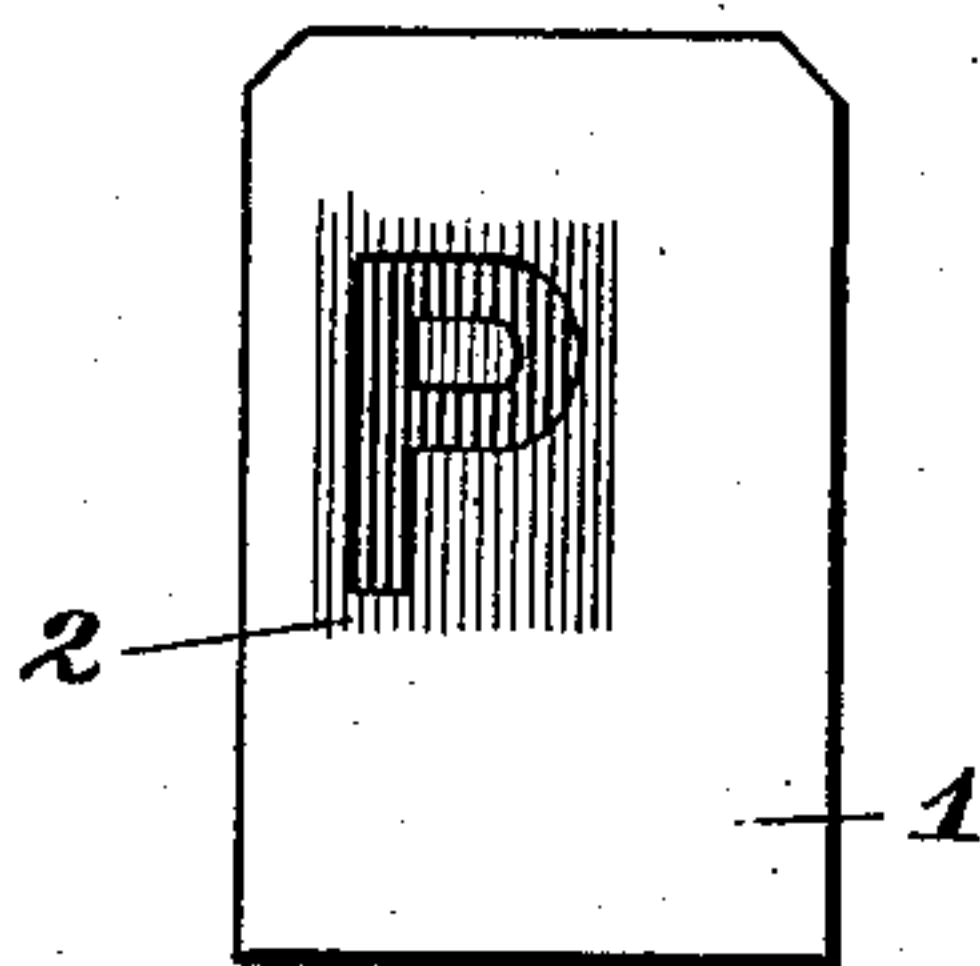


Fig. 3.

