May 3, 1927. 1,627,456

G. R. PHILIP

METHOD OF SAND BLAST RELIEF CARVING

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Fig. 1.

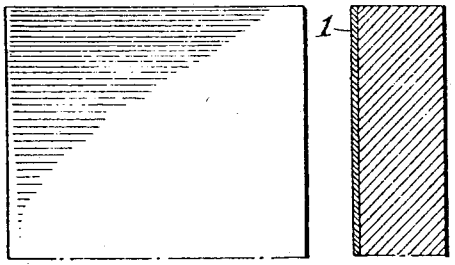


Fig. 2.

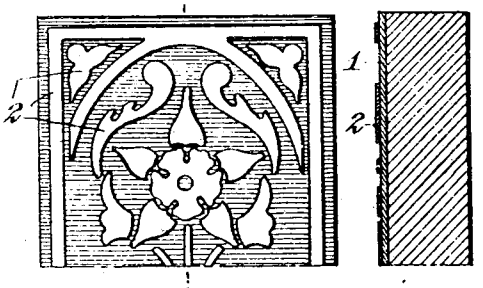


Fig. 3.

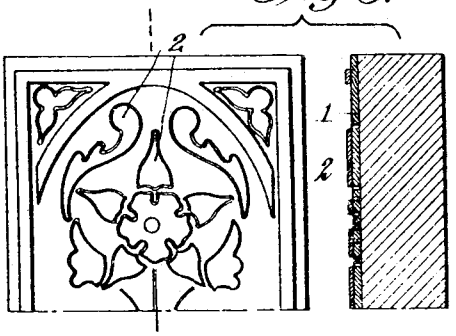


Fig. 4.

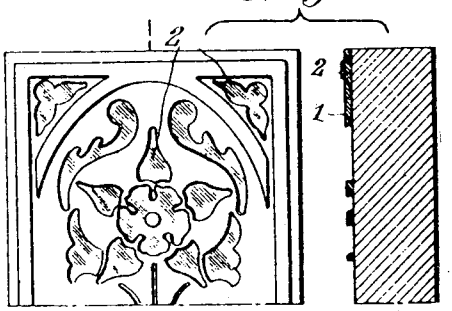


Fig. 5.

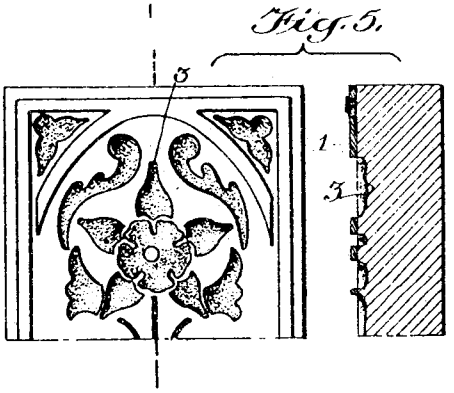
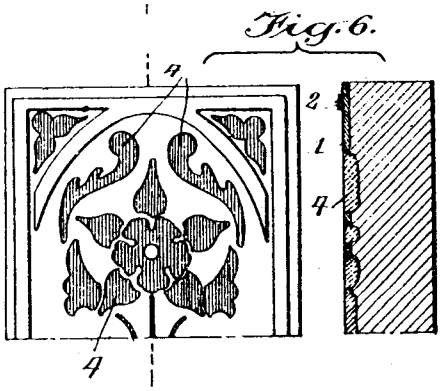


Fig. 6.



WITNESSES

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METHOD OF SAND BLAST RELIEF CARVING

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Fig. 7.

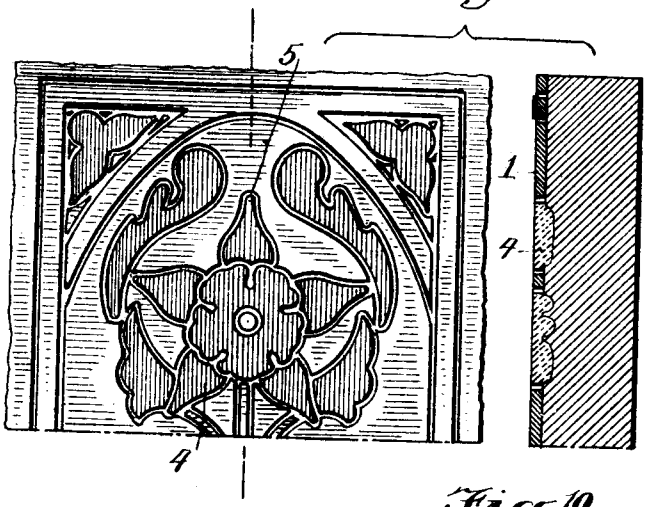


Fig. 8. Fig. 9.

