Jan. 13, 1953 F. J. BROWN 2,625,064

METHOD OF MAKING COLORED EMBOSSED EMBLEMS

Filed Aug. 8, 1947

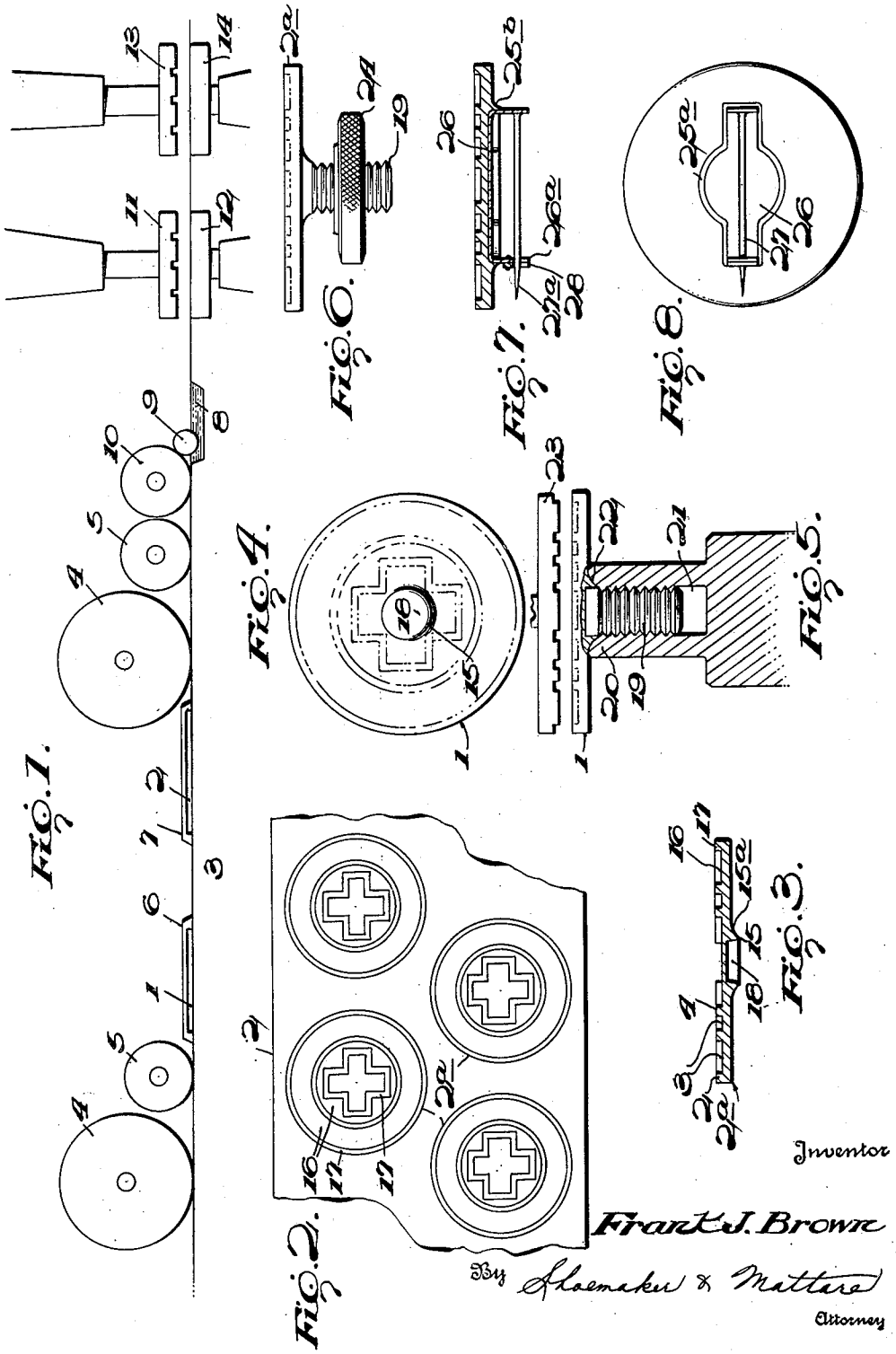


Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

Fig. 6.

Fig. 7.

Fig. 8.

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Patented Jan. 13, 1953

2,625,064

UNITED STATES PATENT OFFICE

2,625,064

METHOD OF MAKING COLORED EMBOSSED EMBLEMS

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Application August 8, 1947, Serial No. 767,634

2 Claims. (Cl. 79—3)

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This invention relates to an improved method for making colored or multi-colored embossed emblems, badges and ornaments.

The present day method of manufacturing multi-colored emblems is slow and costly. The ornamental design is first embossed on the emblem. The attaching means, in the form of a pin, catch, stud or the like, is then secured by soldering to the back of the emblem. When the emblem has cooled down from the soldering operation in the case of coloring through the air dried lacquer process, the colors are then separately applied by spraying or otherwise over a mask or stencil. Experience has shown that it is impossible, by applying the colors over a mask or stencil, to confine the coloring material to only those portions of the embossed surface which should be colored to produce the desired design, so that after the application of the coloring material to the emblem it has always been necessary to carefully remove by hand, excess coloring material from certain portions of the embossed surface, and finally, before completion, there are the steps of pumicing or relieving and plating, repeated individual handling of the small emblems being required in the course of production.

