

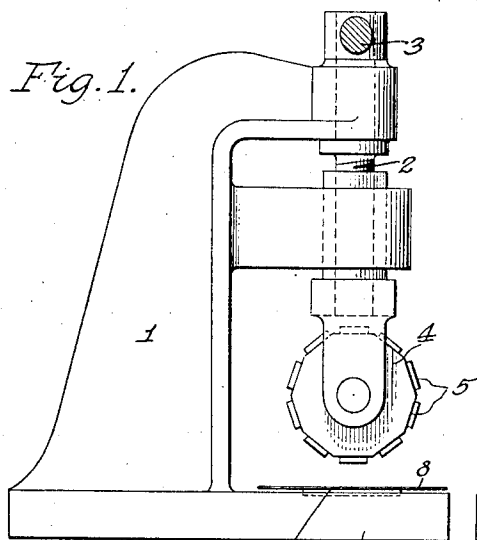
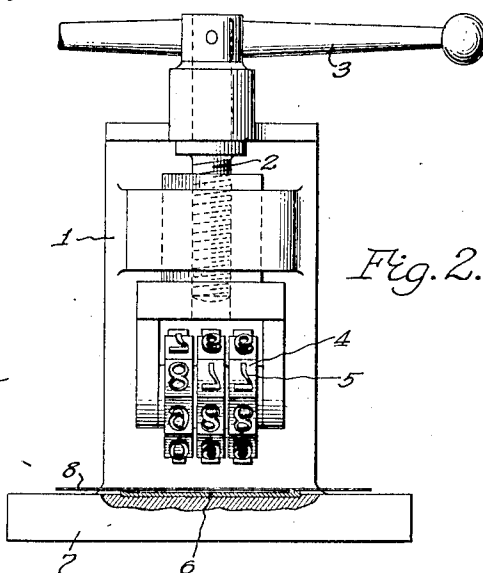
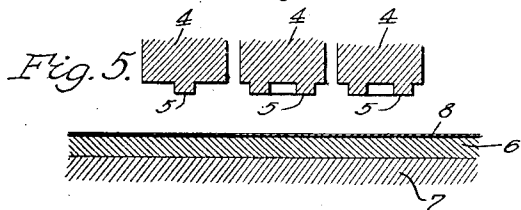
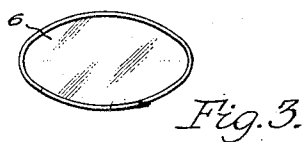
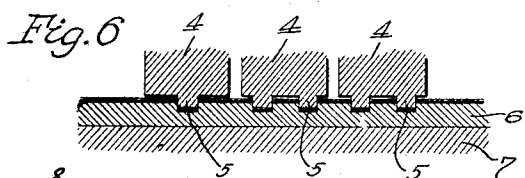
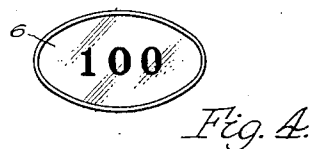
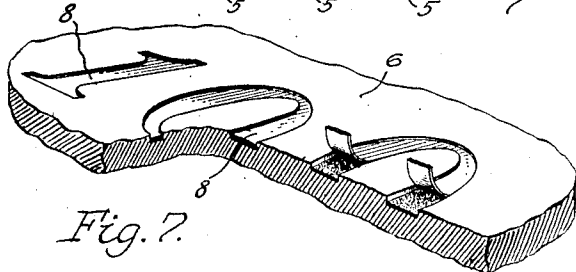
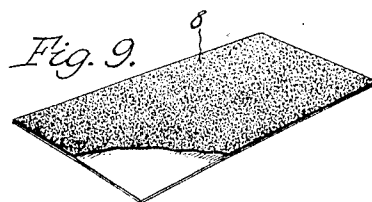
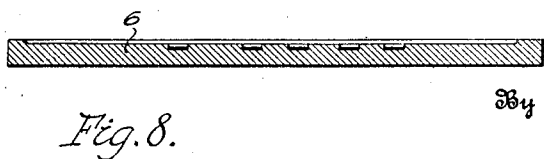
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O. M. MARTIN ET AL

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PROCESS OF COLORING LETTERS OR FIGURES IMPRESSED IN METAL TAGS, BADGES, ETC

Filed May 25, 1925



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PROCESS OF COLORING LETTERS OR FIGURES IMPRESSED IN METAL TAGS, BADGES, ETC.

Application filed May 25, 1925. Serial No. 32,618.

In the manufacture of metal tags, identification coins, badges, etc., where these devices are numbered or lettered by means of a die which compresses the metal and leaves an imprint of the die in the metal, it is very desirable that the numbers or letters so formed be given a color which contrasts with the remainder of the blank so that the numbers and letters will be readily distinguishable and be prominent on the face of the blank.

It is the common practice to make the impression on the face of the blank by means of a suitable die and then to fill the depressions which form the letters or figures, with a suitable coloring material which is applied over the face of the blank and then the blank buffed or otherwise cleaned to remove the material which adheres to the face of the blank, leaving the coloring material in the depressions made by the die. Extra operations are required to fill the depressions in this manner so that the letters or figures will be clearly distinguishable, and it is an object of the present invention to eliminate these extra operations and apply the coloring material at the same time that the letters or figures are formed by the die. It is also an object to so apply the coloring material that it will be applied only within the depressions made by the die and will be permanent by being forced by the heavy pressure of the die, into the metal at the bottoms of the depressions. A further object is to facilitate the application of the coloring matter by applying the same in sheet form so that it may be readily handled and the unused portions removed from the blank upon the release of the blank from the die. A further object is to provide a method particularly adapted for the purpose and having certain other new and useful features, all as hereinafter more fully described.