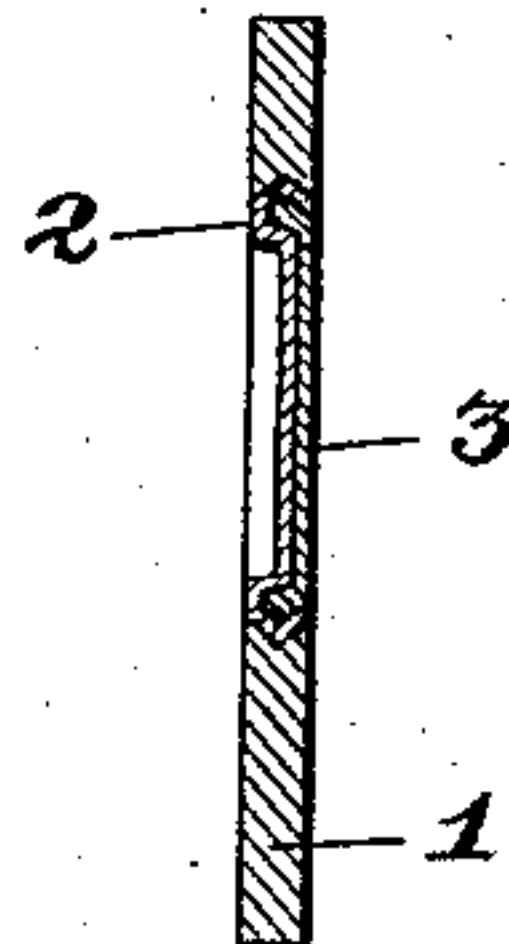


Fig. 4.

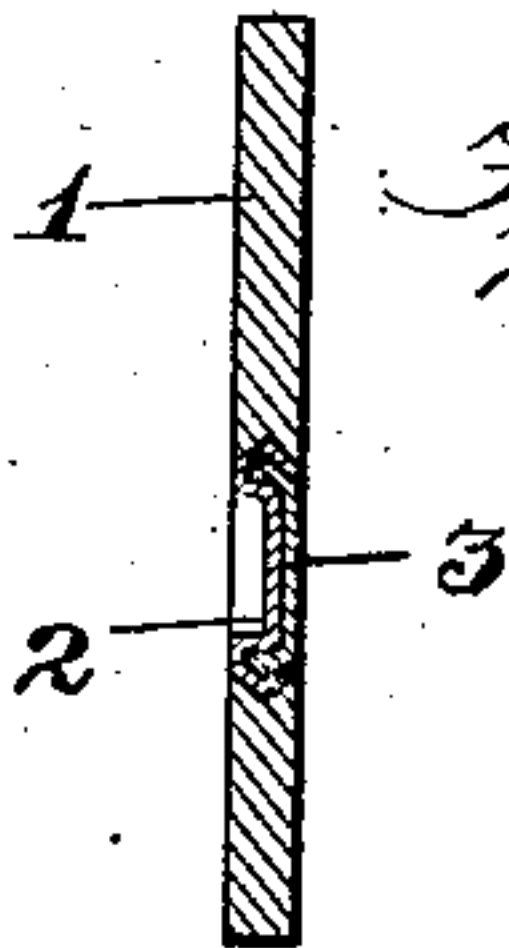
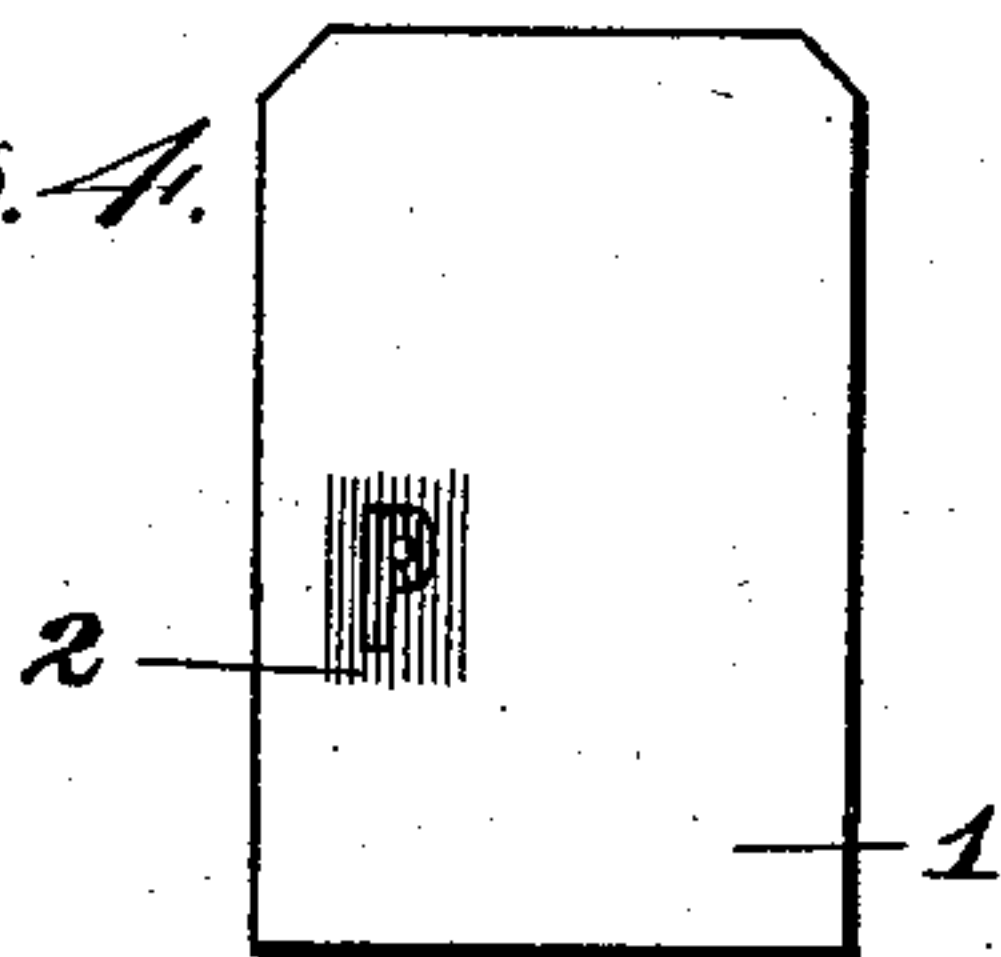


