

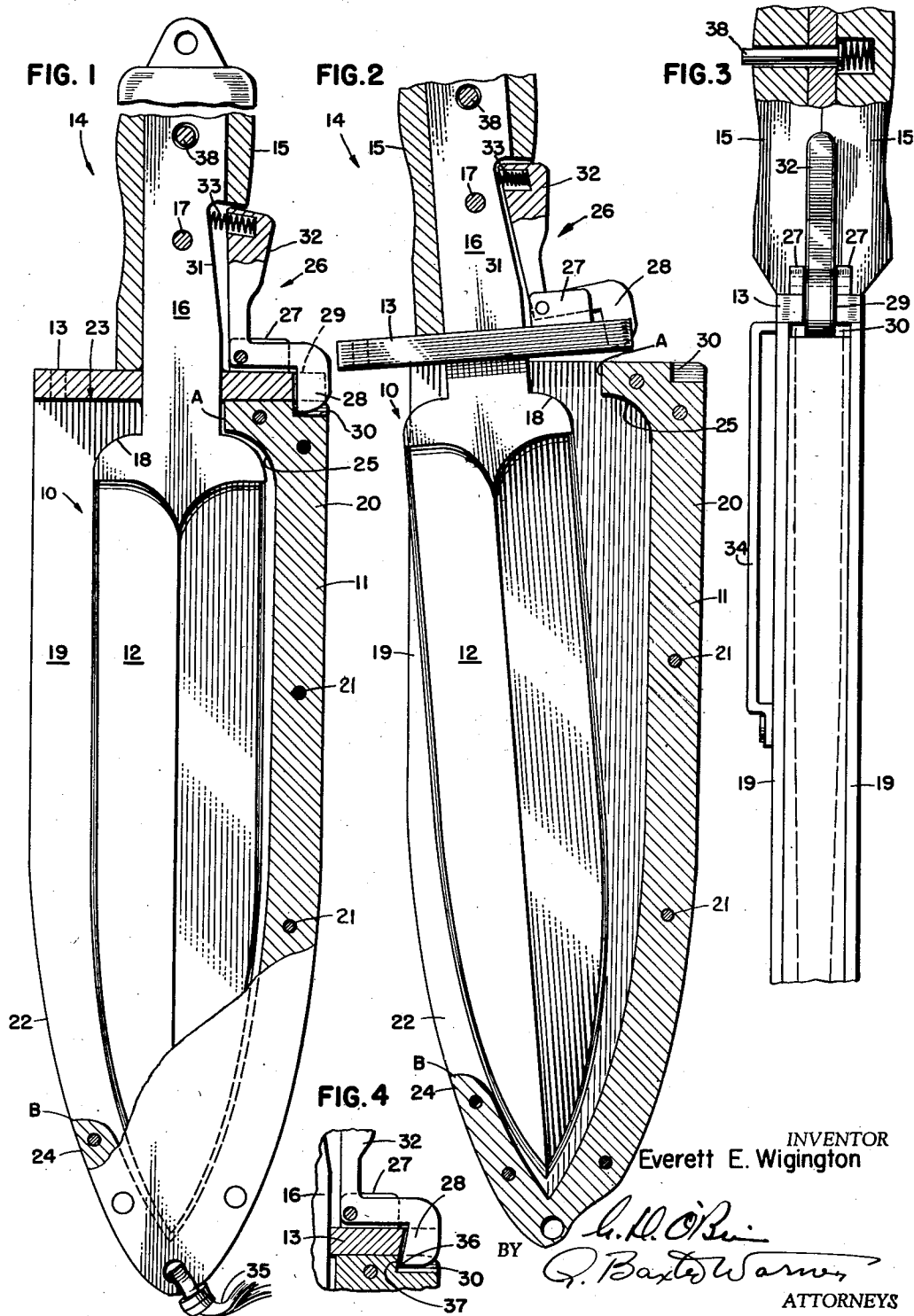
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BLADED INSTRUMENT HAVING A SHEATH

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BLADED INSTRUMENT HAVING A SHEATH

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The invention described herein may be manufactured and used by or for the Government of the United States of America for governmental purposes without the payment of any royalties thereon or therefor.

