METHOD OF MAKING CHECK PROTECTING STAMPS

INVENTOR.

Louis J. Misuraca.

By

Handy Patacco
L. J. MISURACA

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INVENTOR.

Louis J. Misuraca.

By

Harold J. Pelcment
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Louis J. Misuraca, Glendale, Calif.

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This invention relates to check protecting means and more particularly to an inexpensive and reliable form thereof, the method of formation thereof and a means for practicing one of the steps in the method.

Hereinafter, check protecting devices have generally been in the form of machines having movable and interchangeable printing and paper mutilating dies, but such devices are so costly as not to be feasible economically for any user except those having large numbers of checks to write and having a place where such devices are installed as a part of the office equipment. For the large number of persons using checking accounts and writing relatively few checks there is at present no practical means available whereby they may protect their checks against alteration excepting the expensive devices above referred to.

With these considerations in mind, it is an object of the present invention to provide a check protecting stamp from material and by a method under which no two stamps will be alike and also whereby the authenticity of a check may be determined by means other than the signature on the check.

Another object of the invention is to provide a check protecting stamp which will impose a design over the space on a check containing the name of the payee and the amount so that any attempt to change either the name or the amount will so deface the check as to make it impossible to avoid evidence of such tampering.

A further object of the invention is to provide a method of manufacture of check protecting stamps whereby from a given base material, a great number of stamps may be made in substantially the same size and shape but in which each stamp is ascertainably different from every other stamp with respect to the impression made thereby.

Still another object of the invention is to provide a master design of stamp face material of such size that a large number of stamp units of identical size and shape may be cut therefrom and of such design that no two of such units will produce identical imprints.

A still further object of the invention is to provide a method by which stamp face units of identical design are cut from identical positions of different master design elements and therefore being identical may be so mounted on individual hand pieces as to produce individually different impressions.

Still another object of the invention is to provide a means by which stamp face units of identical design as cut from a master design element may be distorted to predetermined different extents incident to the mounting of such units on hand pieces with resultant production of a plurality of stamps each producing a different impression from a series of units which initially were exactly identical in form.

With the foregoing objects in view, together with such other objects and advantages as may subsequently appear, the invention resides in the steps of the method and in the parts and construction, combination and arrangement of parts as well as in the apparatus for producing the finished product disclosed, by way of example, in the following specification of certain satisfactory modes of execution of the invention; reference being had to the accompanying drawings which form a part of said specification and in which drawings:

Fig. 1 is a view of a typical check to which a stamp forming a part of the present invention has been applied.

Fig. 2 is a perspective view of a hand stamp having a stamp face formed according to the present invention.

Fig. 3 is an enlarged plan view of the impression made by a stamp having a stamping unit cut from a master element such as shown in Figs. 4 and 5 at the location indicated in broken lines in Fig. 4.

Fig. 4 is a diagrammatic representation of a master element from which stamping units may be cut.

Fig. 5 is an enlarged fragmentary view of the master element showing more in detail a means by which the various portions of the area thereof may be made to be different from one another area of comparable size and shape in the element.

Fig. 6 is an exploded view showing a stamping unit and cushion element therefor prior to assembly.

Fig. 7 is a perspective view showing the stamping unit and cushion element assembled preparatory to mounting on a hand piece.

Fig. 8 is a front elevation of a gluing press for mounting the assembled stamping unit and cushion on a hand piece and including means for effecting predetermined extents of distortion therein as an incident to such gluing.

Fig. 9 is a top plan view of the press shown in Fig. 8, and

Fig. 10 is a view of the completed stamp in the position occupied in the gluing press; portions being broken away to show interior construction.

In general a stamp having an area of about 5" long by about 1¾" wide will cover the area of a check containing the lines on which the name of the payee and the amount of the check is written. In the embodiment of the invention to be disclosed by way of example, the first step is the formation of a thin rubber sheet 11 having a design 12 on one face thereof comprising an arrangement of lines and letters or other characters which in some respects is different in every area thereof comprising the area of a stamp from every other area of that size.

In the illustrated embodiment, the design comprises crossing diagonal lines forming a pattern of diamonds 13 as best shown in Figs. 3 and 5. Certain groups 14 of these diamonds have the word "safety" arranged therein; one letter to each diamond and the group forming a larger diamond with the words being formed in lines extending downwardly to the left and also along the vertical and horizontal center lines of the diamond group. The various diamond groups are separated from each other by single lines of diamonds 15 and in each of these rows, the diamonds are arranged with a dot producing projection disposed at the same point in each diamond in that row. By way of example referring to Figs. 4 and 5 and first to Fig. 4, there is shown in reduced scale a sheet 11 in which the lines of blank diamonds are indicated by numbered diagonal lines; the legend at the bottom of the figure indicating the location of the dots within the diamonds in each such row. It is believed to be obvious that these rows can be so arranged that each group of diamonds will be bordered by a combination of such rows that differs at least one side from every other group thus producing a master design that differs in every area the size of a stamp pad from every other area of that size. The selection of the word used may be the same for each group of diamonds or different words may be used for different groups, and it is believed to be obvious that other geometric designs may be used and that the words employed need not be six letter words but may be either longer or shorter.
The master design element 11 is produced from a drawing in the usual manner of producing the printing faces for rubber stamps involving the making of a zinc electro-etched positive and the formation of a mold from that positive in which the rubber is molded to form the design to be printed and with a thin backing portion which is usually less than ½ thick. The individual stamp elements 16 are then die cut from the master element 11. In the illustrated embodiment of the master design element a length equal to seven lengths of the pad elements and a width equal to the width of seven pad elements is contemplated. The pad elements are all cut at once from the master design element by a suitable die of the type known as a clicking or as a "dinking" die to avoid the waste of material.

