

May 4 , 1926.

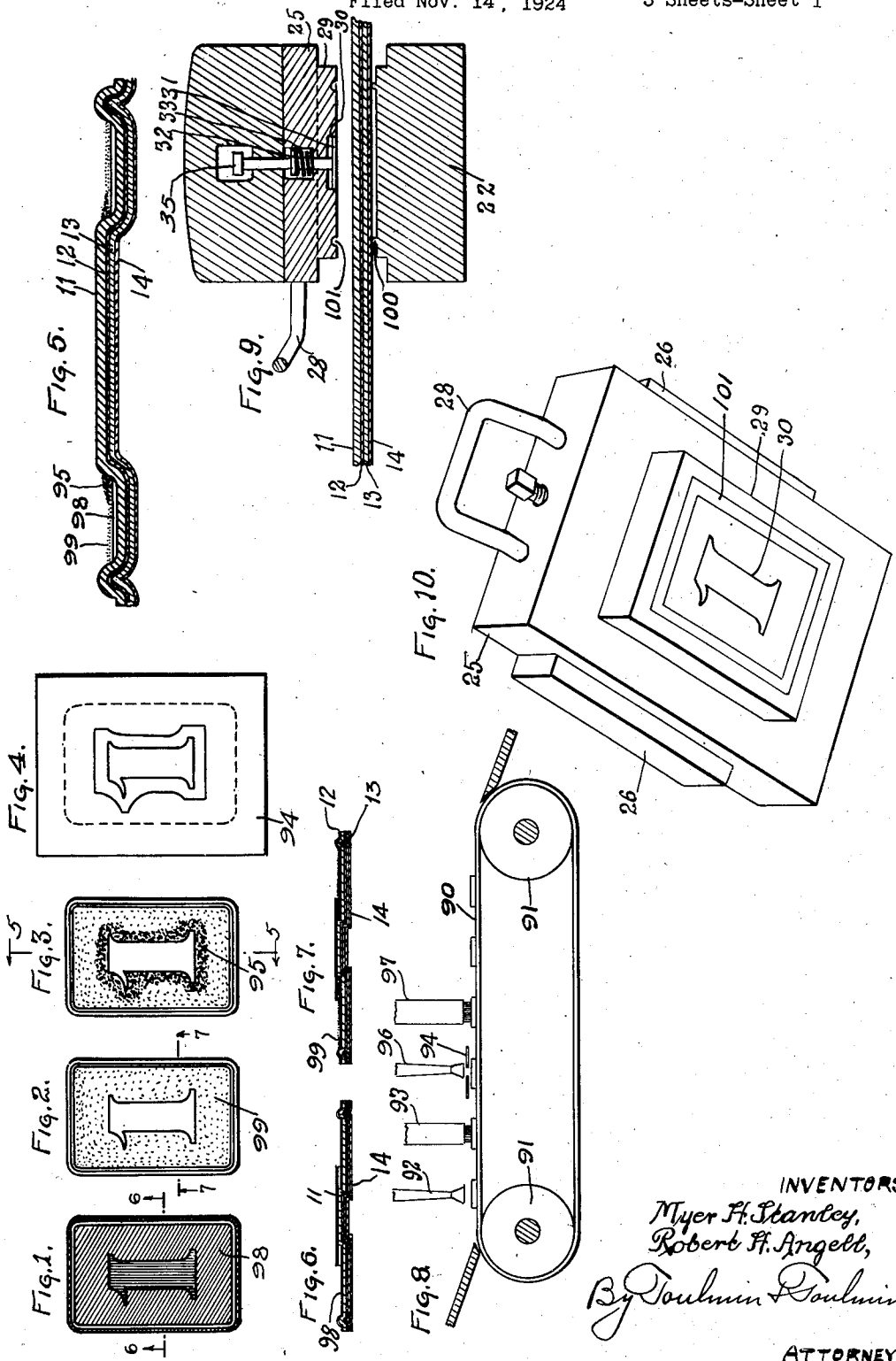
1,583,022

M. H. STANLEY ET AL

METHOD OF MAKING METAL LABELS

Filed Nov. 14, 1924

3 Sheets-Sheet 1



May 4, 1926.