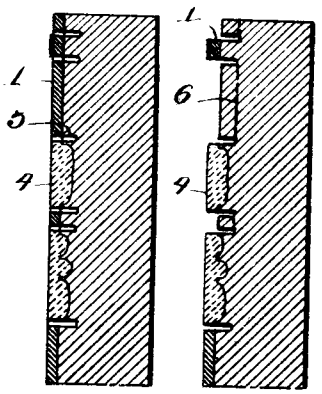


Fig. 10.

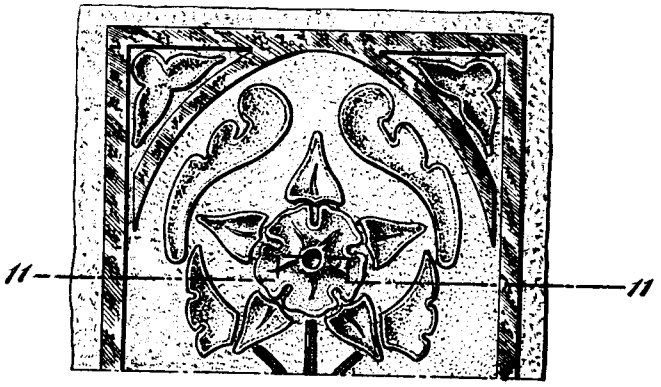
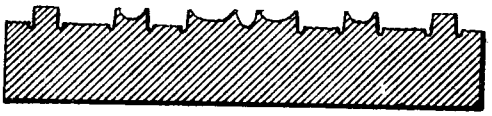


Fig. 11.



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1,627,456

UNITED STATES PATENT OFFICE.

GEORGE RANNIE PHILIP, OF NORTHFIELD, VERMONT, ASSIGNOR TO CROSS BROS. COMPANY, OF NORTHFIELD, VERMONT, A CORPORATION OF VERMONT.

METHOD OF SAND-BLAST RELIEF CARVING.

Application filed September 1, 1926, Serial No. 133,074. Renewed February 24, 1927.

This invention relates to an improved method of producing relief carving on stone through sand blasting and has for an object to provide a minimum number of steps for producing a desired shape in relief.

Another object of the invention is to provide a method wherein flowers or other configurations may be carved by sand blast to produce a substantially life-like appearance in relief.

In the accompanying drawings—

Figure 1 is a plan and section showing a stone with a coating applied thereto.

Figure 2 is a view similar to Figure 1 but showing an ornamentation applied thereto.

Figure 3 is a view similar to Figure 2 except that it shows the coating cut.

Figure 4 is a view similar to Figure 3 with certain parts removed exposing that part of the stone which is to be formed into a flower or other configuration.

Figure 5 is a view similar to Figure 4 but showing the sinkage formed by sand blasting, the same showing the central portion of the flower, leaves, etc.

Figure 6 is a view similar to Figure 5 but showing the sinkage filled with a yielding substance adapted to resist the action of the sand blast.

Figure 7 is a view similar to Figure 6 but showing the parts cut around the sinkage and around the border with the cut parts removed.

Figure 8 is a sectional view similar to the section shown in Figure 7 except that it shows sand blast grooves cut where the coating has been removed.

Figure 9 is a view similar to Figure 8 except that it shows a coating around the flowers removed.

Figure 10 is an enlarged view of part of a finished stone showing the complete flowers and other configurations properly formed in relief.

Figure 11 is a sectional view through Figure 10 on line 11—11.

In carrying out the method of producing a finished sand blast carving as illustrated in Figures 10 and 11, a stone of the desired size is secured and finished on one face. The finished face is then provided with a coating 1 of material which will resist appreciably the action of a sand blast. This coating may be any rubber like composition, as for instance, a mixture of glue, water and cane molasses. After the coating has been applied and allowed to set and harden somewhat, a desired flower or other configuration 2 is applied to the coating. This flower or other configuration may be transferred to the coating through the action of a decalcomania or in any other way, as for instance, by the flower being drawn directly on the coating. In Figure 2, the flower has been shown as having thickness but this is not essential and it is only shown in this manner for illustrating how the flower is applied.