This invention relates to bladed instruments having protective sheaths therefor and more particularly to a bladed instrument wherein the blade portion is positively locked within a protective sheath when the instrument is not in use and, when desired, the blade can be instantly released and removed from the sheath with a minimum of hand and body movement.

While there are many existing variations of bladed instruments with associated sheaths or scabbards, the retaining arrangements utilized by these devices are not entirely satisfactory since the blades in many instances are not positively locked within their cases, or conversely, are rigidly retained to a point where quick release of the instrument cannot be assured. Moreover, in conventional blade-sheath instruments the blades can be removed from their covers only after the instruments have been moved or lifted a considerable distance upwardly until the blade points have cleared the upper portions of the cases or covers.

These characteristics are highly undesirable to persons who must rely on such instruments in their profession or hobbies and where it is of the utmost importance that such instruments be positively retained against accidental release and additionally be quickly removable with a minimum of effort.

The present invention overcomes the foregoing deficiencies by providing a bladed instrument wherein the blade is securely locked within its protective sheath against unintentional removal and yet easily and instantly withdrawn therefrom by merely a slight wrist movement. This particular type of instrument, sometimes referred to as a quick release knife, has found considerable usage as a member of survival kits or equipment carried by service personnel in forward areas. For example, pilots and air crewmen can release the knife and put it into instant use even though their hands and/or arms are restricted in movement by parachute shroud lines or the confines of a cockpit.

In addition, the instrument is adapted to be inserted in the collapsible oar normally carried in life rafts and subsequently used as a spear for self-defense purposes or for obtaining game.

Accordingly, it is an object of the present invention to provide a strong, lightweight, compact, reliable bladed instrument which may be readily carried and instantly drawn by users.

Another object is the provision of a bladed instrument wherein the bladed portion can be positively locked or retained within its respective sheath to render the instrument safe against accidental release of the blade and possible subsequent body injury.

A further objective is to contribute a bladed instrument or weapon permitting quick and positive release

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of the blade from its sheath with a minimum of hand or arm movement of the user.

Still another object of the invention is to provide a bladed instrument wherein the sharp blade portion is safely protected during non-use and yet may be expediently brought into action with only a slight degree of physical motion.

Another object of the invention is to provide a quick release knife sheath device wherein the blade is removable through a side of the protective sheath thus eliminating the customary extensive and time consuming upward arm movement of the user in withdrawing the conventional type instrument from its sheath.

A still further provision is that of providing a bladed instrument wherein the blade is positively secured within a protective sheath when not in use, quickly releasable therefrom with a minimum of movement, and if desired can be utilized with a suitable extension to form a pointed spear.

Other objects and many of the attendant advantages of this invention will be readily appreciated as the same becomes better understood by reference to the following detailed description when considered in connection with the accompanying drawings wherein:

Fig. 1 is a side elevation view with portions in cross section illustrating one embodiment of the invention wherein the knife is locked in place within the sheath;

Fig. 2 is a cross-sectional view similar to that of Fig. 1 but showing the knife in an unlocked position and being withdrawn from the sheath through a side thereof;

Fig. 3 is a side elevation view of a portion of the instrument taken from the closed side of the sheath, the upper end of the handle being sectioned to illustrate adaptor means for securing the knife to an extension member; and

Fig. 4 is a side view of another embodiment of the catch.

Referring now to the drawings, wherein like reference characters designate like or corresponding parts throughout the several views, there is shown in Fig. 1 a bladed instrument or knife 10 locked in place within its respective sheath or scabbard 11. The knife 10 comprises an elongated pointed blade 12 and a handle 14 having a hilt or cross guard 13. The blade 12 may be of the Bowie or single cutting edge design (not shown), but the preferable type is that of the stiletto double cutting edge shown in the drawings. While the blade material now used is metal, other materials suitable for cutting purposes could be substituted therefor. Handle grip members 15 are secured to opposite sides of blade extension 16 by means of pins or screws 17 to form the handle portion of the knife. Rounded shoulders 18 are formed at the top of the blade 12 on opposite sides of the base of the blade extension 16, and the knife hilt 13 is secured to the blade extension 16 immediately below the handles and above the rounded shoulders by suitable means such as welding, soldering, or the like.