Fig. 5.

Fig. 6.

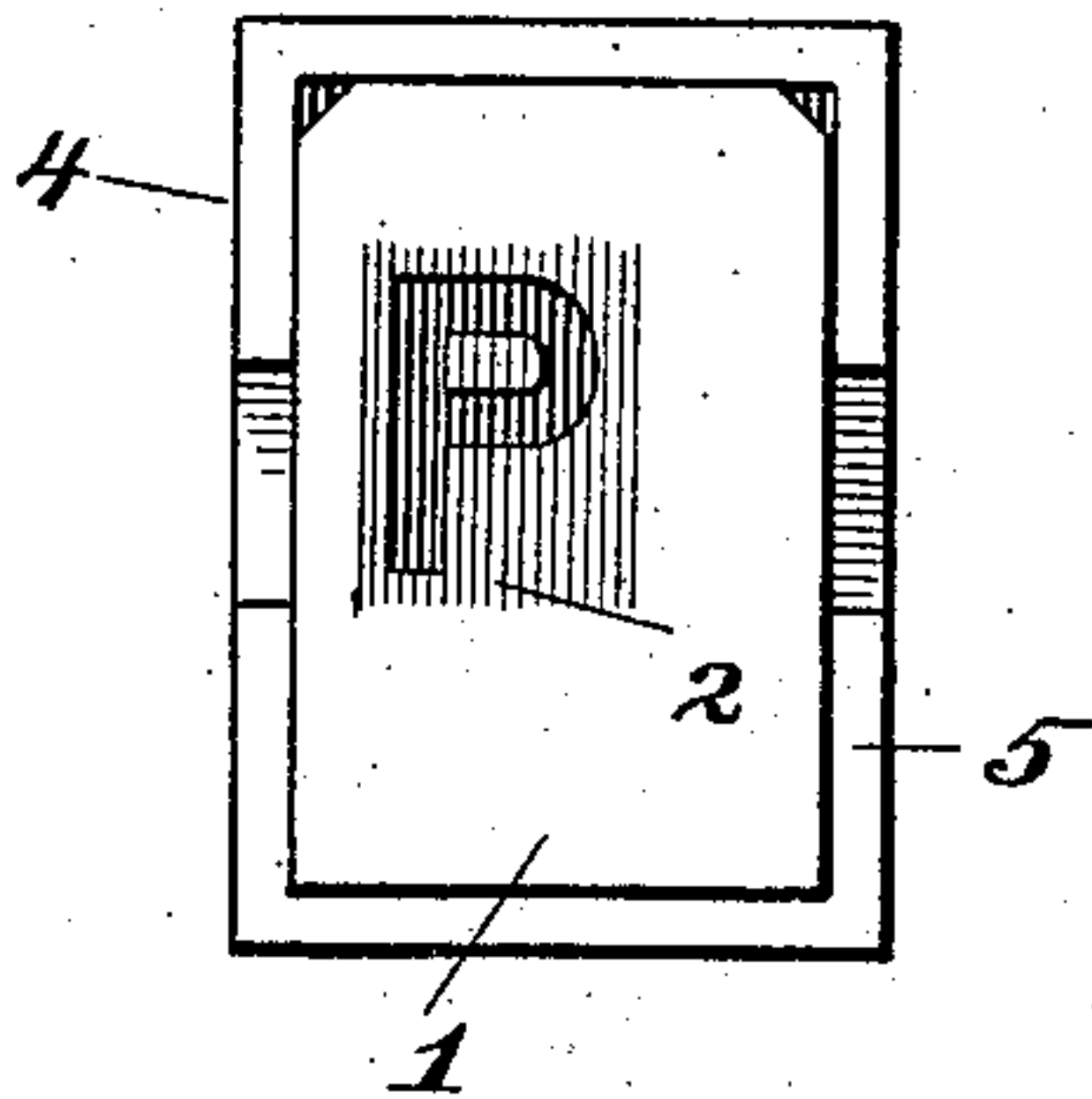


