No. 854,459. PATENTED MAY 21, 1907.

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

# MASTER BLOCK FOR MAKING MATRICES.

APPLICATION FILED MAY 18, 1905.

Fig. 1.

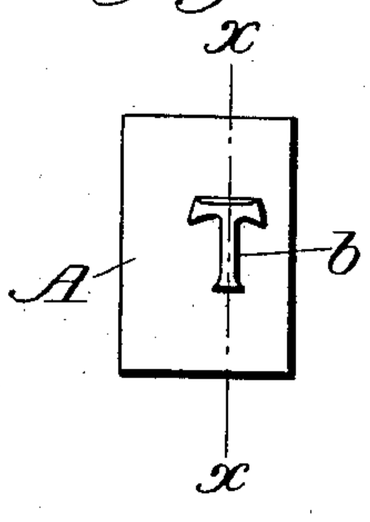



Fig. 2.

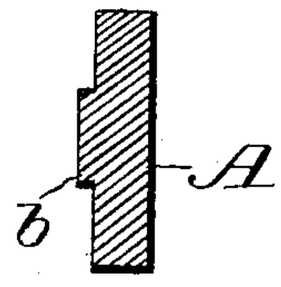
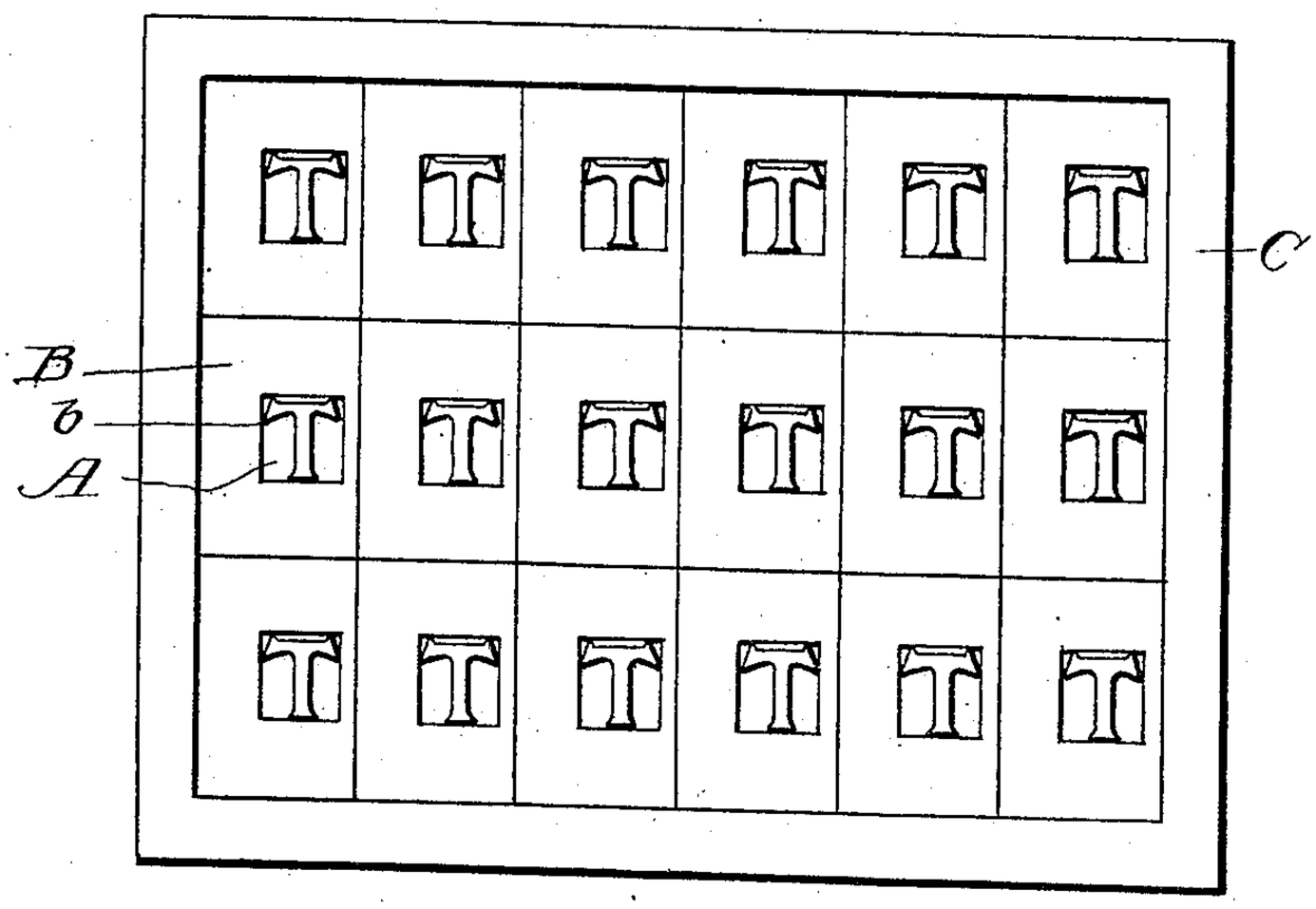