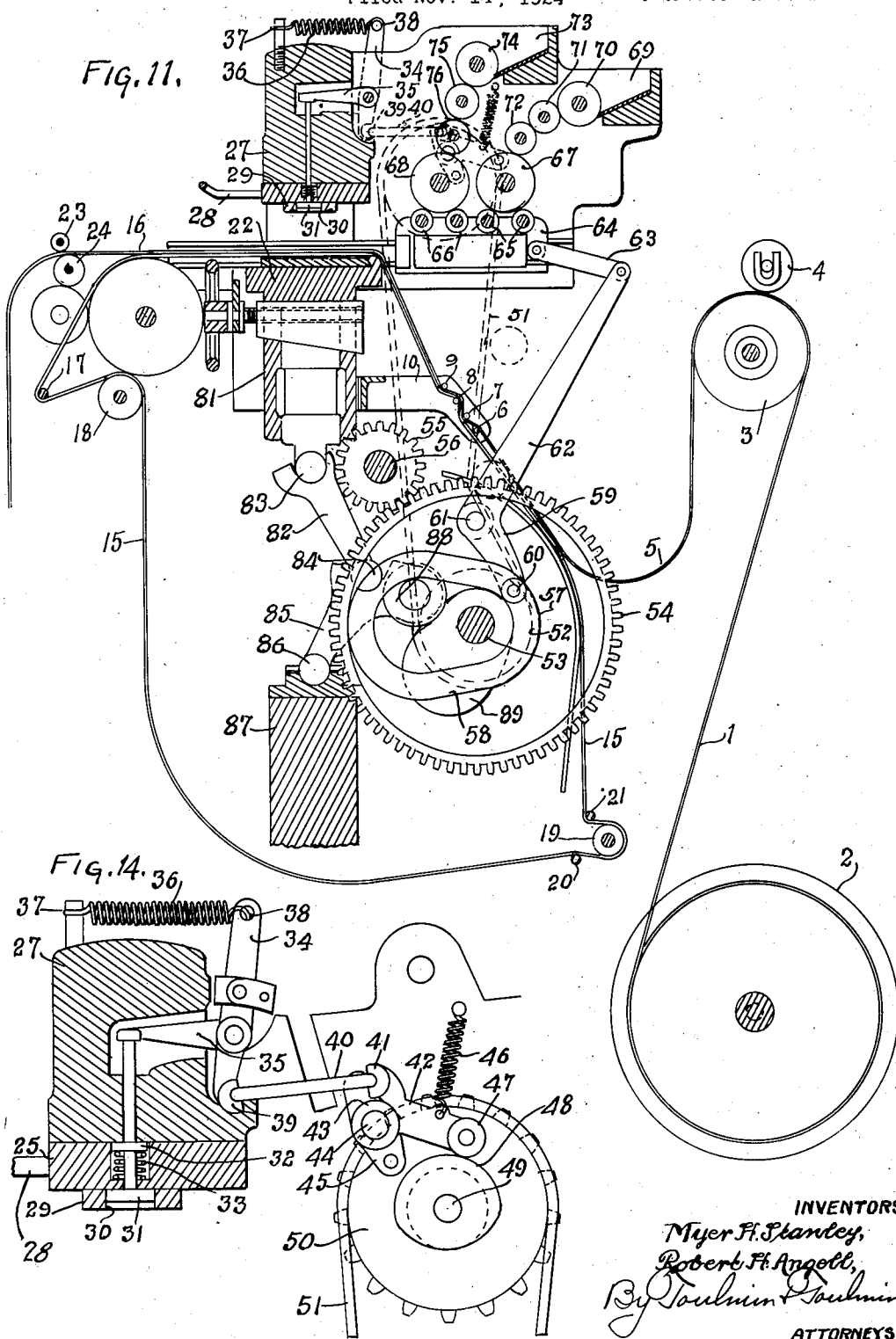
1,583,022

M. H. STANLEY ET AL

METHOD OF MAKING METAL LABELS

Filed Nov. 14, 1924

3 Sheets-Sheet 2



May 4, 1926.