Fig. 7.

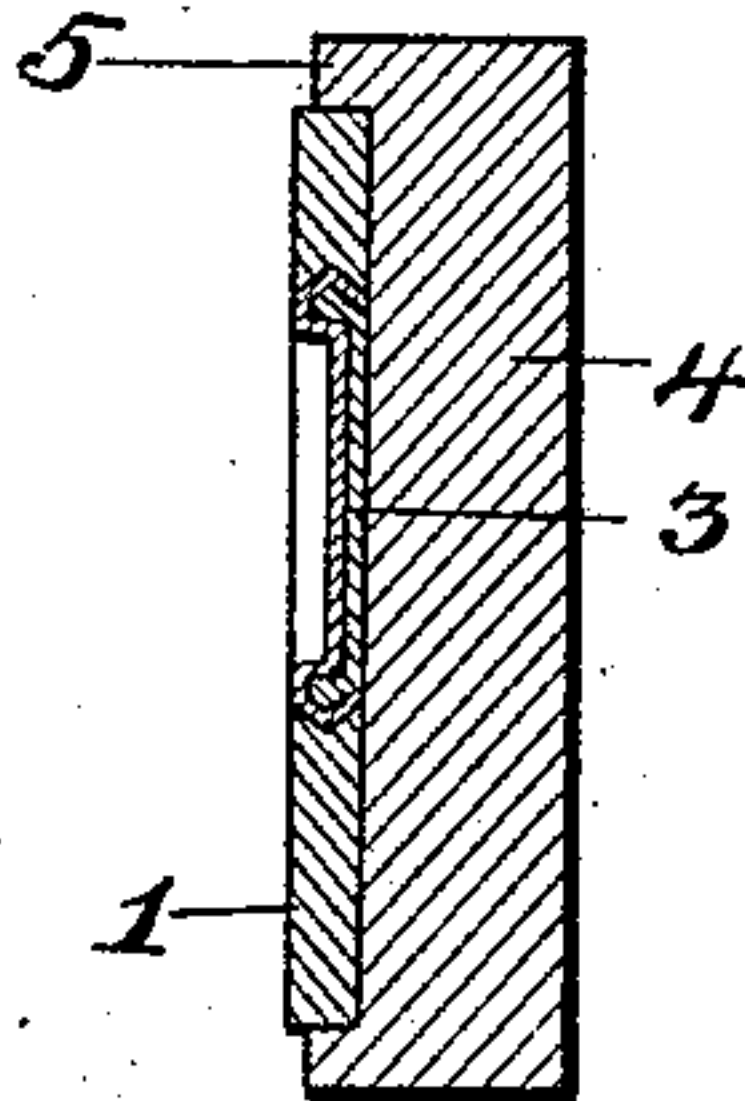


Fig. 8.

