June 26, 1962 H. S. SAWYER ETAL 3,040,460

PROCESS FOR MAKING MEMORIAL MONUMENTS

Filed March 9, 1960

Fig. 1.

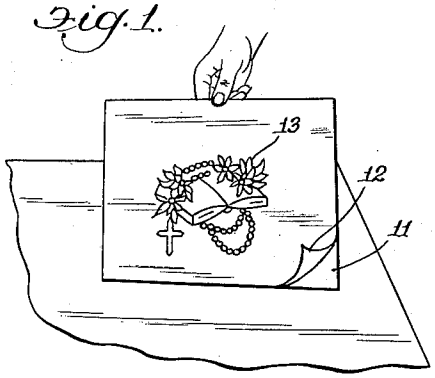
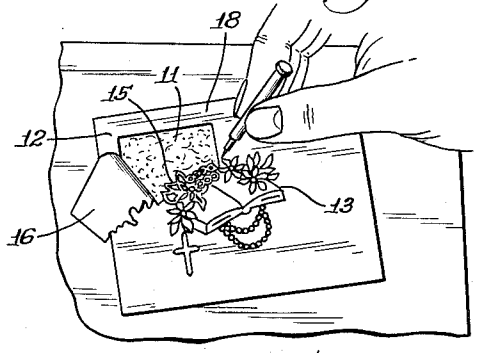


Fig. 2.



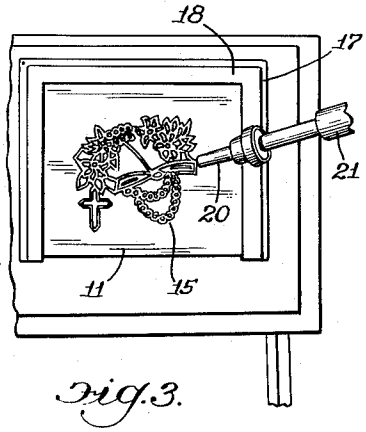


Fig. 3.

Fig. 4.

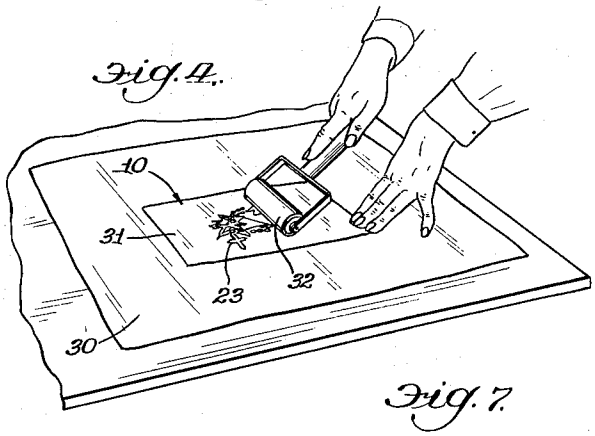


Fig. 7.

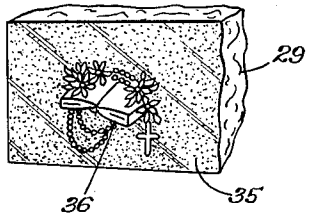


Fig. 5.

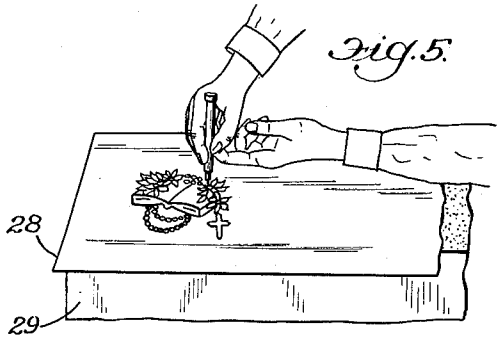
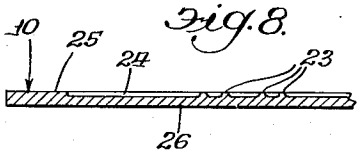


Fig. 8.



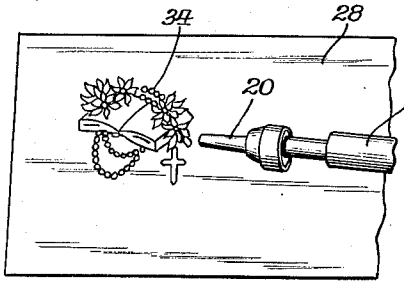


Fig. 6.

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PROCESS FOR MAKING MEMORIAL MONUMENTS

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2 Claims. (Cl. 41—39)

The present invention relates to a method for cutting designs in a unit of stone such as a tombstone and to a printing plate employed in the process.