As illustrated in Figs. 1 and 2 the sheath comprises two sides 19 and a relatively thin edge strip or filler member 20 which joins the sides together from point A to point B by means of rivets or pins 21. It will thus be seen that the sheath is substantially open along edge 22 and top 23 to permit entry and removal of the blade 12. The sheath is of a sufficient width to provide ample protection to the edge of the blade adjacent the open side 22 and the thickness of the sheath is such that the blade is snugly retained therein. A clearance of $\frac{3}{32}$ of an inch between blade and interior of the sheath is stated as illustrative of one tolerance condition which has been found to be satisfactory. It will be apparent that when the blade is in the position shown in Fig. 1, removal thereof from the

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sheath in a direct lateral direction or a direct vertical direction is prevented by the presence of the lower up-turned extremity 24 and the upper inwardly extending extremity 25 of the edge member 20. The sheath may be formed of lightweight metal, plastic or other suitable material which is not affected by prolonged exposure to extreme wet or dry conditions or high or low temperatures. Moreover, the material should be of rigid or stiff construction to prevent the blade from piercing the sheath and injuring the wearer.

The knife is releasably retained within the sheath by a locking arrangement which comprises a spring-biased catch or latch 26 pivotally mounted on the top of one side of the hilt 13 between catch shoulders 27.

A detent 28 of the catch 26 is adapted to extend downwardly through vertical groove 29 in an end of the hilt 13 into a cooperating stepped portion or slot 30 formed in the upper corner of the sheath 11. A recess 31 is formed in the side of handle 14 to receive the hand engaging extension 32 of the catch, the extension being recessed to support compression spring 33 therein.

It will be apparent from Fig. 1 that once the knife is properly seated within the sheath its accidental or unintentional withdrawal through open side 22 is precluded by means of the combination of the catch 26 and the two end extremities 24 and 25 of edge member 20. The instrument is generally carried along the hips or waist of the user by means of a belt (not shown) which is passed through belt loop 34. In addition, thong member 35 may be secured around the top portion of the leg of the wearer to assure proper vertical positioning of the instrument at all times.

In order quickly to remove the instrument or knife from the sheath the wearer need but grasp the handle, squeeze the hand engaging extension 32 to release detent 28 from locking engagement with slot 30, and twist the wrist thus pushing the knife handle in a lateral or horizontal direction. The knife will then be in instant readiness for use. It has been found that a wrist movement of approximately 1½ inches is sufficient to free the knife. It is important to note that in the above release and removal operation it was not necessary for the user's or wearer's arm to be free for extensive upward movement, a distance usually equal to the length of the knife blade. Rather, the only prerequisite was that the wearer be in a position to grasp the knife handle. Once the knife has been grasped, the releasing and removal of the instrument can be accomplished solely by wrist action and, if necessary, the blade can begin its cutting action as it emerges from beyond the edge 22 of the sheath.

In Fig. 4 there is illustrated a modified catch mechanism wherein the two cooperating edges 36 and 37 of the detent 28 and slot 30 respectively, are inclined inwardly to create a wedging action therebetween.

Additionally, the knife handle 14 carries a spring-biased pin 38 which is adapted to engage a hollow, apertured, oar handle or suitable extension member (not shown) when the latter is slipped over the handle of the knife. The result is a spear device which is useful for defense and survival purposes.

Obviously many modifications and variations of the present invention are possible in the light of the above teachings. It is therefore to be understood that within the scope of the appended claims the invention may be practiced otherwise than as specifically described.

What is claimed is:

1. In an instrument combination, a knife having a blade and a handle, a sheath open along one edge portion, said sheath including two spaced side members and joining edge member, said edge member extending from the top of the side members to the bottom along their edges opposite to said open edge portion of said sheath thereof and thence upwardly along the open edge portion of the sheath to a point intermediate the length thereof to form a knife-point receiving pocket, said edge member further

including an inwardly extending shoulder overlying an upper portion of the knife blade when the point end thereof is contained within said pocket, and releasable latch means carried by said knife for pivotally engaging said sheath and retaining the knife within said pocket and against said shoulder.