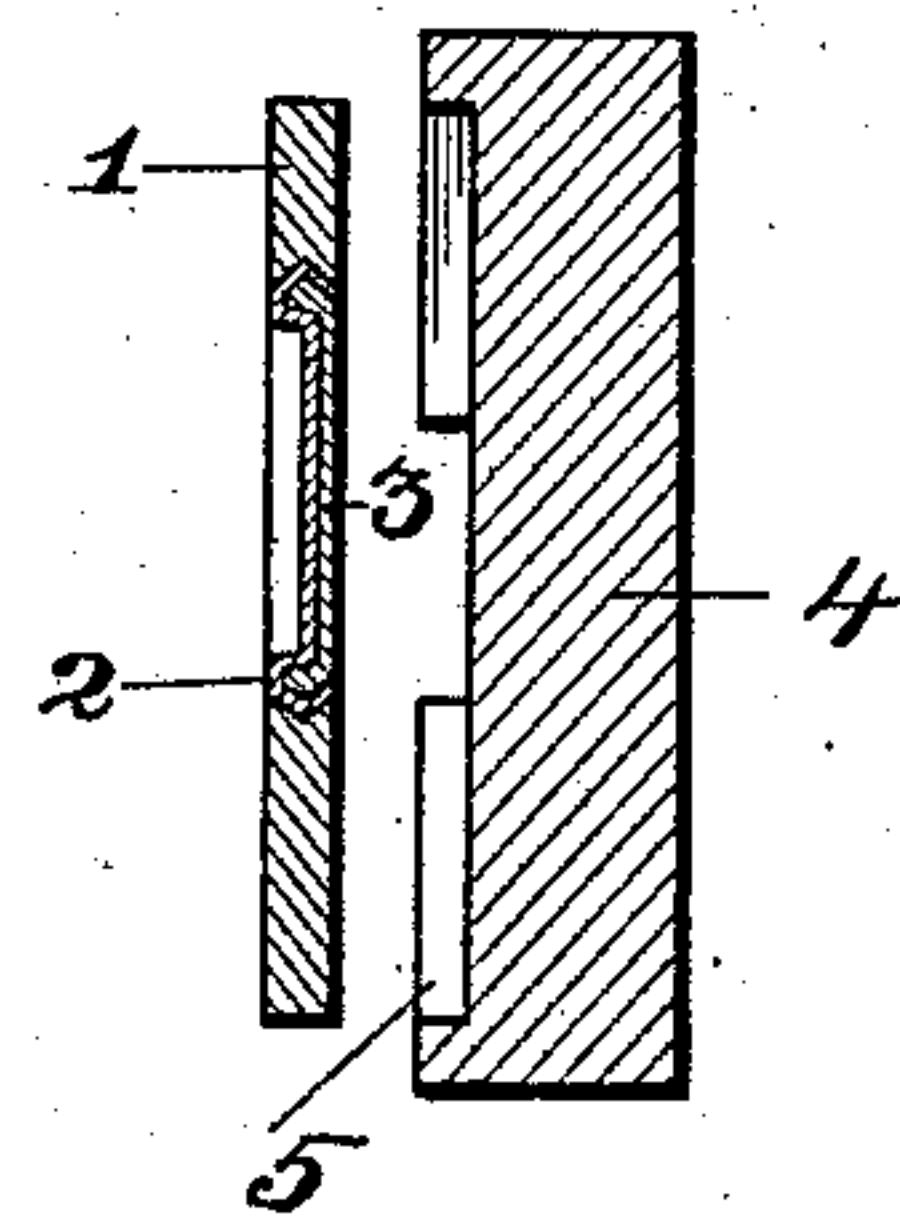