With the above and other ends in view, the invention consists in the method or process hereinafter set forth and more particularly described, reference being had to the accompanying drawing, in which—

Figures 1 and 2 are side and front elevations respectively of a suitable power press for use in forming numbers or letters upon a metal blank by heavy pressure which forces the dies into the metal, compressing the same and leaving a depression in the shape of the letters or figures;

Figure 3 is a plan view of a metal token in the form of a coin, badge or tag;

Figure 4 is a similar view of the metal token after the figures or numbers have been formed thereon;

Figure 5 is an enlarged cross sectional detail of the dies and blank, with the blank in position beneath the dies and a suitable sheet of material carrying color matter in place upon the face of the blank;

Figure 6 is a sectional detail similar to Figure 5, with the dies at the end of their operating stroke and illustrating the manner in which the numbers or letters are formed in the face of the blank and the coloring matter is forced into the depressions and into the metal by the action of the dies;

Figure 7 is an enlarged perspective detail of a portion of the metal token after the figures have been formed thereon, and illustrating the manner in which the coloring matter is applied;

Figure 8 is a longitudinal vertical section through Figure 7; and

Figure 9 is a perspective view of a sheet of material carrying coloring matter and adapted for use in the present process.

Obviously the method or process embodying the present invention may be performed by the use of an instrument or tool suitable for forming the desired impression upon a metal blank.

In the accompanying drawing, a well known form of hand operated press is shown as illustrative of suitable means for the purpose, this press being indicated as a whole by the numeral 1, and including a suitable screw shaft 2 adapted to be rotated by a handle 3 and carrying upon its lower end a series of die wheels or disks 4 having number or letter dies 5 projecting from the peripheries of the wheels to be brought into contact with the metal blank 6 by a turning movement of the shaft and a downward movement of the die wheels, the blank being placed upon a suitable bed 7 directly beneath the die wheels.

The screw shaft 2 affords sufficient power to drive the die 5 which is in position above the blank, into the face of the blank, compressing the metal and leaving a depression or depressions in the metal and an outline corresponding to the outline of the die which is in the form of a letter or figure. The desired combination of letters and figures, or

figures alone may be had by rotating the die wheels to bring the desired figures or letters into position to engage the blank.

Prior to the descent of the die and the forming of the figures in the face of the blank, a coloring matter is applied to the blank by placing thereover a sheet of material 8, which sheet carries the coloring matter, such as a sheet of carbon paper. When the dies descend, they force the coloring material carried by the sheet into the metal of the blank at the bottom of the depressions made by the dies, and thus by the single operation of forming the letters in the blank, coloring matter is also applied to these depressions to make the figures readily distinguishable, and as this coloring matter is carried by a sheet of material which is preferably of a fibrous character and very thin, portions of the sheet are cut out by the dies and these portions forced into the metal of the blank by the dies which form the letter or number depressions. The coloring matter is therefore applied to only those portions of the blank which form the figures or letters, and upon the retraction of the die the sheet is removed, leaving the face of the blank substantially clean and buffing of the blank after its removal from the press is unnecessary to remove surplus coloring matter.

As illustrated in Figure 7, the portions of the fiber sheet which have been cut out and forced into the depressions in the metal blank may, if found desirable, be removed, but such removal is unnecessary for the reason that the heavy pressure of the dies in compressing the metal also forces the coloring matter not only into the metal of the blank at the bottom of the depressions, but also through the fiber of the sheet so that this fiber which is forced into intimate contact with the metal has the same color as the coloring material and is not noticeable. The heavy pressure forces this fiber into such close contact with the metal at the bottom of the depressions that it is not easily removed and will stay in place for a great length of time, lending body to the pigment or coloring matter and partially filling the depressions. However, should the fiber become dislodged or worn away, the coloring matter will still remain in the bottoms of the depressions as it has been forced by the heavy pressure of the dies into the metal itself.

As before stated, any suitable form of instrumentalities may be employed in carrying out the present process, such instrumen-

talities being in the form of a power press and dies as shown, or in the form of any other devices suitable for the purpose which may be operated by hand or otherwise, the novelty of the present process residing in the mode of applying the pigment or other coloring matter, this application being just prior to the impressing of the figures in the metal blank, which impressing operation forces the coloring matter into the grain of the metal so that it will be permanent and within the impressions so that the pigment will not be applied to any other part of the blank than that desired. The novelty further consists in applying the coloring matter by means of a carrier sheet and applying the sheet to the face of the blank and then forming the letters or figures by a stamping operation which simultaneously forces the pigment into intimate contact with the metal and compresses the metal to depress the figures or letters therein with the bottoms of the depressions colored by the pigment.

Obviously, changes in the process or method may be made within the scope of the appended claims without departing from the spirit of the invention.

Having thus fully described our invention, what we claim is:—

1. The method of applying a pigment to depressions in a metal article, which consists in providing a die for forming the depressions and placing over the metal blank a fibrous sheet carrying the pigment and then forcing the die toward the blank to sever portions of the sheet therefrom and force the severed portions carrying a pigment into the metal at the bottom of the depressions in the metal blank.

2. The method of applying a coloring matter to depressions in the form of letters or figures impressed in a metal article, which consists in providing a die and interposing a sheet of fibrous material carrying a pigment between the die and metal blank and then forcing the die toward the sheet and blank to force the pigment carried by the sheet into the depressions as they are formed by the die and force the pigment into the metal of the blank at the bottoms of the depressions, and then removing the fibrous material leaving the pigment embedded in the metal at the bottoms of the depressions.

In testimony whereof we affix our signatures.

OTIS M. MARTIN.
CHARLES M. WEBSTER.