1,583,022

M. H. STANLEY ET AL
METHOD OF MAKING METAL LABELS

Filed Nov. 14, 1924

3 Sheets-Sheet 3

FIG. 12.

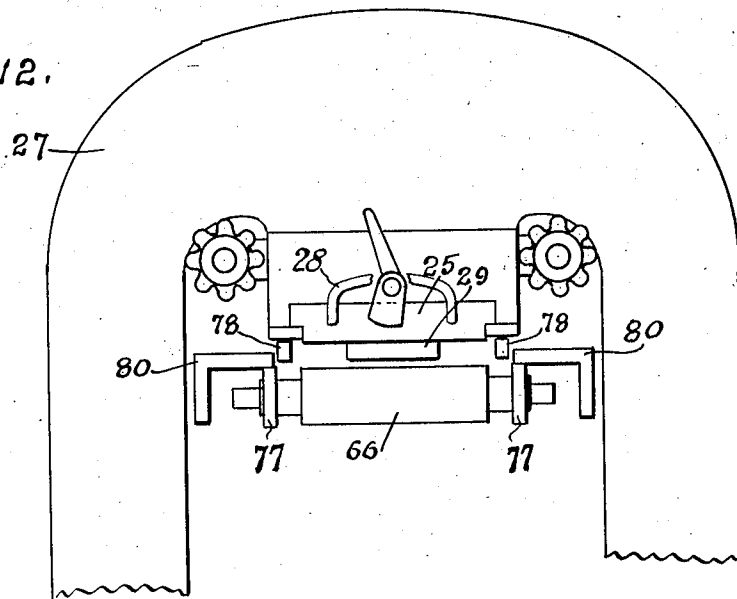
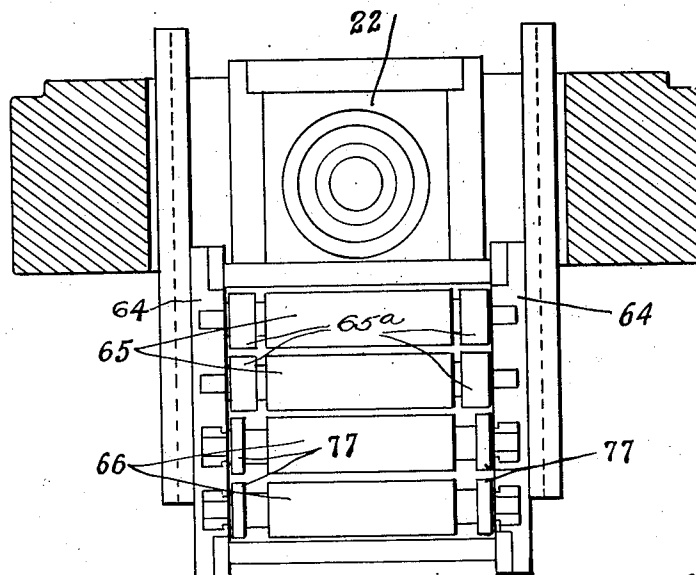


FIG. 13.



INVENTORS
Myer H. Stanley,
Robert H. Angell,
BY Paulmin Paulmin,
ATTORNEYS.

UNITED STATES PATENT OFFICE.

MYER H. STANLEY AND ROBERT H. ANGELL, OF DAYTON, OHIO, ASSIGNORS TO THE STANLEY MANUFACTURING COMPANY, OF DAYTON, OHIO, A CORPORATION OF OHIO.

METHOD OF MAKING METAL LABELS.

Application filed November 14, 1924. Serial No. 749,943.

To all whom it may concern:

Be it known that we, MYER H. STANLEY and ROBERT H. ANGELL, citizens of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Methods of Making Metal Labels, of which the following is a specification, reference being had therein to the accompanying drawing.

Our invention relates to a method of making metal labels and a new article of manufacture produced by the method.

It is the object of our invention to provide a metal label in one or more colors adapted to be mounted upon any type of surface.

