L. BOWMAN.

MATRICES AND BLANKS FOR MAKING TABLETS.

APPLICATION FILED JAN. 7, 1910.

973,851. **Patented Oct. 25, 1910.**

2 SHEETS—SHEET 1.

Fig. 1.

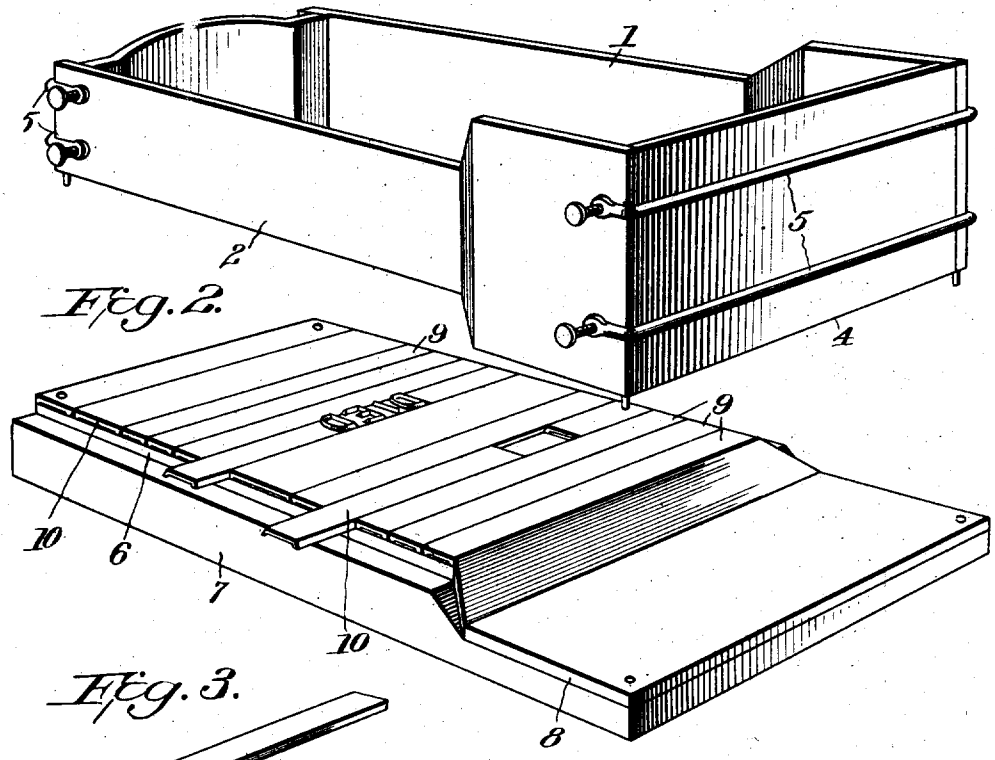


Fig. 2.

Fig. 3.

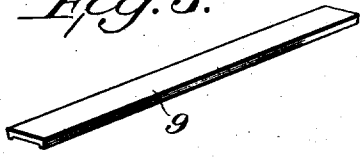
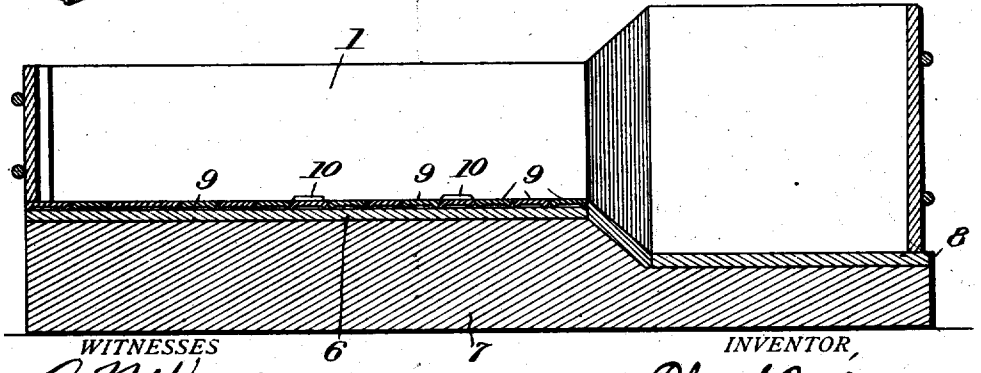


Fig. 4.



WITNESSES

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2 SHEETS—SHEET 2.

Fig. 5.

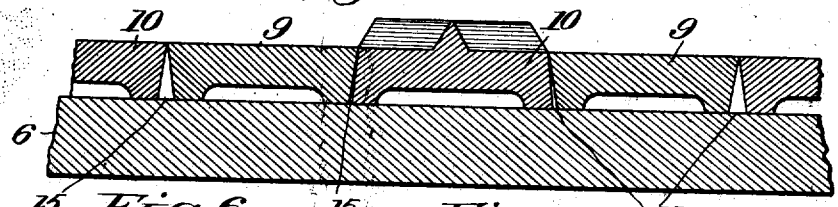


Fig. 6.