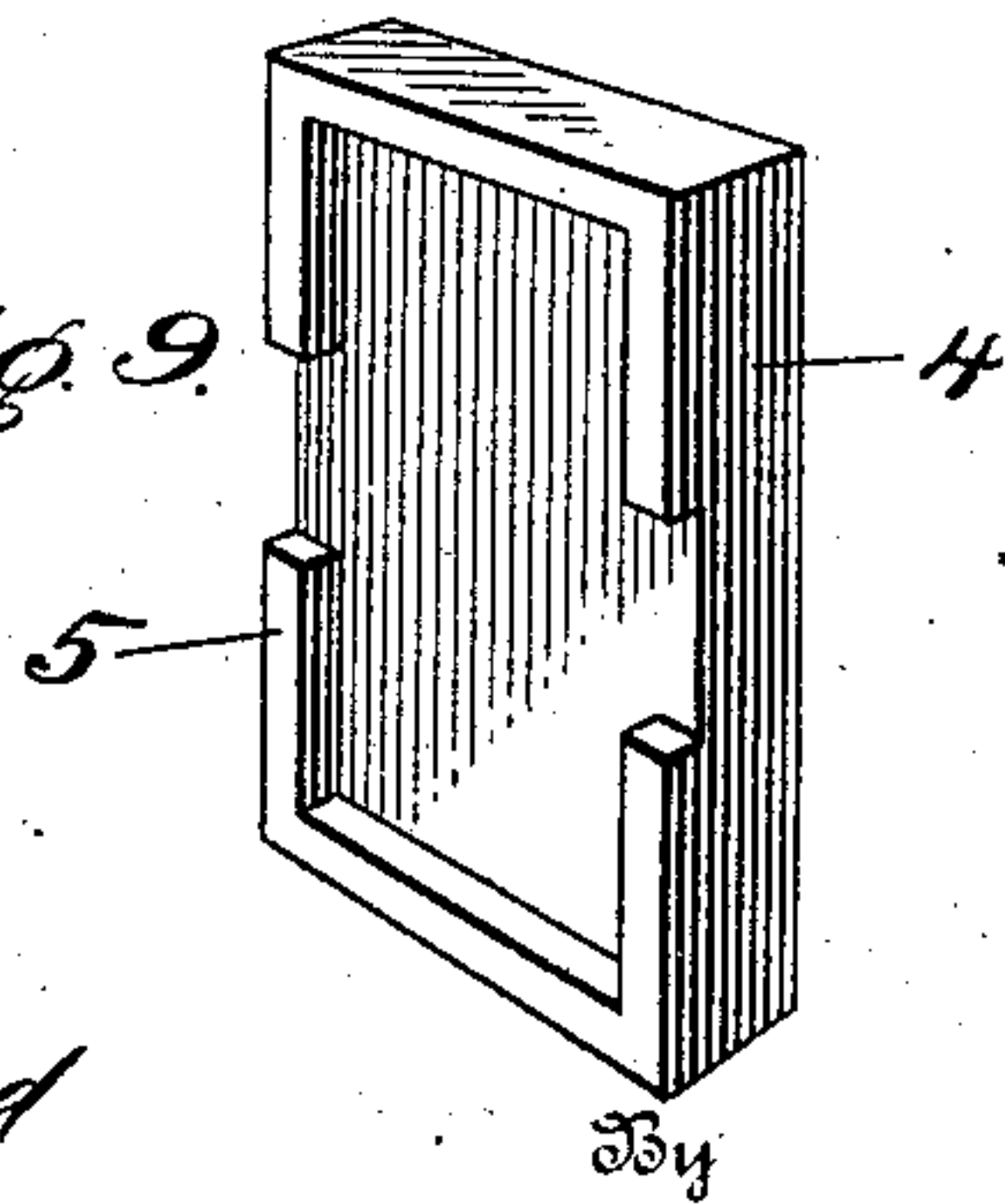