It is a further object of our invention to provide such a label which will have embossed portions either of the original metal in its brilliant state or treated by separate colors or the like.

It is an additional object of our invention to provide such a label having embossed portions of a different color or entirely free from color with the depressed portions of one or more colors or shades.

It is a further object to provide a label in which the depressed portions are of a different color or shade around the embossed portions closely adjacent thereto from the color of the depressed portions remotely located from the embossing.

It is a further object to provide a method of producing these labels by substantially simultaneous application of the color or colors, the formation of the embossing and the trimming of the complete labels from a continuously moving strip of material.

It is our object to provide such a label which can thus be produced in large quantities and having a glued paper back so that the label can be applied to any kind of surface and be retained thereon.

Referring to the drawings:

Figure 1 illustrates a complete label in two colors as it comes from the press prior to the dusting treatment;

Figure 2 shows a label with color applied to the depressed portions only by the dusting treatment, the embossed portion being free of dusting;

Figure 3 shows a label as in Figure 2 after the second dusting operation so that the dust is applied to the portions of the background closely adjacent to the embossed portion to provide a shadow effect;

Figure 4 is a plan view showing the location of the stencil in position;

Figure 5 is a section through a typical label showing the position of the several materials with respect to one another; Figure 5 is also a section on the line 5—5 of Figure 3;

Figure 6 is a section on the line 6—6 of Figure 1;

Figure 7 is a section on the line 7—7 of Figure 2;

Figure 8 is a side elevation of diagrammatic arrangement of the apparatus for applying the dust and removing the dust to form the labels;

Figure 9 is a section through the material and the supporting blanket, together with the two color press, punch and die equipment;

Figure 10 is a perspective of the die;

Figure 11 is a side elevation partially in section of the complete machine for forming the labels with one or more colors in embossed condition from a continuous strip of stock having the glued paper back on the metal strip;

Figure 12 is a front elevation of the upper end of this press showing the location of the ink rollers and die; and

Figure 13 is a plan view partially in section showing the position of the inking rollers about to pass over the punch.

Figure 14 is an enlarged detail view of the opposite side of the mechanism shown in the upper part of Figure 11.

Referring to the drawings in detail, a strip of material or stock 1 carried on the roll 2 is fed over the guide and tension rollers 3 beneath the roller 4 through a loop 5 between the tension rollers 6, 7, 8 and 9 in a zig zag path. These rollers are carried on a downwardly extending bracket 10 mounted on the press.

The stock itself is composed of a bright metal strip of very thin character preferably of copper or brass or some similar ductile alloy and a backing of paper and glue.

11 designates the metal, 12 the glue to which the paper strip 13 is attached to the metal strip 11, while 14 is the outside coating of glue used for attaching the completed label to its supporting surface.

This stock strip which is approximately the width of the label to be formed is carried through the press on a rubberized fabric belt designated 15 which passes upwardly to engagement with the stock strip through the press carrying the strip and the labels which are punched out from the strip, to the point 16 at which place the stock strip from which the labels have been punched out separates from the blanket 15 which continues with the labels on it until the labels are stripped from the blanket where it passes over the roller 17, back over the tension roller 18 and thus downwardly over the guide rollers 19, 20 and 21.

This combined stock strip and blanket pass over the bed of the press designated 22. The strip of refuse stock from which the labels have been punched after being separated from the blanket 15 is passed out between the rollers 23 and 24 to the scrap heap.

The die shown in Figure 10 is carried in a removable block 25 which is mounted by the shoulders 26 in cross section in the press head 27. A handle 28 facilitates the introduction and removal of this die block. The die proper is marked 29 and if a two color process is to be used the portion which is to have the additional color is cut away as at 30 in the configuration desired. This opening is filled by a second reciprocating member carrying the additional color which is adapted to project at certain intervals beyond the face of the block 29. One color is applied by one set of rollers to one portion of the die and the other color is applied to the other portion of the die. Thus the two portions of the die may be independently inked with different colors and with one operation successively impressed upon the common stock strip to form labels having a plurality of colors.