2. In an instrument combination, a knife having a blade and a handle, said blade being reduced in width to form a rounded shoulder at the top thereof, an open-walled sheath for transversely receiving said blade therein, said sheath including two side members and a wall member, said wall member extending from the top of the sheath to the bottom thereof and thence upwardly along the open-walled edge of the sheath to a point intermediate the length thereof to form a point engaging pocket, said wall member further including an inwardly extending shoulder adapted to overlie said rounded shoulder of the blade when the blade is within the pocket, said sheath having a stepped portion in the upper corner thereof adjacent said inwardly extending shoulder to accommodate a detent, an outwardly extending hilt secured to the handle at the base portion thereof in spaced relationship with said rounded shoulder of the blade, the undersurface of the hilt engaging the top of the sheath when the blade is seated therewithin, said hilt having a groove formed in the end thereof, a pair of spaced shoulders mounted on the upper surface of the hilt, and latch means for releasably retaining the blade transversely within the sheath, said latch means being pivotally mounted on the hilt between said shoulders and including an upwardly extending hand engaging portion and a lower laterally extended depending detent, said detent adapted to extend through said groove into locking engagement with the stepped portion of the sheath, said handle having a recess therein for housing the hand engaging portion of the latch, and a compression spring interposed between the hand engaging portion and the bottom surface of the recess to normally bias the latch means into the locking position.

3. In an instrument combination, a knife having a blade and a handle, said handle being narrower than the width of the blade to form a rounded shoulder on the blade at the juncture of the handle and the blade, a hilt secured to the handle and overlying said rounded shoulder to provide a recessed blade portion, a sheath for the blade including a pair of spaced side members of a width greater than that of the blade, said side members being joined marginally by a wall member along a top portion of the side members, the wall further extending downwardly adjacent one marginal edge of the side members to a region adjacent the point end of the blade and thence reversely upward along the opposite marginal edge of the side members to terminate adjacent said point end of the blade to provide a sheath having an open-walled portion and a V-shaped point receiving pocket, said wall member further having an inturned abutment at its upper end cooperatively mating with said recessed blade portion to oppose movement of the knife longitudinally in either direction and transversely in one direction when the blade is within said pocket, said upper end wall member having a notch formed therein adjacent said abutment, and a releasable latch on the handle pivotally engageable with said notch for retaining said abutment in engagement with said recessed blade portion, said latch being normally biased to prevent opposite transverse blade movement through said open-walled portion of the sheath when in a latched condition.

4. A weapon comprising the combination of a blade and a handle, the blade having a recess formed therein at the juncture of the blade and the handle, a sheath for the blade having a pair of mutually spaced side walls connected by an end wall, said sheath being open at the top and open along a major portion or the length of one end thereof to permit entry and withdrawal of the blade in a direction transverse to the longitudinal axis of the blade, said end wall commencing at the top of the sheath and

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including an inturned shoulder at its upper end mating with said recess in the blade, said end wall further extending to the lower end of the sheath and including a reverse upturned shoulder terminating at a point intermediate the length of the sheath on the open end thereof to define a pocket for receiving the end portion of the blade, a releasable latch means carried by and biased for release by normal gripping of the handle, a portion of said latch being pivotally engageable with an upper portion of the end wall at a point adjacent said inturned shoulder to retain the weapon against transverse release movement when the end portion of the blade is within said pocket and when said inturned shoulder is matingly engaged with said recess in the blade.

5. The device of claim 4 wherein said latch means comprises a hilt affixed to the handle and engageable with the top of said end wall, said end wall having a notch including a vertical wall formed in the upper end thereof and underlying said hilt, a latch member pivotally supported on the upper surface of said hilt and on the side of the handle opposite to that of the open end of the sheath and including a hand-grip actuator member extending from the pivot axis thereof in a plane vertically

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parallel to that of the handle and a horizontally extended finger portion having a pendant end engageable with said vertical wall of the notch, resilient means for normally biasing said actuator member in a direction outwardly from the handle, movement of said actuator member in an outward direction causing said pendant end to engage said vertical wall in a weapon latched position and movement of the actuator member in the opposite direction causing said pendant arm to move in vertical and transverse directions about the pivot axis to disengage the vertical wall when the actuator member is depressed by a gripping of the handle to permit release of the weapon from the sheath in a transverse direction.

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