Fig. 9.



Witnesses

Edwin L. Bradford
D. Ferdinand Vogt.

Inventors

George A. Boyden
Frank H. Brown
John E. Hanrahan

Mann & Co.,
Attorneys

UNITED STATES PATENT OFFICE.

FRANK H. BROWN AND JOHN E. HANRAHAN, OF BALTIMORE, AND GEORGE A. BOYDEN, OF MOUNT WASHINGTON, MARYLAND, ASSIGNORS TO NATIONAL COMPOSITE COMPANY, A CORPORATION OF DELAWARE.

BACKING FOR MATRICES.

No. 849,830.

Specification of Letters Patent.

Patented April 9, 1907

Application filed May 17, 1905. Renewed February 8, 1907. Serial No. 356,339.

To all whom it may concern:

Be it known that we, FRANK H. BROWN and JOHN E. HANRAHAN, of Baltimore city, and GEORGE A. BOYDEN, of Mount Washington, in the county of Baltimore, State of Maryland, citizens of the United States, have invented certain new and useful Improvements in Backing for Matrices, of which the following is a specification.

10 This invention relates to the combination of a filled matrix from which type-faces are cast and a matrix backing and guiding plate; and the invention has for its object to provide a single temporary backing adapted to
15 receive any matrix of a font and to dispense with the backing heretofore permanently attached to each matrix.

In the accompanying drawings, which illustrate the invention, Figure 1 is a perspective view of the matrix-plate, showing the hole to receive the filling containing the type character; Fig. 2, a front face view showing the casting-surface of the matrix; Fig. 3, a central vertical section thereof; Fig. 4, a matrix like that shown in Fig. 2, with the exception that the character is smaller; Fig. 5, a vertical section of a matrix to illustrate the filling; Fig. 6, a front face view showing the casting-surface of a matrix which is reinforced at the rear by a removable backing-plate; Fig. 7, a central vertical section through the matrix and backing-plate shown in Fig. 6. Fig. 8 illustrates the matrix in front of the backing-plate to show the relation of the two, both being in section; and Fig. 9 shows a perspective view of the matrix backing-plate.

The matrices to which this invention pertains are those which are made by having a metal plate 1 provided with a hole, as in Fig. 1, in which is deposited copper or other metal 2, containing the type character. This deposition or filling is usually backed up with a suitable metal 3, the whole of which is then finished on the back, so as to form a uniform smooth surface of the component parts. Heretofore to prevent the

displacement of the filling in resisting the pressure in casting it has been backed with an additional plate which has been riveted or permanently attached to the plate 1, requiring considerable time in fitting and increasing the cost of making the matrices and also adding weight and bulk to each matrix. In order to dispense with the said permanent backing-plate, this invention provides a removable backing-plate 4, which has projecting flanges 5, that form a recess and so arranged that each matrix-plate of the font or a series of fonts can be placed in the same backing-plate, which insures that each matrix thus placed will be in the proper position for casting purposes. After sufficient type has been cast from a matrix the latter can be removed from the backing-plate and another matrix substituted in its stead. The backing-plate 4 and its flanges comprise one integral piece.

By this invention the cost of matrices is materially reduced, less material is required, and the weight and bulkiness are reduced, with the result that the matrix-filling is as well supported when subjected to the casting operation as though a permanent backing-plate was attached to each matrix-plate. It also affords a convenient means by which rapid changes in a type-casting machine can be made for all sizes of matrices without adjustment or measurement, because the removable backing-plate 4 may be a part of the casting-machine, in which it is always adjusted correctly relative to the mold parts, and all that is necessary in changing from one matrix character to another of a font or a series of fonts is to remove a matrix and place another in the removable backing-plate.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The combination of a matrix-plate having a metal filling containing an intaglio type character exposed at the front side of the plate, and a backing-plate having side

flanges and in contact with said filling at its back and held to the matrix-plate solely by the frictional contact of the side flanges.

2. The combination of a matrix-plate having a metal filling containing a type character, and a plate having a recess for the reception of the matrix-plate and forming a backing for said filling during the casting operation.

In testimony whereof we affix our signatures in presence of two witnesses.

FRANK H. BROWN.
JOHN E. HANRAHAN.
GEORGE A. BOYDEN.

Witnesses:

ELDRIDGE E. HENDERSON,
C. WALTER GROVINS.