One of the problems with which the makers of memorial monuments are faced is that of laying out the design to be cut on the rock that is to form the memorial monument. The principal object of the present invention is to provide a rapid and easy process for cutting various selected designs in a memorial monument, and to provide a printing plate for the application of the designs to the mask. An object supplementary thereto is to make available a simplified method for preparing a cutting mask bearing the desired design or designs to facilitate the process of cutting those designs in the monument.

One of the outstanding advantages of our invention is that the design is formed in a printing plate which will be available to the monument manufacturers before the time that any particular monument is to be manufactured. It is contemplated that the manufacturer will have on hand a whole series of designs from which a choice may be made as to just what is to be used on a particular monument. This enables one to choose to use one of these designs as the sole embellishment for a monument, or to choose a plurality of the designs to be arranged in a particular manner on a stone to produce a desired, and distinctive, over-all appearance to a particular monument. By having the designs in relatively small units it is possible for the individual who is deciding on the over-all design for any given monument to select a particular combination of units of design and to arrange them in a specific manner for that monument.

Another object and advantage of our invention is the ease with which the design plates are produced. Not only does our process permit a plate to be quickly and easily made, but the process by which it is made is compatible with the operations that a monument manufacturer will already be using in his place of business. Thus it is not necessary for the monument manufacturer to purchase new equipment for the production of the printing plates. The only additional supply item that a monument manufacturer need acquire is the material from which the printing plate is made, and the material of our invention is available at a relatively inexpensive price in any business community.

A further object and advantage of our invention lies in the fact that through the use of our method it will be possible for monument manufacturers to avoid going to the trouble of preparing their own designs should they desire not to do so. The printing plates can be produced in quantity, and a monument manufacturer can buy a stock of plates of assorted designs of his choosing which he can re-use almost indefinitely. Yet, because of the fact that the manufacturer can assemble different designs in different arrangements in the manufacture of a particular monument, the stereotyping of monument appearance is avoided.

Further objects and advantages will be apparent from the following description taken in conjunction with the drawings in which:

FIGURES 1–6 are a series of perspective views illustrating successive steps in the manufacture of a monument in accordance with the present invention;

FIGURE 7 is a perspective view of a portion of the monument with the design cut therein; and

FIGURE 8 is a cross sectional view of a portion of a printing plate of the present invention.

In the process we have devised a printing plate generally **10** is formed from a sheet **11** of pressed fiber board. Numerous types of pressed fiber board sheets are available on the market, one for example, is sold under the trademark Masonite. The initial thickness of the board should be at least about one-eighth of an inch and it should have one smooth face. A rubber covering **12** is applied to a smooth face of the pressed fiber board sheet. The rubber covering **12** is best formed by using a sheet of relatively soft rubber with an adhesive backing such as is commonly employed in the patching of inner-tubes for vehicle tires. Such sheets also are sold for other purposes. This rubber comes in sheets with the adhesive backing having a film thereover. To apply it to the fiber board **11** the film is stripped from the adhesive with the adhesive face of the rubber covering **12** then being placed against the fiber board **11**. The rubber covering should be smoothly applied to the fiber board with no wrinkles or bulges. Such rubber coverings are about one-sixteenth of an inch in thickness, but the exact thickness of the covering is not critical.

After the fiber board sheet has been covered with the rubber sheet, a design **13** is applied to the rubber covering. The exact manner in which the design **13** is applied may be one of a number of ways. For example, an artist with a pencil may draw the design directly on the rubber sheet. Another procedure which will be commonly used is to draw the design **13** on a piece of paper or the like and then to utilize a carbon transfer process to apply the design to the rubber covering **12** from the sheet of paper. The fiber board **11** with the rubber covering **12** having a design **13** thereon is illustrated in FIGURE 1.

The next step, illustrated in FIGURE 2, is to cut the rubber covering **12** in and around the design **13**. This leaves lines **15** of the rubber on the board **11** which lines exhibit the lines of the original design **13**. The excess **16** of the rubber covering is stripped away from the fiber board **11** to leave only the rubber lines **15**.

The fiber board **11** with only the rubber design remaining thereon is illustrated in FIGURE 3. At this stage the board **11** with the design in rubber **15** thereon is supported on a suitable holder **17**. The fiber board **11** is now sandblasted by means of a sand and air blast from a nozzle **20**. Nozzle **20** is connected to a sandblast generator (not shown) by a hose **21**. The portions of board **11** outside of that occupied by the rubber design **15** is cut away by the sandblasting to a depth of at least one-thirty-second of an inch and preferably about one-sixteenth of an inch. The sand from the blast bounds off the rubber covering **15** so that the covered areas of the board **11** are not cut away. In the preferred embodiment a rubber border **18** will also have been left on the board **11** so that the borders of the board are protected and not cut away.

