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W. G. SCHWARTZKOPF

2,250,237

STENCIL KNIFE

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Fig. 1

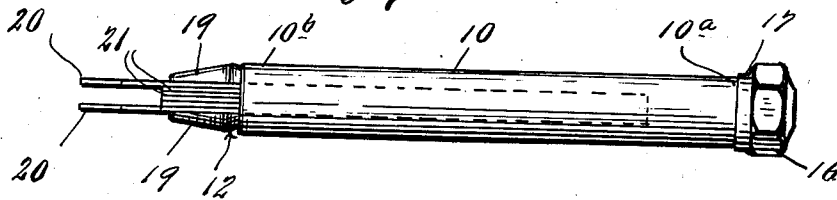


Fig. 2

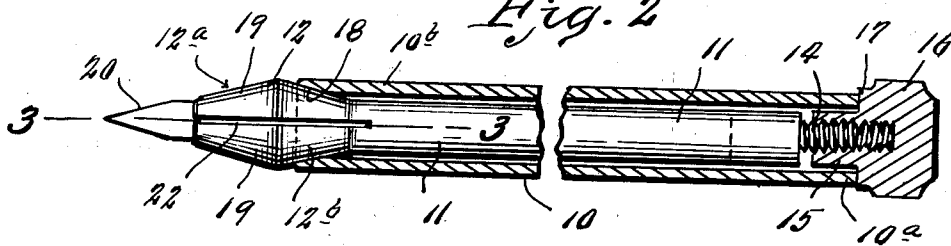


Fig. 3

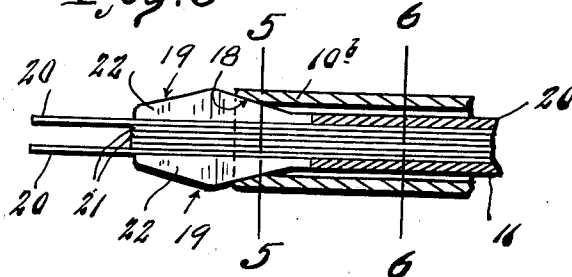


Fig. 4

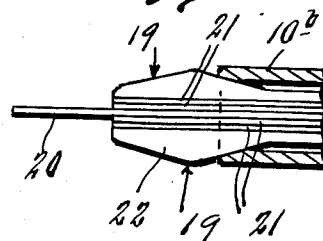


Fig. 5

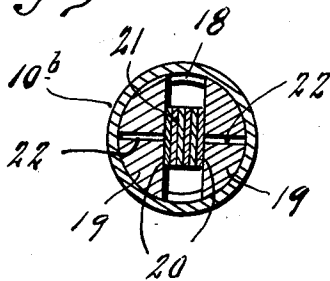
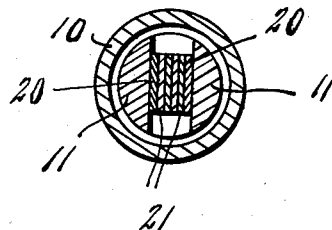


Fig. 6



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UNITED STATES PATENT OFFICE

2,250,237

STENCIL KNIFE

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8 Claims. (Cl. 30—304)

This invention relates generally to stencil knives and more particularly to stencil knives for cutting stencils on monuments, and the like.

The designs on stone monuments, such as are used in cemeteries, are generally sandblasted. The surface of the stone on which the design is to be applied is first coated with a thin coating of rubber or similar material. This coating can be either poured on or applied in thin sheets and cemented in place. The design is then transferred on this coating and cut out by a knife so as to leave exposed those portions of the face on which the design is to be cut or sandblasted. As the knife has to cut through the coating down to the stone surface, it is obvious that the knife has to be constantly sharpened and rapidly wears out.

One of the objects of the invention is to provide a stencil knife having a handle of comparatively large diameter and having a removable blade of suitable length so that said blade can be sharpened a large number of times and when worn out can be replaced with a new one at a small cost.

Another object of the invention is to provide a stencil knife comprising a handle of comparatively large diameter to insure a convenient grip, a knife blade removably arranged in said handle so that it can be replaced when worn out, and manually operable means for rigidly securing the blade in the handle.

Another object of the invention is to provide a stencil knife having two blades spaced from each other and adapted simultaneously to cut two lines whereby letters, lines and other designs are of uniform width and can be cut in a quick and efficient manner.

