U. G. LEE.

ADDRESS PLATE AND METHOD OF MAKING THE SAME.

APPLICATION FILED MAY 21, 1912.

1,117,866. Patented Nov. 17, 1914.

Fig. 1.

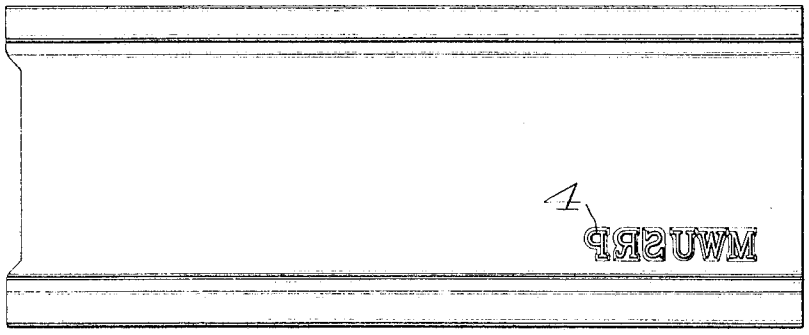


Fig. 2.

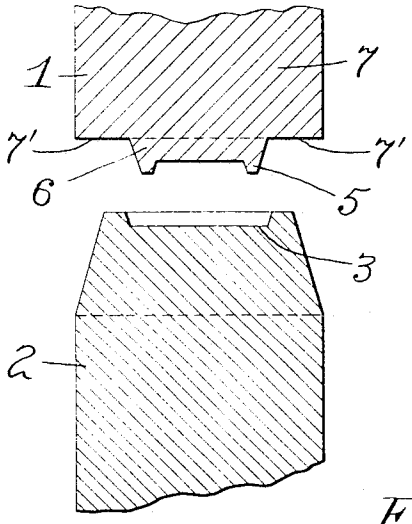


Fig. 3.

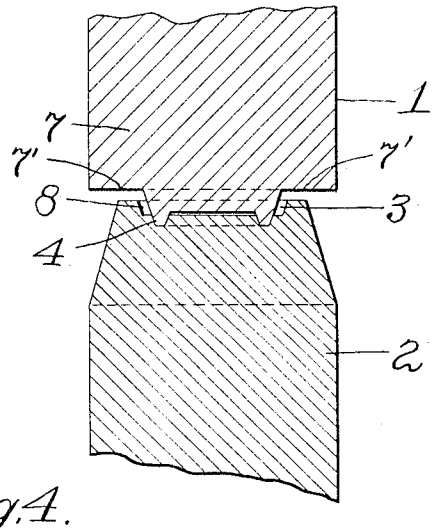
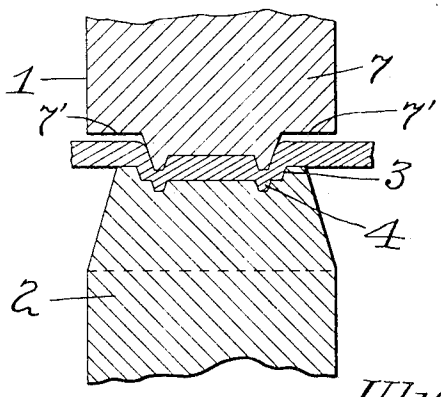


Fig. 4.



Attest:

Edwd L. Tolson

H. L. alden

Inventor:

Ulysses G. Lee,

by Spear Middleton, Donaldson & Spear

Attys.

UNITED STATES PATENT OFFICE.

ULYSSES GRANT LEE, OF CHATTANOOGA, TENNESSEE, ASSIGNOR TO MONTAGUE MAILING MACHINERY COMPANY, A CORPORATION OF TENNESSEE.

ADDRESS-PLATE AND METHOD OF MAKING THE SAME.

1,117,866. Specification of Letters Patent. Patented Nov. 17, 1914.

Application filed May 21, 1912. Serial No. 698,800.

To all whom it may concern:

Be it known that I, ULYSSES G. LEE, citizen of the United States, residing at Chattanooga, Tennessee, have invented certain new and useful Improvements in Address-Plates and Methods of Making the Same, of which the following is a specification.

My invention relates to the art of printing, and particularly to an address plate carrying embossed characters for making impressions on the magazines or articles to be addressed, and to the method and means for making the embossed characters and also to the method of making the dies employed in the manufacture of the embossed plates.

In the accompanying drawing:—Figure 1 is a face view of an address plate, with a few letters embossed thereon in accordance with my invention; Fig. 2 is a sectional view of the blank from which the female die is formed, this view representing the die blank when one operation has been performed thereon, the male die being shown also in section; Fig. 3 is a view like Fig. 2, with the dies together showing the completion of the formation of the female die, by the action of the male die thereon; Fig. 4 is a sectional view of the two dies with the address plate formed between them.

One object of my invention is to produce an embossed address plate which will permit the blanking out of its embossed letters for reëmbossing, that is to say, it is sometimes desirable to press down or obliterate the embossings on a plate to make the plate assume the form of a plain blank ready to be embossed again. This may be found necessary when a plate has been incorrectly addressed, or embossed, or when a subscriber is dropped from the list his plate may be blanked or pressed to obliterate the embossing so that the plate can be embossed with a new or corrected address. With this object in view I have produced a plate in which the embossed letters are formed on raised portions of the plate, which raised portions are of a thickness equal substantially to the full thickness of the plate, the plate not being thinned or distorted at the point where the embossings are made.