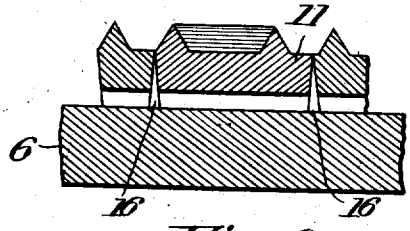


Fig. 7.

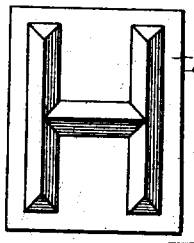


Fig. 8.

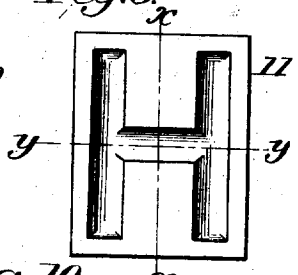


Fig. 9.

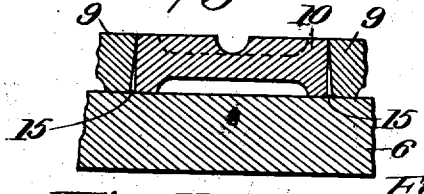


Fig. 10.

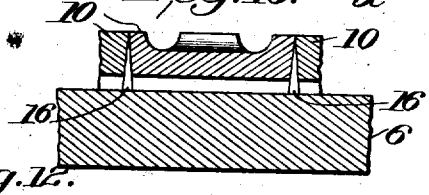


Fig. 11.

Fig. 12.

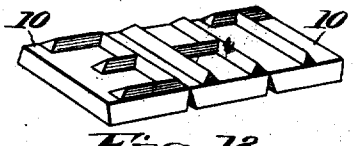


Fig. 13.

Fig. 14.

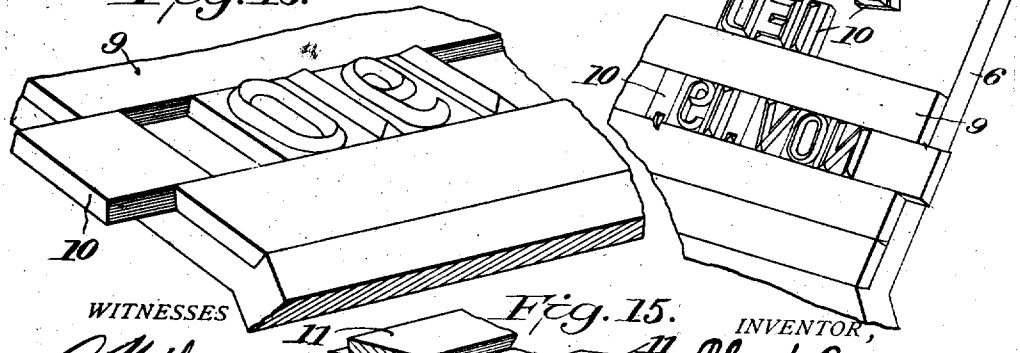
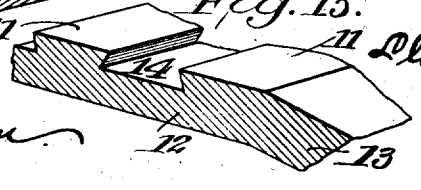


Fig. 15.



WITNESSES

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UNITED STATES PATENT OFFICE.

LLOYD BOWMAN, OF FORT WORTH, TEXAS.

MATRICES AND BLANKS FOR MAKING TABLETS.

973,851. Specification of Letters Patent. Patented Oct. 25, 1910.

Application filed January 7, 1910. Serial No. 536,945.

To all whom it may concern:

Be it known that I, LLOYD BOWMAN, a citizen of the United States, residing at Fort Worth, in the county of Tarrant and State of Texas, have invented certain new and useful Improvements in Matrices and Blanks for Making Tablets and the Like, of which the following is a specification.

My invention relates to matrices and blanks for lettering various articles having extended faces or surfaces manufactured from plastic material, and the object is to provide means for manufacturing such articles with the lettering formed in or on the articles during the molding thereof, and more particularly to mold such articles so that the surface between and about the letters or figures or symbols will be smooth and have surfaces unbroken by rough places or ridges.

Another object is to provide means for manufacturing such articles in a rapid, economical and efficient manner.

Other objects and advantages will be fully explained in the following description and the invention will be more particularly pointed out in the claim.

Reference is had to the accompanying drawings which form a part of this application.