Fig. 3.




WITNESSES:

Louis Hodges.

C. H. Wacker.

INVENTORS

Frank H. Brown

John E. Hanrahan

By George A. Boyden

Wm S. Hodges Attorney

# UNITED STATES PATENT OFFICE.

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

## MASTER-BLOCK FOR MAKING MATRICES.

No. 854,459. Specification of Letters Patent. Patented May 21, 1907.

Application filed May 18, 1905. Serial No. 261,038.

*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 and State of Maryland, have invented certain new and useful Improvements in Master-Blocks for Making Matrices; and we 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.

This invention relates to master making and has for its object the formation of a master block wherein the type character and master is made integral with each other, by which a large number of master blocks having the same character are economically and accurately produced, whereby the production of matrices in large quantities having the same character is greatly facilitated.

With the introduction of the "sorts machine for casting type", invented by these same inventors, the art of producing type at this time is being revolutionized, for the reason that instead of making type under the present foundry practice with skilled labor and then distributing the type throughout the country for printers to use, the printers are producing type in their own offices with unskilled labor. This results in a great saving of time and money and affords convenience in producing immediately type and sorts when needed. This innovation necessitated the creation of various systems and inventions, not only with relation to the type casting machine proper, but also in molds, mold making, matrices and matrix making, and to one of these systems this present invention relates.

In the accompanying drawing:—Figure 1 represents the front view of a master block with the character thereon. Fig. 2 is a section of Fig. 1 on line X, showing the type character integral with the block. Fig. 3 is a holding flask in which are placed a number of master blocks, having the same type character, after the matrix plates are secured to them, and by which any one character is duplicated in large quantities in the same time required for one.

Referring to the drawing, it will be observed that the matrix block A has the character *b* definitely located thereon, in predetermined position with relation to one vertical and one horizontal edge of the block, said character being cast integral with said block, by which the character is produced at the same time the block A is made. In the operation of producing the duplicate master blocks the original master block is first employed to make a master matrix. This master matrix is then placed in a suitable mold, properly constructed to cast the duplicate master block of proper dimensions. From this matrix and mold any number of master blocks A can be cast, having the character *b* integral with the block, whereby, after the expensive original master block is made, any number of duplicates thereof can be quickly, accurately and cheaply produced, by virtue of which, to make 100 matrices of the character T to supply machines in as many printing offices, it is only necessary to cast 100 master blocks A, as set forth, place them in the holding flask *c* as shown in Fig. 3, with the matrix plates B arranged with the master blocks in proper order, and the same waxed and submitted to metal deposition, whereby the amount of time consumed in the deposition of 100 matrix plates is no greater than would be required for the deposition of one. This, of course, greatly reduces the time and cost of production, and makes it possible to supply matrices at a non-prohibitive price to the printer, assuring economies to him that induce a preference to the purchase of type, because of great savings.

It will be understood that the face of the master block herein described is of the same dimensions as the matrix plate with which it is to be used, and it is quite obvious that the dimensions of the matrix may conform to any standard of measurement now employed by type founders or which may hereafter be adopted, without departing from the spirit of our invention. The expression "dimensions of a matrix" used in the claim will be understood to mean the dimensions of any matrix which may be employed in casting type.

Having described our invention, what we

claim and desire to secure under United States Letters Patent is:—

A master block for making matrices comprising a single block of cast metal, said block being provided with a raised character cast integral therewith, the dimensions of the face of said block conforming to the corresponding dimensions of a matrix used in casting type.

In testimony whereof, we have signed this specification in the presence of two subscribing witnesses.

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

Witnesses:
ELDRIDGE E. HENDERSON,
C. WALTER GWINN.