The plate is characteristically distinguished from all other plates of which I have knowledge in that the letters, forming a word, for instance, are each embossed upon an offset portion individual thereto, raised from the body of the plate, and separated from the corresponding adjacent offset, or raised portion, by an undisturbed, or undistorted part of the plate, and by the fact that the side wall of each offset or raised portion is endless and throughout its extent is disposed at substantially a uniform angle in reference to the fact of the portion of the plate from which it is raised.

By the described method, involving the formation of an offset part individual to each letter, the letters are raised to the desired height above the face of the main portion of the plate without undue stretching or weakening of the metal.

In forming the embossings, the plate is introduced between male and female dies 1, 2. The female die has a depression 3, at the bottom of which the character or letter is formed as at 4. The male die has a rib or projection 5, to correspond with the grooved portion of the female die and this rib or projection is carried by the base 6 of the die which in turn is carried by the plunger portion 7, all of these parts being preferably integral with each other. The die projection or base 6 being smaller than the face of the plunger leaves shoulder portions at 7 overlying the face of the female die. By the construction shown a clearance is left at 8 between the male die and the surrounding wall of the female die when the dies are brought together.

In the operation of the dies when the blank plate is placed between them and the dies closed, the first action is to press a portion of the plate into the depression of the female die of substantially the full thickness of the plate, this being allowed by the clearance mentioned. This raises a cone shaped base on the plate without distortion or thinning, and upon this cone shaped base the letter or character is formed by the continued closing movement of the die, the metal of the top of the cone being pressed into the groove 4 of the female die by the projecting portion 5 of the male die.

In the construction shown the side wall of the depression 3 is spaced apart from the contiguous edge of the outer wall of the

character depression, and when the male die descends there is a clearance 8 between its side wall and the side wall of the depression 3 substantially equal in width to the width of the aforesaid space. The surface at the juncture of the side wall of depression 3 with the upper face of the die 2 provides a continuous supporting edge which serves for defining the border of the offset portion, the side or marginal wall of which is defined by the side wall of the depression 3, which serves to give a definite well defined shape to the side or marginal wall of said offset.

A letter embossed as described may be blanked out by being depressed to the face of the plate and the plate may then be reëmbossed at this same point, and this may be done several times, a result which could not be accomplished were the embossing made by distorting or thinning the metal at the embossings.

In forming the female die the metal is first engraved about .015″ deep, forming the depression to leave the clearance all around the male die above mentioned. The male die is then driven into the metal of the female die at the bottom of this depression about .008″ deep, thus forming the lower die to correspond exactly with the male die because it is formed by the male die itself. It will be understood that by this method of making the female die the male die will be relieved of the strain and liability to damage which would result were it attempted to drive the male die into the metal of the female die blank the full distance of .023″. Furthermore, it would not be possible with this method of manufacture to secure the clearance within the female die and around the male die for the full thickness of the metal plate. By this method also the letter is made by first bending the metal .015″ high, and then forming the type .008″ high on this raised base portion.

By the term "raised portion" and the term "pressed up" used herein, as referring to the portion of the plate upon which the embossings are made I mean that the plate has portions pressed aside from the plane thereof without regard to whether the plane of this pressed or raised portion be above or below that of the main body of the plate.

It will be noticed that the dies are so formed that the raised portion of the plate forming the base for the letter is of conical shape; that is, its sides flare from the top of the embossment toward the main body of the plate. This facilitates the blanking out of the embossings, the inclined wall of the cone being in a better position to spread laterally into the plane of the main body of the plate.

I claim as my invention:—

1. A sheet metal address plate presenting a plurality of printing characters separated letter space distances from one another, each of said characters being embossed on an individual offset portion of the plate.

2. A sheet metal address plate having a plurality of printing characters projecting from one side thereof and arranged in a row a letter space apart, each of said characters being embossed on a portion of the plate individual thereto, and each of said portions being raised above the plane of an undistorted part of the plate lying between the characters.

3. A sheet metal address plate having a substantial flat portion and a part raised above the surface of said flat portion and provided with a continuous marginal wall disposed at a substantially uniform angle throughout its extent to the surface of the flat portion of the plate, and a printing character embossed upon said raised portion, said raised portion being separated from the raised portion of any other character by the intervening metal in the plane of the body of the plate.

4. The method of producing a printing plate which consists in punching a sheet metal blank from the back thereof for forming a raised portion on the front side thereof, confining the raised portion during the formation of the same to provide an endless marginal wall rising sharply from the face of the plate, and disposed throughout its extent at a substantially uniform angle to the face of the plate, and, in a continuation of said punching operation, embossing a printing character on the front of the said raised portion separated on all sides a distance from the marginal wall of the raised portion.

5. The hereindescribed method of forming printing plates consisting in first pressing a portion of the plate aside from its plane between dies to form a base, and then embossing a printing character on the face of said base, then pressing the metal adjacent said first base, and at a letter space distance therefrom, aside from its plane to form a second base separate from the first base and leaving the metal between said bases substantially in the plane of the body of the plate, and then embossing a character on said second separate base, substantially as described.

6. An address plate having each of its characters embossed on a raised portion of the plate which is separated from the raised portions of adjacent characters, each of said raised portions having its side walls inclining outwardly from its top to the main body of the plate, substantially as described.

7. An address plate having each of its characters embossed on a portion of the plate which is raised from the main body of

the plate at the sides and at both the top and bottom of each character, substantially as described.

8. An address plate having each of its characters embossed on a portion of the plate which is raised from the main body of the plate at the sides and at both the top and bottom of each character, all sides of said raised portion being inclined outwardly from the top of said raised portion to the body of the plate, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

ULYSSES GRANT LEE.

Witnesses:
WILLIAM F. MILBURN,
L. R. STONER.