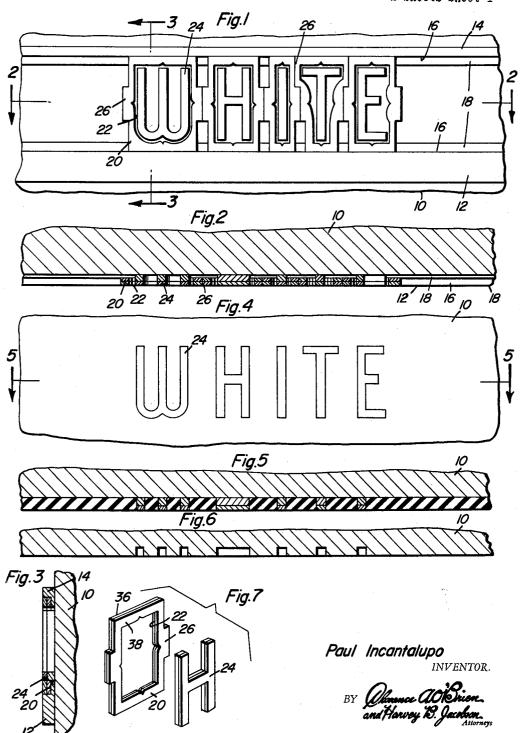
SAND BLAST STENCIL AND METHOD

Filed Nov. 15, 1960

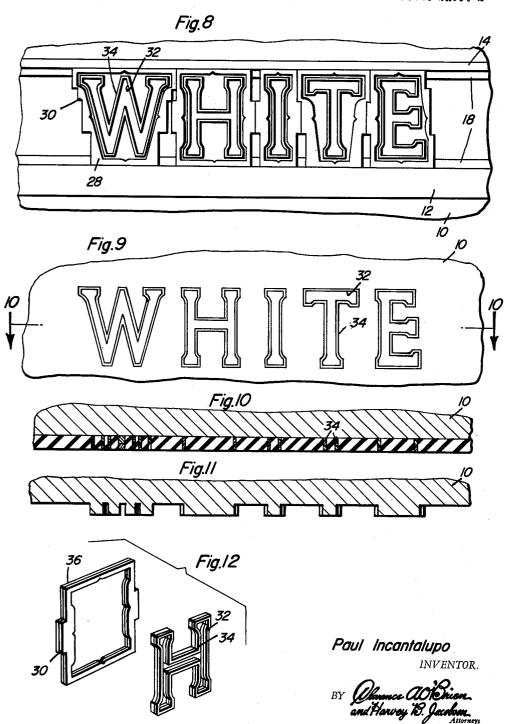
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SAND BLAST STENCIL AND METHOD
Paul Incantalupo, 390 2nd Ave., Newark 7, N.J.
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5 Claims. (Cl. 51—312)

The present invention generally relates to a letter forming device and more particularly to such a device for use in forming letters in stones, such as marble, granite and the like, such as are employed as monuments, me- 10 morials and the like for enabling the letters to be more rapidly formed and more accurately formed and positioned in the desired orientation thereby providing a very accurate letter forming arrangement.

In present-day methods, such stones are carved by us- 15 ing a sand blast. Generally, the "Scantlebury" process or method is employed as generally defined in Patent No. 1,206,780. This basically includes a procedure in which the surface of the stone is covered with a resilient coating generally of rubber and the letters are formed by cutting through the resilient coating by employing a hand tool such as a knife provided for this particular procedure. After the letters are formed by cutting through the rubber, the sand blast procedure is then undertaken and the letters are thus formed. As will be clearly apparent, the skill of the person forming the letters will actually govern the quality of the finished product. Further, the formation of these letters by hand is quite tedious, time-consuming and requires a high degree of skill. As a result, the formation of letters in stone such as marble, granite and the like is a relatively expensive procedure and it is the primary object of the present invention to provide a novel method of forming the letters themselves and a novel method of orientating the letters in position on the stone whereby the positioning of the letters and the formation of the letters is substantially automatically governed by the device and the procedure employed in the present invention.