Assuming that the first master design element is cut with the die exactly aligned longitudinally with the element, there will be 49 stamp elements formed therefrom. Next, assuming that the die is moved in increments of ½ either laterally of the master design element or longitudinally thereof for a total of the width and length of the pad element, or in combination of those elements, the possible total of individually different pad elements is approximately 7,000 with the lesser of the pad elements being parallel to the length of the master design element alone. Additionally, the die can be disposed at various angular relations to the length of the master element through a range of 180 degrees and in increments of, say, 2 degrees where possible also bodily shifted laterally and/or longitudinally of the master element in predetermined increments multiplying many times the number of individually different pad elements which can be obtained from a single relatively small master element; the final number probably being in excess of 1,000,000.

The stamping units elements 16 after being cut from the master design element are then each mounted on sponge rubber backing strips 17 as shown in Fig. 7 and the combined backing strip and stamping unit is then secured to a suitable hand piece 18 by cementing in a press such as shown in Figs. 8 and 9. The press comprises a base 19 having locating and supporting bosses 20 having sockets 21, 22 adapted to engage and support the hand piece 18 of a hand stamp in inverted position. A bracket 23 rises from the rear of the base 19 and thence extends forwardly above the plane of the bosses 20, 22 and at its distal end 23 it threadedly carries a vertical screw 24 having a capstan handle 25 at its upper end and at its lower end supporting a platen element 26 of substantially the length and width of the stamping unit. The rear face of a backing strip 17 or the complementary face of a hand piece, or both, are coated with a suitable adhesive and the combined stamping unit and backing strip is then assembled with the hand piece and placed in the press and the platen screwed down against the assembled stamp to hold them tightly together while the adhesive is setting. The backing strips are of such length that they extend beyond the ends of the stamping units for a purpose to be presently described and after the adhesive has set, the completed stamp is removed from the press, the ends of the backing strip are cut off flush with the ends of the hand piece to complete the stamping unit. The hand piece is then given a serial number in any suitable manner such as shown for example at the left hand end of Fig. 2, the impression of the stamp recorded on a card bearing that serial number and the stamp is ready for sale or issue to a user.

The foregoing description relates to those stamping units that are applied to the hands in unstretched condition. Other stamping units and their backing strips are applied to their respective hand pieces while being stretched to various predetermined extents, a means for so doing being shown in connection with the gluing press shown in Figs. 8 and 9. This means comprises a fixed position clamping means 27 mounted on a boss 28 at one side of the base 19 and comprising jaws 29 and 30 and a clamping screw means 31 operable to cause the jaws to grip the portion of the backing strip 17 extending beyond one end of the stamping unit applied thereto. At the opposite side of the press is a second clamping unit 32 comprising jaws 33 and an operating clamping means 35 adapted to grip the opposite end of a backing strip. The jaw 34 slidable engages a forked element 36 carried by the base 19 to hold it against turning and at the end thereof opposite the gripping end threadedly engages the threaded end of a shaft 37 of a shaft 38 journalled in a bearing 39 rising from the hand piece 19. Between its ends the shaft carries a bevel pinion 31 meshing with a bevel gear 42 carried by a vertical shaft 43 journalled at its lower end in a bearing boss 44 rising from the base 19 and above the gear 42, journalled in a bearing bracket 45 rising from the base and thence extending forwardly over the boss 45. The bearings 44 and 45 hold the shaft 43 from endwise movement and the opposed faces of the pinion 41 and a thrust collar 46 carried by the shaft 38 engaging the opposite faces of the bearing 39 likewise prevent endwise movement of the shaft 38. Fixed to the upper face of the bearing bracket 45 and surrounding the shaft 43 is a disc 47 having a series of equidistantly spaced raised dots 48 around the entire outer periphery thereof and fixed to the upper end of the shaft 43 above the disc 47 is a pin 49 provided with a plunger 50 adapted to be engaged with and disengaged with the holes 48. In the present example, the threads on the shaft are cut 16 per inch and the ratio of the pinion 41 to the gear 42 is 4:1. Thus, one revolution of the shaft 43 will cause four revolutions of the shaft 38 with resultant movement of the clamping unit 32 a distance of 1/4 inch. The illustrated disc is provided with twenty numbered holes 48 and thus the clamping unit 32 may be moved to any one of twenty portions of the said 1/4 inch, stretching the stamp elements in increments of approximately .012 inch.