After the completion of the sandblasting, the rubber design **15** is stripped from the board, thus leaving a printing plate on which there is a raised design which is a negative of the design to be cut into the monument. FIGURE 8 is a cross section through the plate and shows the raised design **23** with the portions of the board thereabout being cut away, as illustrated at **24**, to leave the raised design. Where the rubber border **18** appeared there are now raised borders **25** on the plate **10**.

Thereafter, a rubber covering **28** (corresponding to covering **12**) is applied to the face of the unit of stone **29**, into which the design is to be cut. It should be smooth and free of wrinkles or bulges after application. As illustrated in FIGURE 4, a mask **30** having a cutout **31**

which is smaller in size than the borders **25** of the plate **10** is laid over the plate. Cutout **31** is sufficiently large to expose all of the raised design **23** on the plate **10**. Design **23** is inked with ink being applied thereto by means of a roller **32**. A printer's ink may be spread on an inking board, the roller **32** rolled thereover to pick up the ink, and the ink then transferred to the raised design **23** on the plate **10**.

After the plate **10** has been inked it is inverted and pressed against the surface of the rubber covering **28** in the area and position on which the design is to appear on the stone **29**. Borders **25** evenly support the plate on covering **28** so that all portions of the inked design **23** evenly contact the surface of the rubber sheet **28**. A roller (not shown) may be employed against the back face **26** of the plate **10** to aid in evenly pressing all portions of the design **23** against the covering.

A positive design is now cut into covering **28** as illustrated in FIGURE 25. In this cutting operation only the inked areas on covering **28** are cut away and removed to reveal the stone **29** thereunder. Upon the completion of the cutting and stripping, covering **28** now has a series of apertures therethrough, the shape of which apertures correspond to the raised design **23** on plate **10**. The stone is then sandblasted through apertures **34** by a sandblast from nozzle **20** as illustrated in FIGURE 6. This sandblasting cuts away the stone immediately below apertures **34** with the remaining portions of the stone being protected by covering **28**. Covering **28** of course, corresponds to the covering **12** described in connection with FIGURE 1, with the sand merely bouncing off the rubber covering rather than cutting into it as it does with respect to stone **29**.

After the stone has been sandblasted to the desired depth, which will be determined by the preference of the particular monument manufacturer, the sandblasting is discontinued. Thereafter the rubber sheet **28** is stripped from the stone. As illustrated in FIGURE 7, the face **35** of the stone **29** that had been covered by sheet **28** now has the design cut into the face thereof as illustrated at **36**.

The foregoing description is for the purpose of complying with 35 USC 112 and should not be construed as imposing unnecessary limitations upon the appended claims inasmuch as modifications and variations thereof will be apparent to one skilled in the art.

We claim:

1. The method of cutting a design in a unit of stone such as a tombstone or the like, said method comprising the steps of: applying a resilient cover of a sand blast resistant material to a smooth face of a flat pressed-fiber board; outlining the design on said cover; cutting around the design and removing the portions of said cover other than the portion on which the design appears; sandblasting said face to cut away the portions of the face exposed by the removal of said portions; removing the remaining portion of said cover to reveal said design on said board; applying a resilient cover of the sand blast resistant material to said unit; inking said design on said board; pressing the inked design against said cover on said unit; cutting around the design and removing the areas of said cover to which said ink was applied; sandblasting said unit through the openings remaining after the removal of the inked areas; and removing the remainder of said cover from said unit.

2. The method of cutting a design in a unit of stone such as a tombstone or the like, said method comprising the steps of: adhering a soft rubber cover smoothly to a smooth face of a flat fiber board of a thickness of at least about one-eighth of an inch; outlining the design on said cover; cutting around said design and removing the portions of said cover other than the portion on which the design appears; sandblasting said face to cut away the portions of the face exposed by the removal of said portions to a depth of at least one-thirty-second of an inch; removing the remaining portion of said cover to reveal said design on said board; adhering a soft rubber cover to said unit; inking said design on said board; pressing the inked design against said cover on said unit; cutting around said design and removing the areas of said cover to which said ink was applied; sandblasting said unit through the openings remaining after the removal of the inked areas; and removing the remainder of said cover from said unit.

References Cited in the file of this patent

UNITED STATES PATENTS

1,108,063	Bonnier	Aug. 18, 1914
1,265,989	Becher	May 14, 1918
2,810,227	Richards	Oct. 22, 1957

FOREIGN PATENTS

407,298	Germany	Dec. 18, 1924