An object of the present invention is to provide a letter forming device in which the letters are disposed in a spacing device having a novel assembly of spaced projections thereon which will interfit with spaced projections on other spacing devices thereby orientating the various letters of the alphabet in properly spaced relation when such letters are arranged in any predetermined sequence. By employing the spacing devices which enclose the letters when they are positioned on the stone, the finished letters will be automatically and proportionally spaced correctly regardless of the sequence of letters.

Another important feature of the present invention is 50 to provide a letter forming device in which either the letters or the outlines of the letters are formed of cardboard or similar material which is erodible by sand blasting thus enabling the sand blast to cut away the erodible material and then cut away or carve the stone as defined 55 by the outline of the erodible material. The periphery of the erodible material being enclosed by a resilient material such as rubber or the like which will not be erodible thereby forming letters or the like.

Still another object of the present invention is to provide a novel apparatus and also a novel method for forming letters in various manners on a stone in which either the letters are in relief or project from the surrounding surface or are recessed in relation to the surrounding surface, the apparatus and method also providing for parallel wall surfaces of the letters whether they are projecting outwardly or recessed inwardly in relation to the surrounding surfaces.

Another very important feature of the present invention is to provide an apparatus for forming letters and a novel method which is quite simple in construction and

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use, efficient, time-saving, accurate and generally inexpensive to manufacture and use.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIGURE 1 illustrates one type of letter and spacing device orientated on the guide strips disposed on the surface of a stone;

FIGURE 2 is a sectional view taken substantially upon a plane passing along section line 2—2 of FIGURE 1;

FIGURE 3 is a sectional view of the assembly taken substantially upon a plane passing along section line 1—1 of FIGURE 1:

FIGURE 4 is a plan view of the erodible letters surrounded by rubber material and ready for sandblasting; FIGURE 5 is a view taken substantially upon a plane 20 passing along section line 5—5 of FIGURE 4;

FIGURE 6 is a sectional view similar to FIGURE 5 but illustrating the formed recessed letters;

FIGURE 7 is a perspective view of one of the letters and spacing device;

FIGURE 8 is a plan view of the letter forming device employing a different type of letter and different type of spacer device;

FIGURE 9 is a plan view of the letter forms of FIG-URE 8 ready for sandblasting;

FIGURE 10 is a detailed sectional view taken substantially upon a plane passing along section line 10—10 of FIGURE 9 illustrating the orientation of the rubber material in relation to the letter forming devices.

FIGURE 11 is a detailed sectional view similar to FIG-35 URE 10 but illustrating the formed letters; and

FIGURE 12 is a perspective view of one of the letters and letter spacing devices employed in this form of the invention.

Referring now specifically to the drawings, the numeral 10 generally designates the stone such as a marble or granite block on which letters are to be formed. Provided for this purpose is a pair of guide rails or strips 12 and 14 preferably constructed of metal, cardboard, plastic or any other suitable material and the two guide rails 12 and 14 have a recess 16 in the inner edge thereof with a flange 18 defining the bottom of the recess. The guide rails 12 and 14 are disposed in the desired relation on the stone and are orientated in parallel relation and are held in place by any suitable clamping means.

Disposed between the guide rails 12 and 14 and supported on the flanges 18 is a plurality of spacers or spacing devices 20 each of which is generally rectangular in configuration and provided with an internal open area 22 having a letter 24 disposed therein. The spacing device 20 is provided with lateral side projections 26 which are arranged differently for different letters. Generally for letters which have vertical extremities, the spacing devices 20 have a single projection centrally of each side edge thereof. However, for a letter having a horizontal component at the top or at the bottom, the spacing devices 20 will have a projection at the top or bottom of each side edge thereof. For example, the letter "T" in FIG-URE 1 has a projection 26 at the upper end thereof whereby this projection 26 will overlap the projection 26 at the center of an adjacent spacing device 20 thus enabling the letter "T" to be disposed in proper spaced relation to adjacent letters regardless of what the adjacent letters

In the form of the invention illustrated in FIGURES 8-12, there are also provided spaces 28 having projections 30 thereon which are arranged somewhat differently, especially in view of the configuration of some of the letters

such as the letter "W." This letter spacer 28 has several projections for interfitting with other projections on other letter spacers for properly spacing the letters in relation to each other.