After the flower has been applied, a single slit or cut is made around the border of the flower, leaves and other configurations as indicated in Figure 3 and then the coating 1 removed where the flowers are to be formed. After the material has been removed as just described, the stone will appear as shown in Figure 4. A sand blast is then applied to the exposed part of the stone so that a sinkage 3 is provided for the various parts of the flower. In order to provide a sharp edge to the blossom, leaves and other parts of the flower, a filling 4 is provided in the sinkage 3, said filling being preferably of the same material as coating 1. After the filling has been applied as shown in Figure 6, a small and narrow outline is cut around the various parts of the flower and other configuration and this outline is removed as shown in the sectional portion of Figure 7. The sand blast is then used to provide a straight sinkage as shown in Figure 8 so that the outer edge of the blossom and other parts of the flower will have a straight outer wall while the sinkage 3 is curved and otherwise formed to indicate the shape of the face of the flower. After the straight sinkage 5 has been produced as shown in Figure 8, the covering 1 on the background is removed as shown in Figure 9 and then the background sand blasted to approximately the line 6. This will cause the flowers which have been formed to set up in relief. After the background has been sand blasted to the desired depth, the remaining part of the coating 1 is removed, said removal being by a knife or in any other desired way. When this has been done the finished product will be seen as shown in Figures 10 and 11 with the flowers and other configurations properly formed and disclosed in relief. It will thus be seen that the method includes the provision of a stone having a smooth side

which is painted or covered with coating 1 and then the flowers are transferred to this surface, after which the outlines of the flowers are cut by a sharp tool and the part above where the flowers are to be formed is removed. After the sinkage has been produced for the flowers or other configurations, the same is filled with a coating similar to coating 1 and a very narrow outline is cut around the outline of the design exposing the stone so that a vertical or a straight sinkage may be produced as shown in Figure 8, after which the background or other undesirable parts are sand blasted away. In the drawings a border has been shown with certain ornamental configurations associated therewith in addition to the flower but it will be evident that a flower could be provided alone or a border could be provided alone as well as in association as shown.

What I claim is:

1. The method of forming sand blast carving presenting a relief effect consisting in applying a coating to the surface of the stone, applying flowers or other configurations to the stone, cutting the outline of the flowers and removing the coating within the outline, sand blasting a sinkage in the exposed stone, cutting out and removing a narrow portion around the outer edge of the flowers, sand blasting the sinkage in said narrow outline, removing the remaining coating and sand blasting the background.

2. The method of sand blast carving including coating a stone, removing the coating at the points where a sinkage is desired, sand blasting the stone at the place the coating has been removed, said sand blasting being continued until the sinkage has been formed of the proper depth and shape, removing a narrow strip of coating adjacent the outer edge of said sinkage, sand blasting the stone exposed by removing said narrow strip, removing the remaining coating, and then sand blasting the background between said sinkage.

3. The method of sand blast carving including the coating of a piece of stone to be carved, removing the coating where the sinkage is to be produced, sand blasting the stone at the parts where the coating has been removed and then removing and sand blasting the stone around the sinkage, said sand blasting being done in two stages, the first being to sand blast a depression around the sinkage and then sand blast the parts between said depression.

4. The method of sand blast carving including sand blasting a sinkage to secure a desired configuration, sand blasting a vertical wall around the outer edge of the sinkage, and finally sand blasting all of the background around the sinkage.

5. A sand blast carving having a background, and a design formed thereupon in relief and having the face thereof formed with a sinkage, the side walls of said design being substantially perpendicular to the background to produce sharp edge around the design, said side walls extending to the base of a depression cut into the back ground and following the contour of said relief-design.

6. A sand blast carving formed integral throughout having a pitted background, and a design formed thereon in relief and having the face thereof formed with a sinkage of a contour to disclose the design, said face being pitted, the side walls of said design being substantially perpendicular to the background and said side walls extending to the background and substantially following the contour of said relief design.

7. A sand blast carving formed integral throughout having a pitted background, and a pitted design formed thereon in relief and having the face of the design formed with a sinkage of a contour to disclose the design, the side walls of said design being substantially perpendicular to the background, the perpendicular face of said side walls following the contour of said relief design.

8. A sand blast carving formed integral throughout having a pitted background, and a design formed thereon in relief, the side walls of said pitted design being substantially perpendicular to the background to produce a sharp edge around the design, said side walls extending to a position substantially in line with the background, and following the contour of said relief design.

9. A sand blast carving having a pitted background, and a pitted design formed thereon in relief and having the face thereof formed with a sinkage of a contour disclosing the design, the side walls of said design being substantially perpendicular to the background and extending from the edge of the relief design to produce a sharp edge around the design, said side walls extending to a position approximately in line with the surface of the background and substantially following the contour of said relief design.

GEORGE RANNIE PHILIP.

DISCLAIMER

1,627,456.—*George Rannie Philip,* Northfield, Vt. METHOD OF SAND-BLAST RELIEF CARVING. Patent dated May 3, 1927. Disclaimer filed May 6, 1930, by the assignee, *Cross Brothers Company.*

Hereby disclaims the subject-matter of claims 1, 2, 3, 4, 6, and 7.

[*Official Gazette June 3, 1930.*]