In use, the clamping jaws 32 are first moved in close proximity to the position of the hand piece to be clamped in the press with the handle 49 stopped at the hole selected and marked as zero. The assembled backing strip and stamping unit and hand piece is then placed in the press, the clamping units engaged with both ends of the backing strip and the handle 49 moved to the selected hole 48 in the disc with resultant stretching of the combined backing strip and stamping unit to a predetermined extent. The press is then closed to allow the adhesive to secure the elements together in that stretched position and upon releasing the clamps the stretchable backing strip and hand stamp removed from the press and the movable clamping unit 32 is returned to zero position. The surplus ends of the backing strip are trimmed off and the stamp is then ready for recording and issue or sale as before described.

Thus by the simple means of stretching the stamping units to predetermined extents, each of the more than 1,000,000 possible different stamping units that can be formed from one master design of relatively small size can be further varied up to twenty times. All of these factors when considered with the further possible multiplication by means of master design units having different designs such as the name of the cashier or the like, render the possibilities of each person issuing checks having a stamp that can be applied to each check written as shown in Fig. 1 and preferably after the check is written and in which the stamp issued to each person will be unlike the stamp issued to any other person and thus insure both the genuineness of the check and the possibility that the check might be raised without detection. A check protected by a stamp of this character is in such form that alteration is a practical impossibility. First, any attempt to erase the writing associated with the stamp is almost certain to so change the gridwork pattern of the stamp as to at once invite suspicion as to the authenticity of the check. Second, even though the
erasure might be accomplished and the person attempting to alter the check be supplied with a similar stamp, the attempted re-stamping would fail to be in exact registry with the previous stamp and thus again reveal the tampering with the check.

A further advantage lies in the fact that while a single stamp of a size to cover the area to be protected in a single impression is preferable, smaller stamps of, say, half the indicated length may be similarly made and imprinted twice in end to end relation on the check area. As thus formed, the stamps of the present invention would be of a size that may be comfortably carried in the pocket and would be of the common type of hand piece and stamp pad enclosing the stamp face. Since there are many forms of inking pads and of hand pieces for stamps, any of which can be used with the present invention a showing of a common form of hand piece in the drawings has been deemed sufficient.

In view of the foregoing considerations, the invention is not to be deemed to be limited to the exact form thereof described above by way of example, but rather to include in its scope all such changes and modifications in the practice of the above described method as shall come within the purview of the appended claims.

I claim:

1. The method of producing check protecting stamps from a plurality of identical master design elements wherein each individual stamp is different from every other stamp produced from said plurality of master design elements; said method comprising providing a plurality of identical master design elements of resilient moldable material, said master design elements having a printing face comprising a gridwork of parallel intersecting lines defining a plurality of rhomboidal areas with certain of said areas lying in straight lines and having printing characters therein effective to combine the other areas into uniform rhomboidal groups, said straight lines of areas having differently arranged characters with said lines so arranged that each of said groups is bounded by a combination of said lines that is different than the lines bounding each of the others of said groups and said master design elements being of a size in which length and width is equal to a plurality of the lengths and widths, respectively, of the stamping elements to be produced therefrom, cutting stamping elements from said master design elements at varying angular, longitudinal and lateral positions thereon such that no two stamp elements are identical but in which the location on the master design element from which they were cut can be ascertained, and finally mounting the stamping elements on hand pieces to complete the formation of the stamps.

2. The method of producing check protecting stamps which comprises first providing a plurality of identical resilient stamping elements of a size and shape sufficient to cover the area occupied by that portion of a check carrying the name of the payee and the amount for which the check is written, providing an equal number of hand pieces for said stamp elements, adhesively mounting each of said stamp elements on a hand piece and incident to such mounting, stretching each of said stamp elements to a different predetermined longitudinal extent with resultant formation of a plurality of individually different hand stamps from the said pluralities of identical stamp elements and said plurality of hand pieces.

3. The method of producing a multitude of individually different check protecting hand stamps which comprises first providing at least two master design elements each of a size greater than the size of a plurality of the individual stamps, each of said master design elements having identical, non-repetitive printing designs over their entire surfaces, cutting a plurality of stamping elements of uniform size from said master design elements in a predetermined pattern of selected angular, longitudinal or lateral positions thereon such that each stamping element cut from one of said master design elements is different from every other stamping element cut from the same master design element and is identical to one only of the stamping elements cut from each of the other master design elements, stretching all but one each of the said identical stamping elements to different extents and while so stretched, mounting the stamping elements on hand pieces and also mounting the unstretched ones of said stamping elements on hand pieces with resultant increase in the variety of stamping elements which can be produced from a single design on the master design elements.

4. The method of producing individually different hand stamps for check protecting purposes comprising the steps of providing a plurality of resilient stamping elements having an identical design on the printing face thereof, providing an equal number of hand pieces, mounting one of said elements on one of said hand pieces in an unstretched condition, and mounting each of the others of said stamping elements on the others of said hand pieces while each of said other stamping elements is stretched to a different extent than any one of said other of said stamping elements.

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