It is pointed out that the spacer 20 is of slightly less 5 thickness than the letter 24 and this enables the spacer to be supported on the flanges 18 slightly spaced from the stone surface 10 and the letters 24 disposed directly on the surface of the stone 10. The letters are disposed accurately in relation to the letter spacers by any suitable 10 temporary holding means or the letters may be disposed in this spaced relation manually when the words are being formed. The letters 24 themselves may be of solid construction as indicated by reference numeral 24 in FIGURE 1 or they may be hollow or provided with an open in- 15 terior area 32 as designated in FIGURE 12 in which the letters are designated themselves by reference numeral 34. In each instance, the letter and the spacer is formed of a laminate construction in which the inner portion 36 is constructed of cardboard and the outer portion constructed 20 of a resilient material such as rubber or the like.

In using the device of the present invention, the letters and letter spacers are disposed on the guide rails and a suitable layer of adhesive material is employed under the letters by virtue of first coating the stone surface 25 with such an adhesive whereby the letters may be retained in place. After the guides are removed along with the spacers, the entire area or surface is covered with rubber or other resilient material to a depth generalber material has set, the sand blasting operation is started which erodes the cardboard letter 24 and carves letters into the stone in which the letters are recessed in relation to the surface of the stone.

In the form of the invention illustrated in FIGURES 35 8-12, the hollow interior 32 is also filled with rubber so that the sand blasting will initially erode the outline of the letter designated at 34 for forming a straight walled Then, by either removing the rubber outwardly of the initial cut formed by eroding the peripheral let- 40 ter member 34 an outstanding or projecting letter may be formed in relief with the walls thereof being parallel.

In the method of forming letters employing the novel apparatus of the present invention, the first step involves the selection of the stone on which the letters are to be 45 formed and then orientating or placing the guide strips on the stone in the desired position. The guide strips may be held in place by a coating of rubber cement which has been placed on the stone or may be held in place by any suitable clamping means. The letters and the let- 50 the letter spacing devices including an open interior area, ter spacers which enclose the letters are then selected and orientated between the guide strips so that the projections on the letter spacers engage each other. In this condition, the letter spacers are supported on the ledges formed on the guide strips while the letters are secured 55 to the surface of the stone by virtue of the rubber cement covering and by virtue of the letters passing downwardly between the inner edges of the ledges or flanges formed on the guide strips thus enabling the letters to be secured directly to the surface of the stone.

The rubber composition is then placed over the entire surface of the stone except that the upper surface of the letters will project above the surface of the rubber composition so that they will be subject to erosion by the sandblasting procedure. Inasmuch as the letters are thicker than the letter spacers, the letter spacers and guide rails may be left in place if desired and completely covered with rubber composition or the letter spacers and the guide strips may be removed thus leaving the letters attached to the surface of the stone wherein the entire surface of the stone is covered with a layer of rubber material so that only the portion of the stone underlying the erodible letters is carved by the sandblasting procedure.

In the form of the invention illustrated in FIGURES 8-12, the letter outline which may be initially eroded 75 comprising a pair of spaced parallel guide strips, a plu-

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will enable and provide for a parallel walled letter in that the narrow slot formed by erosion of the letter outline will cause the sandblast to produce a narrow slot in the stone which narrow slot is provided with parallel walls. Then, by removing the rubber either from the interior of the outline or from the exterior of the outline, the letters may be formed in either relief or in a recessed manner with the edges of the letter being parallel to each other and being perpendicular to the surface of the stone.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. An assembly for forming letters on a stone surface comprising guide means adapted to be mounted on the stone surface, a plurality of spacing devices supported by the guide means in slightly spaced relationship to the stone surface, each spacing device including a peripheral wall defining an open interior area, a letter removably disposed in the open interior area of each spacing device, each spacing device also including projecting spacing tab means on the side edges thereof for engagement with an adjacent spacing device for spacing the spacing devices and the letters therein in proper spaced relationship to ly equal to the thickness of the letters 24. After the rub- 30 each other regardless of the sequence of the letters, said letters being independent of the spacing devices whereby the letters are adapted to be mounted on the stone surface when the spacing devices are supported by the guide means in slightly spaced relation to the stone surface.