The present invention comprehends applying the coloring material to the emblem by screen process or printing or lithographing the same thereon before embossing the emblem. This provides for putting on the colors with precision, for confining the coloring material to those portions of the surface which should be colored to produce the desired ornamental effect. The necessity for carefully going over the surface of the emblem to remove coloring material from certain portions which should be left free of coloring material, is avoided.

The invention also contemplates the use of prefinished stock and the embossing of a securing means on the back of the emblem formed from the material of the body thereof. In this way, the usual steps of soldering, pumicing and plating are eliminated, together with the repeated individual handling of small pieces of stock, and makes it possible to rapidly produce the emblems in multiple. A superior article is produced at less cost.

An object of the invention is to provide an improved method whereby the coloring material can be easily applied to only those portions of the emblem which it is desired to color so that it is unnecessary after the putting on of the colors to remove coloring material from those portions of the surface which are to be left uncolored.

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Another object of the invention is to provide an improved method which will provide for forming securing means on the back of the emblem simultaneously with the embossing of the emblem and thereby the usual step of soldering the attaching means to the emblem with the attendant danger of spoiling the coloring of the emblem, is entirely avoided.

Another object of the invention is to provide for producing the emblems in multiple from a strip or sheet, and for simultaneously embossing the emblem and forming securing means on the back of the emblem, and then cutting out the emblems from the sheet in multiples, to the end that emblems can be more rapidly produced with a considerable saving in the cost of production.

A still further object of the invention is to eliminate the usual steps of separately pumicing, relieving and plating the small emblem pieces, and the repeated individual handling of the same.

The invention, with other objects and advantages thereof, will be understood from the following detailed description, when considered in connection with the accompanying drawings, forming part hereof and illustrating one form of apparatus for practicing the improved method.

In the drawings:

Fig. 1 is a diagrammatic showing of one form of apparatus for carrying out my improved method;

Fig. 2 is a top plan view of a pre-finished metal piece or strip as used in the apparatus shown in Fig. 1 of the drawings, the strip being shown after coloring material has been applied to a number of separate sections of the strip and the same have been embossed;

Fig. 3 is a transverse section, on an enlarged scale, of one of the emblems after coloring, embossing the face thereof and the forming of a boss or flange on the back of the same by the apparatus shown in Fig. 1;

Fig. 4 is a top plan view of the construction shown in Fig. 3;

Fig. 5 shows diagrammatically a device for securing a screw stud to the back of the emblem shown in Figs. 3 and 4;

Fig. 6 is a side elevation of the construction shown in Fig. 3 with an attaching stud secured thereto and with a retaining member on the stud;

Fig. 7 is a transverse section of one of the emblems provided with a modified form of flange for securing a bar pin type of attaching means to the back of the emblem;

Fig. 8 is a rear elevation of the construction

shown in Fig. 7 with a bar pin type of attaching means secured to the emblem.

In accordance with my improved method, prefinished stock is employed. This may be plastic material, base metal, semi-precious or precious metal, in the case of base metal the stock being plated as well as polished. The color or colors are first applied to a surface of the prefinished stock by printing, screening or lithographing the same thereon. When contrasting colors are to be applied, the colors are put on separately in successive steps, one color being put on and dried, and the same operation being repeated with the other coloring material or materials. After the coloring material has been applied in this way, the stock material is pressed between dies to emboss the printed surface to complete the desired design. The method includes striking up a boss or flange on the back of the emblem, badge or the like for securing attaching means thereto, and this is done by the dies simultaneously with the embossing of the same. The invention contemplates producing the emblems in multiple from a strip or sheet, a coloring material being applied to individual separated sections or areas of a surface of the strip, and each of said separated areas of the surface of the strip being embossed, the plurality of colored and embossed sections being afterwards stamped from the strip or sheet.