Another object of the invention is to provide a knife of the class described comprising a tubular handle of a suitable diameter, a holder in said handle having a split end to provide two jaws, a pair of knife blades insertable between said jaws, and a plurality of spacers adapted to be placed in said holder between said blades whereby the space between the latter can be regulated or changed by increasing or reducing the number of spacers used.

Additional objects of the invention are to provide a stencil knife having a tubular handle of a comparatively large diameter to insure a good grip thereon and having removably positioned therein one or two blades for cutting single or double lines, said blades being adjustable relatively to each other to vary the space therebetween.

With these and other objects in view, my invention consists in certain novel features of construction and arrangement of parts, hereinafter more fully described and claimed, and illustrated in the accompanying drawing, in which—

Figure 1 is a side elevational view of my stencil knife.

Figure 2 is an enlarged sectional view, partly broken away, of the knife.

Figure 3 is a longitudinal cross section taken on line 3—3 of Figure 2.

Figure 4 is a similar view but showing only one blade.

Figure 5 is an enlarged transverse cross section taken on line 5—5 of Figure 2.

Figure 6 is an enlarged transverse cross section taken on line 6—6 of Figure 2.

Referring by numerals to the accompanying drawing, 10 indicates a handle which is of a tubular shape open at both ends and of a comparatively large diameter to provide a convenient hold thereon.

Extending through said handle is a holder 11 which is of smaller diameter than the bore of said handle. The forward end of this holder is enlarged in diameter, as indicated at 12, and tapers in both directions, as indicated at 12a and 12b. The opposite end of said holder 11 is reduced in diameter to provide a shank 14 which is exteriorly screw-threaded for receiving the screw-threaded bore formed in an extension 15 of a head 16. This head or manually operable member 16 has an annular shoulder 17 bearing against the rear end 10a of handle 10 which extension 15 fits loosely in said rear end 10a. The head 16 is preferably of polygonal shape and is of sufficient size to permit convenient manual operation of same.

The bore of the forward end 10b of handle 10 is flared outwardly, as indicated at 18, to fit the inwardly tapered portion 12b of head 12. The holder 11 is cut longitudinally to provide jaws 19, the slot terminating near the rear end of said holder. This slot is sufficiently wide to receive one or two knife blades 20 and a number of spacers 21. The spacers are approximately of same thickness as the blades and in length are somewhat shorter than the slot.

When a cut of maximum width is desired, the blades 20 are each placed against one of the jaws 19 and all of the spacers 21 (four in number in the instant case) are placed between the blades. To make a cut of lesser width the number of spacers 21 between the blades 20 is reduced and

the displaced spacers are arranged between said blades and the jaws 19.

The forward end of each jaw 19 is slotted at right angle to said jaw, as indicated at 22, for a distance slightly past the tapered portion 12b. The purpose of these cuts or slots 22 is to render the portions of each jaw more flexible and compressible inwardly against the blades and to provide a better surface contact between the jaws and the flared-out mouth 18. Thus as the tapered portions 12b are drawn inwardly against the reduced diameter of bore 18, said sections of the jaws can move in two directions and preserve a sufficient surface contact with said tapered bore 18.

To release the knives, the head 16 is turned in proper direction to move it away from the holder 11 so that sufficient clearance exists therebetween and the shoulder 17, whereupon the holder 11 can be moved longitudinally in said handle to displace the enlarged split end 12 from the tapered seat 18, thereby releasing said knives and spacers so that they can be removed or rearranged.

The blades are of ample length to allow a large number of resharpening operations before the blade has to be discarded. The splitting or slotting of each jaw insures a positive grip on the blade or blades and eliminates slipping thereof. The large head 16 permits a good hold thereon in tightening the blades in position. The comparatively long screw-threaded shank 14 and bore 15 provide at all times a sufficient operative connection between the head and the holder without danger of stripping the heads.

My stencil knife is of durable construction, is light in weight, and can be held and used without causing cramping of the user's hand.

While I have shown and described herein the preferred embodiment of my invention, it is obvious that minor changes can be made in the construction and arrangement of parts of my stencil knife without departing from the spirit of my invention.

I claim:

1. A stencil knife comprising a tubular handle having one end flared outwardly, a holder in said handle having one end enlarged and tapering inwardly to fit into said flared end, means in said holder for receiving a knife blade, and a manually operable means for drawing against the opposite end of said handle and engaging the corresponding end of said holder and drawing the latter inwardly to force said tapered portion into said flared seat and clamping said blade in position.