2. The method of forming letters on a stone surface by sandblasting consisting of the steps of adhesively applying erodible letters to the stone surface in a desired orientation, covering the stone surface peripherally of the letters with a resilient material substantially to a depth flush with the erodible letters, and sandblasting indiscriminately the coated stone surface thereby eroding the erodible letters and subsequently eroding the stone surface thereunder without eroding the stone surface under the

resilient material. 3. An assembly for forming letters on a stone surface comprising a pair of spaced parallel guide strips, a plurality of letter spacing devices disposed between the guide strips, each letter spacing device having parallel upper and lower edges for engagement with the strip, each of a cut-out letter removably disposed in the open area, the side edges of each of the letter spacing devices including a projecting spacing tab for engagement with an adjacent letter spacing device for properly spacing the letter in relation to each other regardless of the sequence of the letters, the vertical dimension of the letters being less than the distance between the guide strips, the thickness of the letters being greater than the thickness of the letter spacing devices thereby enabling the letters to rest upon 60 the stone surface when the spacing devices are resting on the strips, each strip having an inwardly extending ledge extending only under the top and bottom edge portion of the letter spacing devices for supporting the letter spacing devices in slightly spaced relation to the stone surface whereby the letters may be adhesively secured to the stone surface while the letter spacing devices are spaced therefrom, said letters being of solid construction and constructed of erodible material erodible upon application of sandblast thereto, a coating of resilient material on the area of the stone exteriorly of the letter for carving the stone by sandblasting the erodible letter and then the portion of the stone revealed by erosion of the letter.

4. An assembly for forming letters on a stone surface

rality of letter spacing devices disposed between the guide strips, each letter spacing device having parallel upper and lower edges for engagement with the strip, each of the letter spacing devices including an open interior area, a cut-out letter removably disposed in the open area, the side edges of each of the letter spacing devices including a projecting spacing tab for engagement with an adjacent letter spacing device for properly spacing the letters in relation to each other regardless of the sequence of the letters, the vertical dimension of the letters being 10 less than the distance between the guide strips, the thickness of the letters being greater than the thickness of the letter spacing devices thereby enabling the letters to rest upon the stone surface when the spacing devices are tending ledge extending only under the top and bottom edge portion of the letter spacing devices for supporting the letter spacing devices in slightly spaced relation to the stone surface whereby the letters may be adhesively secured to the stone surface while the letter spacing devices 20 are spaced therefrom, each of said letters including an outline with the area between the outline being open, a coating of resilient material on the interior area of the letter between the outlines and the area of the stone exteriorly of the letter, said outline of the letter being con- 25 structed of erodible material whereby the outline of the letter may be initially eroded by sandblasting and an initial parallel walled groove is formed in the stone surface

thereby enabling either recessed or relief letters to be formed by removing the rubber material interior of the groove formed in the stone or exteriorly of the groove formed in the stone.

5. The method of carving letters in the surface of a stone consisting of the step of covering the surface of the stone with an adhesive, positioning letter spacing devices in overlying spaced relation to the covered surface of the stone thereby retaining the spacing devices separate from the stone, positioning the spacing devices in side-by-side abutting engagement, disposing letters of erodible material in the letter spacing devices, pushing the letters against the covered surface of the stone thereby securing the letters in place thereon, covering the area of resting on the strips, each strip having an inwardly ex- 15 the stone and the spacing devices exteriorly of the letters with a rubber composition, and subjecting the rubber coated surface and the letters to a sandblast whereby the erodible letters will be eroded and the surface of the stone underlying the letters will be eroded.

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