In Fig. 1 of the drawings is shown diagrammatically, by way of example, one form of apparatus for practicing my improved method, the particular apparatus indicated being adapted to produce a block of four emblems from a strip or sheet of material. In this view 1 designates a printing plate which has four separate similar printing surfaces arranged in staggered relation, 2 a metal or plastic piece or strip resting upon a support 3, and 4 and 5 are respectively a printing roll and a coloring roll suitably supported for reciprocatory longitudinal travel over the printing plate 1 and the strip or piece of material 2. 6 and 7 designate generally suitable cam means to cooperate with supporting means (not shown) for the longitudinally movable printing roll 4 and the coloring roll 5, the latter receiving coloring material from a coloring supply device comprising a reservoir 8, a feed roller 9 and a roll 10, the latter being disposed for contact with the coloring roll 5 when the rolls 4 and 5 are moved on the stroke to the right from the position shown at the left in Fig. 1. As the rollers 4 and 5 travel from right to left after color applying roll 5 has received coloring material from the roll 10, said rollers are raised by the cam means 7 above the strip or piece 2 but allows roller 5 to descend upon and color the printing plate 1. On the return movement of the rollers 4 and 5 from left to right, roller 4 descends upon the printing plate 1 and receives therefrom upon its rubber blanket or covering the impressions of the printing plate and in the continued travel of the roller 4 to the right, it prints the impressions on the metal strip or piece 2. 11 and 12 designate cooperating dies of conventional form for embossing the several colored sections of the strip or piece 2 and striking up the securing flange or boss on the back of each of the strip sections, there being a gang of four pairs of such die members, in the particular exemplification illustrated in the drawings. After the coloring and embossing of the several sections of the strip or piece 2, the strip is removed from between the dies 11 and 12 and placed between a gang of dies 13 and 14 of any suitable construction for stamping out and ejecting the colored embossed sections from the strip or piece. Suitable means (not shown) is provided for readily placing and holding the strip or piece 2 on its support 3 in proper position relatively to the printing plate 1 and between the gangs of embossing and stamping dies 11, 12, 13 and 14. For this purpose, the strip or piece 2 may be provided with bosses or projections on its bottom face to cooperate with aligning recesses on the support 3 and on the lower members of the embossing and stamping dies.

In Fig. 2 of the drawings, the strip or piece 2 is shown after coloring material has been applied to four separate sections 2a of the same. Fig. 3 shows one of the emblems after coloring, embossing, and the forming of a securing flange 15 on the back thereof by the apparatus shown in Fig. 1, the colored portions of the printed surface of the emblem and the uncolored portions thereof being designated 16 and 17 respectively. In the particular construction illustrated in Fig. 3 of the drawings, a depression 18 is formed in the back of the emblem to receive an end portion of an attaching screw stud or post 19, the flange or boss 15 extending around the depression and having an outer beveled surface 15a to facilitate swaging of the flange against the stud 19 to secure the same to the back of the emblem.

In Fig. 5 of the drawings is shown a device for swaging down the flange or boss 15 on the back of the emblem around the inner end of the stud 19 to secure the same thereto. This device is shown as comprising a lower die member 20 having a central tubular part 21 to receive and hold the cylindrical stud, and an upper beveled annular face 22 adapted to engage the beveled surface 15a of the flange or boss 15 when the emblem positioned on top of the stud as shown is forced downwardly by a cooperating upper presser member 23. A retaining screw button 24 of conventional form, is provided to cooperate with the screw stud 19.

In Figs. 7 and 8 of the drawings another form of securing flange is shown, appropriately shaped lower die members 12 of the embossing dies being substituted for that form of the lower die members shown in Fig. 1 of the drawings to produce this modified construction. In this instance the flange, designated 25, is of elongated general rectangular shape with an enlarged portion 25a centrally of its ends to correspond with the shape of the body portion 26 of a bar type pin or clasp, the flange having a beveled outer face 25b and being forced down over the body portion 26 of the clasp for securing the same to the back of the emblem. The attaching pin or clasp shown is of conventional form comprising a pin 27 pivotally connected at one end to the body portion 26 at one end thereof. The body portion 26 at its other end is provided with an upstanding slotted portion 26a to receive therein the pointed end portion 27a of the pin, the latter being retained in said slotted portion 26a by a rotary safety catch 28 of well-known form.

My improved method results in a more pleasing, satisfactory article and a considerable reduction in the cost of manufacture. The application of the coloring material to the emblem by printing the same thereon, previous to embossing the emblem, provides for putting on the colors with greater precision, the colors being confined to those portions of the surface which should be colored to produce the design desired.

The necessity for removing coloring material from portions of the surface by hand after putting on the colors is avoided and a more satsifactory coloring of the emblem is assured. By forming securing means for the attaching means on the back of the emblem, the step of soldering is eliminated and by the use of pre-finished stock, repeated individual handling of the emblems in pumicing and plating is avoided.

What I claim is:

1. The method of making colored emblems which includes applying coloring material by printing, lithographing or silk screen process printing on portions of the surface of a rigid metal plate, allowing the coloring material to dry, and thereafter while maintaining the plate at normal temperature forming on the opposite face of the plate by pressure a continuous outwardly projecting flange defining a seat within the marginal portion of the same, and then permanently attaching a pre-formed part of a fastening means on said last mentioned face of the plate by swaging said flange against and about said fastening means part.

2. The method of making colored emblems which includes applying coloring material by printing, lithographing or silk screen process printing on portions of the surface of a rigid metal plate, allowing the coloring material to dry, thereafter while maintaining the plate at normal temperature embossing said surface to produce thereon the desired design, and simultaneously forming a boss on the rear face of said metal plate, and then permanently attaching a

pre-formed part of a fastening means on said last mentioned face of the plate by interlocking by pressure a portion of said fastening means part with said boss.

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