It will be understood that this smaller reciprocating block working in the aperture is designated 31 and is operated by a plunger 32 against a helical spring 33. This plunger in turn is operated by a bell crank 34 to which is connected a lever 35 yieldingly held in one position by the helical spring 36 which is attached to the press head at 37 and to the lever 35 at 38.

The other arm of the bell crank is connected by a ball and socket joint 39 to an actuating link 40. This link is connected by a ball and socket joint at 41 to an actuating lever 42 mounted by a sleeve 43 on a stub shaft 44 carried by a bracket 45 on the frame of the machine. This lever 42 is yieldingly suspended by the helical spring

46. A roller 47 is mounted on the end of the arm 42. This roller rolls upon the cam 48 mounted on the shaft 49. This shaft 49 is operated by a gear 50 which in turn is operated by a chain 51 which is actuated by a gear 52 on the main operating shaft 53. This main operating shaft 53 carries the gear 54 which operates the gear 55 on the shaft 56. Also carried on this shaft 53 is a cam 57 having a slot 58 which operates the bell crank 59 through the roller 60. This bell crank is mounted on the shaft 61 carried by the frame of the press. The other arm on the bell crank is designated 62 and has connected at its upper end a link 63. The cam 58 rotates to give reciprocatory movement to the inking roller carriage 64. This carriage carries two sets of rollers designated 65 and 66. The rollers are supported or journaled in the frame 64. One set is for one color and the other set is for another color. The rear set is located at a lower level than the forward set so that the rear color roller 67 will apply one color to the roller 65 while such rollers will not engage with the forward color roller 68. The distributing roller 67 distributes the ink from the ink well 69 through the rollers 70, 71 and 72, while the roller 68 secures its ink from the ink well 73 through the rollers 74, 75, and 76.

When the carriage 64 is moved toward the die 29 for the purpose of inking it, the rollers 77 of the transfer inking rollers 66 will be guided by the track 80 to maintain the rollers in predetermined position and the guide rollers 65 of the transfer inking rollers 65 will engage depending brackets 78 to limit the movement of the rollers 65 with respect to the die. The rollers 66 are located so that the upper surfaces thereof will be in the same plane as the lower surface of the portion 29 of the die and as the carriage 64 is advanced the surface 29 (Fig. 11) will come in contact with the rollers 66, inking said surface, immediately following which the spring pressed member 31 of the die may be extended far enough to bring it in contact with the rollers 65 carrying a different colored ink, the rollers 65 being in a plane low enough not to wipe the surface 29 of the die. It will thus be seen that the two portions of the die may be inked with two different rollers practically simultaneously, or one set of inking rollers only may be used and only one portion of the die inked, as desired.

The bed of the press 22 is moved upwardly on this supporting column 81 through the agency of a link 82 connected thereto by a ball and socket 83. This link is connected by a ball and socket joint 84 to a reciprocating bracket 85 pivoted on the frame at 86. The frame is designated 87. This bracket carries a cam roller 88 which

is rocked by a cam 89 mounted on the shaft 53.

After the labels have thus been formed in one or two colors, trimmed and embossed, they have the form shown in Figure 1.

In order to trim the labels from the stock cutting edges 100 are provided to operate in recesses 101 to cause a trimming operation to take place.

They are then placed upon a continuously moving belt or similar mechanism such as the belt 90 mounted on the driving rollers 91. The labels having only a single inked portion pass under the mouth of a dusting apparatus 92 and then under a wiping apparatus 93 so arranged as to wipe off the superfluous dust on the raised or embossed portions of the label. The label is then passed beneath a stencil 94 which is cut away to expose a limited portion of the background around the embossing in order to permit of the application of a second quantity of dust to form the portion of the dust indicated as 95. This dusting apparatus is designated 96. The labels are then moved from beneath the stencil past the wiper 97 which removes any superfluous dust from the surface of the embossed portions of the label.

As the colored background 98 of the label is slightly damp from the application of color the dust designated 99 will adhere thereto, as well as the dust designated 95.

After the completion of these operations the labels are in condition for final drying and shipment.