Figure 1 is a perspective view of a complete mold for making a tablet; Fig. 2 is a perspective view of a bed plate with blanks and matrices arranged thereon for receiving a plastic material; Fig. 3 is a perspective view of a blank used on the bed plate between the letter matrices. Fig. 4 is a sectional elevation of a mold with blanks and matrices for making letters; Fig. 5 is an enlarged sectional detail view of the bed plate with sections of blanks and matrices thereon. Fig. 6 is an enlarged sectional detail view of one matrix and parts of two other matrices, illustrating the manner of forming the joint between the matrices. Fig. 7 is a face view of a matrix for making sunken letters; Fig. 8 is a face view of a matrix for making raised letters. Figs. 9 and 10 are sections of Fig. 8 taken respectively on lines x—x and y—y, of Fig. 8. Fig. 11 is a perspective view of three matrices. Fig. 12 is a face view of three letters which can be made by such matrices as shown in Fig. 11. Fig. 13 is a broken perspective view showing the relative positions of the matrices and blanks. Fig. 14 is a broken perspective view, illustrating the manner of setting up matrices and blanks, and Fig. 15 is a broken sectional view of blanks made integral with the bed plate of the mold.

Similar characters of reference are used to indicate the same parts throughout the several views.

A mold is shown in the drawings but it must be understood that this invention is not limited to any particular design of mold. The mold shown has side pieces 1 and 2, a top piece 3 and a base piece 4. Suitable clamps 5 are provided for holding the parts of the mold in operative position. A bed plate 6 is provided and this bed plate is supported on a block 7 of suitable configuration. Fig. 2 shows a continuation 8 of the bed plate extending down by the base. The blanks 9 are mounted directly on the bed plate 6. The matrix blocks 10 are mounted between the blanks 9. The blanks thus have grooves or channels for receiving any number of matrix blocks therebetween. The blanks may be made as separate pieces from the bed plate, as shown in the drawings, and as refererd to above and the blanks may also be made integral with a bed plate as shown in Fig. 15, as the blanks 11 and bed plate 12 with its continuation 13. If the blanks are made as shown in Fig. 15, the matrix blocks would have to be put in from the sides of the bed plate. The blanks 11 are undercut and the matrix blocks would be dove-tailed into the channels 14 between the blanks 11.

In setting up the matrix blocks and blanks as set forth in Figs. 1 to 14, inclusive, the matrix blocks may be placed directly on the bed plate and lined up and then a blank placed against the row of matrix blocks 10 and then another row of matrix blocks 10. It will be seen that where the blanks are made separate from the bed plate the matrix blocks may be set up with greater ease and more quickly than where the blanks are formed integral with the bed plate. Where the blanks are made separate from the bed plate they may be held to the bed plate in any suitable manner, but, as a matter of convenience, the sides 1 and 2 and the top 3 of the mold boards will be sufficient to hold the blanks and matrix blocks on the bed plate.

Attention is called to the forms of the matrix blocks and the blanks and the distinguishing feature of this invention from pre-

vious inventions lies particularly in forming the blanks and the matrix blocks so that the meeting faces will be formed by feather edges. A great difficulty heretofore encountered in making smooth surfaces for such articles as contemplated, has been the formation of ridges at the junction or joints of parts of the mold for forming the face of the article to be molded. The cement or other plastic would run down between the pieces and this would make ridges and rough places on the surface of the articles to be manufactured. These difficulties are overcome by making the meeting faces with the least possible surface bearing. For this reason every joint either between a matrix block and a blank or between the matrix blocks themselves is formed by feather edges or sharp edges. A feather or sharp edge can be more easily cleansed than if two extended flat faces were to come together. It would be practically impossible to prevent plastic material from entering between two extended flat faces.

By reference to Figs. 5 and 9 of the drawings it will be seen that the crevice 15 between the blank 9 and the matrix block 10 is wider at the bottom than at the top and that the block 10 and blank 9 touch each other only at the top edges, the joint between the block 10 and the blank 9 being thus formed with sharp or feather edges. The matrix blocks are also constructed in the same manner.

By reference to Fig. 6 and Fig. 10 it will be seen that the crevice 16 between two matrix blocks is much wider at the bottom than at the top. The joint between two matrix blocks is thus formed by two sharp or feather edges. A surface prepared of blanks and matrix blocks in the manner thus described will be smooth as it will be practically impossible for cement or other plastic to run down between the meeting edges which form the joints. The blanks and the matrix blocks can be wedged close together and held in contact with each other by the molds, that is, the molding pieces 1, 2 and 3 with the clamps 5, the weight of the mold pieces being sufficient to hold the blanks and matrix blocks in position while the plastic material is being placed in the molds. The matrix blocks may be made of any suitable dimensions and the blanks may be made of any desirable width. This method of forming surfaces can be used to make raised letters or sunken letters, as illustrated in the drawings, Fig. 7 showing a matrix block for forming a sunken letter and Fig. 8 showing a matrix block for forming a raised letter.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent, is,—

In molds for making and lettering tablets and the like, the combination of side and end pieces and a bed plate, and blanks and matrix blocks mounted on said bed plate, said blanks having undercut edges and said matrix blocks being dovetailed between the blanks and said blanks and matrix blocks being held in place by said sides and ends, the joints between said blanks and matrix blocks and between said matrix blocks being formed by feather or sharp edges.

In testimony whereof I affix my signature, in presence of two witnesses, January 7th, 1910.

LLOYD BOWMAN.

Witnesses:
A. L. JACKSON,
J. H. BOYDEN.