2. A stencil knife comprising a tubular handle having one end flared outwardly to provide a tapering seat, a holder having one end enlarged and tapering inwardly to fit into said seat and having its opposite end provided with a screw-threaded shank, said holder being slotted longitudinally adjacent to said shank end to form a pair of clamping jaws, a knife blade insertable into said slot and adapted to be held in place by said jaws, and means engaging said screw-threaded shank and bearing against the corresponding end of said handle for drawing said holder inwardly and forcing said tapered enlarged end into said tapering seat and clamping said jaws against said blade.

3. A stencil knife comprising a tubular handle having one end formed with an outwardly flared seat, a holder in said handle and having one end enlarged and tapered inwardly to fit within said seat and having its opposite end formed with a screw-threaded shank, said holder being slotted

longitudinally a substantial distance, thereby forming two clamping jaws, a knife blade insertable between said jaws, a plurality of spacers insertable between said jaws and said blade, and screw-threaded means for engaging said shank end of said holder and bearing against the corresponding end of said handle for drawing said holder inwardly and forcing said jaws into said tapering seat and against said blade.

4. A stencil knife of the class described comprising a tubular handle having one end formed with an outwardly flared seat, a holder slidably disposed in said handle and having one end enlarged and tapering inwardly to fit in said seat end having the opposite end formed with an externally screw-threaded shank, a knob having a screw-threaded bore engaging said shank and having an annular shoulder bearing against the adjacent end of said handle, said holder being slotted longitudinally from said enlarged end to a point near said shank end to provide a pair of jaws, a knife blade, and a plurality of spacers, said knife and spacers being adapted to fit into said slot and to be clamped in position by said jaws by drawing the tapering portions thereof into said tapered end.

5. A stencil knife of the class described comprising a tubular handle having one end formed with an outwardly flared seat, a holder movably disposed in said handle and having one end enlarged and tapered inwardly to fit in said seat and having its opposite end formed with an externally screw-threaded shank, a knob having a screw-threaded bore engaging said shank and having an annular shoulder bearing against the adjacent end of said handle, said holder being slotted longitudinally from said enlarged end to a point near said shank to provide a pair of jaws, each of said jaws being slotted at right angle to the first slot to a point past said tapering portion, whereby the portions of said jaws can be drawn inwardly in a vertical as well as a horizontal plane, a knife blade, and a plurality of spacers, said knife and spacers being adapted to fit in the slot between said jaws and to be clamped in position by said jaws when said knob is turned in the proper direction to force the tapering portions of said jaws into said tapered seat.

6. A stencil knife of the class described comprising a tubular handle having one end formed with an outwardly flared seat, a holder movably disposed in said handle and having one end enlarged and tapered inwardly to fit in said seat, means engaging the opposite end of said holder and of said handle for drawing said holder inwardly, said holder being slotted longitudinally from said enlarged end to a point near the opposite end to provide a pair of jaws, each jaw being slotted at right angle to the first slot to render said jaws adjustable to said tapering seat, a knife blade, and a plurality of spacers, said knife and spacers being adapted to fit in said longitudinal slot and to be clamped in position by said jaws when the latter are forced against each other by said tapering seat.

7. A stencil knife of the class described comprising an open-ended tubular handle having one end formed with an outwardly flared seat, a holder movably disposed in said handle and having one end enlarged and tapered inwardly to fit in said seat, an externally screw-threaded shank formed on the opposite end of said holder, a manually operable member having a screw-threaded bore for engaging said shank, said

member bearing against the corresponding end of said handle for drawing said holder inwardly in said handle, said holder being slotted longitudinally from said enlarged end to a point near said shank end to provide a pair of jaws, each jaw being slotted at right angle to the first slot for a suitable distance to render said jaws adjustable to said flared seat, a pair of knife blades, and a plurality of spacers, said knife blades and said spacers being adapted to be clamped between said jaws with said knife blades in fixed spaced relation with each other.

8. In a stencil knife of the class described, the combination with a handle and a holder movably arranged therein and provided with a slotted end to form a pair of jaws, of a pair of knife blades, and a plurality of spacers adapted to fit between said jaws, said spacers being adjustable relatively to said knife blades whereby the latter can be spaced from each other in accordance with the number of spacers used therebetween.

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