It will be understood that we desire to comprehend within our invention such modifications of machinery and details of our process which may be necessary to adapt it to varying conditions and usages.

Having thus fully described our invention, what we claim as new and desire to secure by Letters Patent, is:—

1. A new article of manufacture such as a metal label consisting of embossed portions, and a colored portion between the embossed portions, said colored portion having a surface composed of a fine colored dust of irregular area scattered thereon.

2. A new article of manufacture such as a metal label consisting of embossed portions, a colored portion between the embossed portions, said colored portion having a surface composed of a fine colored dust, and a portion of the colored dusted portion having an additional amount of different colored dust adjacent the embossed portion to indicate shadow and depth.

3. A new article of manufacture such as a metal label consisting of embossed portions, and a colored portion between the embossed portions, said labels having a non-metallic back, and means on said back for attaching the label to articles.

4. A new article of manufacture such as a metal label consisting of embossed portions, a colored portion between the embossed portions, said colored portion having a surface composed of a fine colored dust, said labels having a non-metallic back fixed thereto, and means on said back for attaching the label to articles.

5. A new article of manufacture such as a metal label consisting of embossed portions, a colored portion between the embossed portions, said colored portion having a surface composed of a fine colored dust, and a portion of the colored dusted portion having an additional amount of different colored dust adjacent the embossed portion to indicate shadow and depth, said labels having a non-metallic back fixed thereto, and means on said back for attaching the label to articles.

6. In a method of producing a metal label, embossing the label, printing a portion of the label between the embossed portions with color, spraying the label with dust and severing the label from a strip.

7. In a method of producing a metal label, embossing the label, printing a portion of the label with color, and severing the label from a strip, and spraying the label with dust and wiping the raised portions of the label free of dust.

8. In a method of producing a metal label, embossing the label, printing a portion of the label with color, severing the label from a strip, spraying the label with dust, wiping the raised portions of the label free of dust, and putting a second coat of dust on certain portions of the label.

9. In a method of producing a metal label, embossing the label, printing a portion of the label with color, severing the label from a strip, spraying the label with dust, wiping the raised portions of the label free of dust, putting a second coat of dust on certain portions of the label, and again wiping the raised portions of the label free from dust.

10. In a method of making metal labels, embossing the labels from a stock strip, imprinting a portion of the label with color, dusting the colored portion, wiping the raised portions from any dust, locating a stencil over a portion of the label, and applying a second coat of dust.

11. In a method of making metal labels, embossing the labels from a stock strip, imprinting a portion of the label with color, dusting the colored portion, wiping the raised portions from any dust, locating a stencil over a portion of the label, applying a second coat of dust, and wiping the second coat of dust from the raised portions of the label.

12. In a method of producing a metal label with a non-metallic back, joining a

non-metallic back to a thin metallic member by adhesive, applying adhesive to the exposed surface of the non-metallic back, embossing and punching the desired labels from the strip of stock consisting of the metal strip with a non-metallic back, printing color on predetermined portions on said label, dusting the colored portions of the label, and wiping the dust from the raised portions of the label.

13. In a method of producing a metal label with a non-metallic back, joining a non-metallic back to a thin metallic member by adhesive, applying adhesive to the exposed surface of the non-metallic back, embossing, punching the desired labels from the strip of stock consisting of the metal strip with a non-metallic back, printing color on predetermined portions on said label, dusting the colored portions of the label, wiping the dust from the raised portions of the label, placing a stencil over a portion of said label, and applying a second

coating of dust to a portion of the label exposed.

14. In a method of producing a metal label with a non-metallic back, joining a non-metallic back to a thin metallic member by adhesive, applying adhesive to the exposed surface of the non-metallic back, embossing, punching the desired labels from the strip of stock consisting of the metal strip with a non-metallic back, printing color on predetermined portions on said label, dusting the colored portions of the label, wiping the dust from the raised portions of the label, placing a stencil over a portion of said label, applying a second coating of dust to the portion of the label exposed, and wiping the superfluous dust from the raised portions of the label.

In testimony whereof, we affix our signatures.

MYER H. STANLEY.
ROBERT H. ANGELL.