A knife includes a handle with a removable rigid blade. The handle defines a slot extending along its length and a tang opening at one of its ends intersecting the slot. A lever lock is pivotally connected at one of its ends in the slot adjacent the tang opening and is arranged to pivot about its pivoted end into and out of the slot. A cam lock projection extending from the lever lock adjacent its pivoted end extends into the slot of the handle. A blade includes a tang insertable into the tang opening of the handle, and the tang defines a cam lock recess for receiving the cam lock projection of the lever lock. A latch carried by the handle holds the lever lock in its closed position.

8 Claims, 3 Drawing Figures
KNIFE WITH REMOVABLE BLADE

BACKGROUND OF THE INVENTION

Knives for sportsmen vary in design details but are usually of the permanently connected rigid blade-handle construction and are usually carried in a sheath. The sportsman’s knife may have any of several blade shapes such as a skinning blade, a hunting blade, a fisherman’s blade, a saw blade, a hatchet blade, a cook’s blade, a camper’s blade, or a general purpose blade. Also, the handle construction of the sportsman’s knife can vary in accordance with the purpose for which the knife is to be used or in accordance with the desires of the particular sportsman. It is frequently difficult for the sportsman to select a knife which has both the handle construction and blade construction combination which is to his liking since the sportsman’s knife is constructed with a permanent connection between the blade and the handle. Moreover, the merchant that sells knives must carry a large inventory of knives in order to stock the combination of handles and blades which are likely to be attractive to the sportsman. While it is possible to disconnect the blade from the handle of a sportsman’s knife in order to change the combination of the blade and handle, the disconnection and reconnection process is tedious and requires an expert craftsman, and is therefore rarely undertaken. Moreover, if the blade and handle of a sportsman’s knife are to be taken apart so as to provide another blade and handle combination, the craftsman must be very careful to make a rigid and perfectly aligned connection between the new combination of blade and handle.

SUMMARY OF THE INVENTION

Briefly described, the present invention comprises a sportsman’s knife which includes a handle and blade construction wherein the blade can be expediently removed from the handle and another blade or handle combination matched together and expediently reconnected by a layman to form a firmly connected well-balanced combination. The handle defines an elongated slot extending along its length, and a locking lever is pivotally connected at one of its ends in the slot and carries a locking cam movable into and out of the slot. The blade includes a tang at its base which is insertable through a tang opening at one end of the handle, and the tang of the blade defines a recess for receiving the cam of the locking lever. A latch at the pommel of the handle engages the distal end of the locking lever to hold the locking lever in its closed or locked position in the slot of the handle.

Thus, it is an object of the present invention to provide an inexpensive, durable good quality sportsman’s knife that includes a handle and a blade that are easily connected to each other and disconnected from each other, and when connected to each other form a well-balanced, rigid sportsman’s knife.

Other objects, features and advantages of the present invention will become apparent upon reading the following specification, when taken in conjunction with the accompanying drawing.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a perspective view of the sportsman’s knife with the blade and handle connected together.

FIG. 2 is a side cross sectional view of the sportsman’s knife.

FIG. 3 is an exploded cross sectional view of the sportsman’s knife, showing the lever lock in its open position and the blade removed from the handle.

DETAILED DESCRIPTION OF AN EMBODIMENT

Referring now in more detail to the drawing, in which like numerals indicate like parts throughout the several views, FIG. 1 discloses a sportsman’s knife 10 that includes a handle 11 and a blade 12. The blade is rigidly connected to the handle 11, as will be explained in more detail hereinafter.

Handle 11 comprises an inner housing 14 which is approximately U-shaped in cross section and extends substantially the entire length of the handle from the butt or pommel 17 at one end to the blade at the other end and is enlarged at the blade end into a blade guard 13. Outer housing or bolster 15 is also approximately U-shaped in cross section and extends around inner housing 14 from the blade guard 13 to the butt 17 of the handle. Inner housing 14 defines a slot 16 which extends along the length of the handle. A tang opening 18a is formed in the blade end of the handle, and a latch opening 18b is formed in the butt end of the handle. Tang opening 18a and latch opening 18b both intersect slot 16 within the inner housing 14 of the handle.

Lever lock 19 is pivotally connected at one of its ends to inner housing 14 by means of pivot pin 21 extending through the side walls of the inner housing and through an aperture of the lever lock. Lever lock 19 includes a cam lock protrusion 22 which extends into slot 16 adjacent the tang opening 18a, and the distal end 24 of lever lock 19 includes an outwardly facing locking notch 25. Lever lock 19 is fabricated from spring steel, and the lever lock is mounted within slot 16 so that it can pivot down into the slot and its outer surface 26 will be approximately flush with the surfaces of inner housing 14 and outer housing 15 when the lever lock is moved fully into slot 16, as is illustrated in FIGS. 1 and 2.

Pivoted keeper 28 is carried at the butt end 29 of handle 11 and functions as a latch. Latch 28 is pivotally connected at its inner end 30 in latch opening 18b of housing 14 by pivot pin 31. The distal end of latch 28 includes a hooked end 32. The size and shape of latch 28 is such that the latch is movable into and out of latch opening 18b as illustrated in FIGS. 2 and 3, and the hooked end 32 is movable over the notch 25 of lever lock 19 when the lever lock is pivoted to its locked position so as to hold the lever lock within the slot of the handle.

Bolster or outer housing 15 is inserted about inner housing 14, and the connection between the inner and outer housings can be made by adhesive or by one or more pins 35 extending through the side walls of housings 14 and 15. Outer housing 15 can therefore cover the pivot pins 21 and 31 of lever lock 19 and latch 28 as well as pin 35.

Blade 12 includes a tang 36, shoulders 37 and 38, back 39, and cutting edge 40. Tang 36 defines a cam lock recess on the side portion thereof which faces the same direction of the cutting edge 40 and a pin recess 42 at its base which faces away from shoulders 37 and 38. Pin recess 42 is semi-circular and of a radius approximately equal to the radius of pin 35. Cam lock re-
cess 41 is also approximately semi-circular and of a radius approximately equal to the radius of curvature of cam lock protrusion 22 of lever lock 19. Pin recess 42 of tang 36 is spaced from shoulders 37 and 38 of blade 12 a distance approximately equal to the spacing of pin 35 from the blade edge of handle 11, so that when tang 36 is fully inserted into the tang opening 18a of handle 11, pin recess 42 will be in abutment with pin 35, shoulders 37 and 38 will be seated upon the end surface 44 of the guard 13 of the handle, and cam lock recess 41 will be located beneath cam lock protrusion 22 of lever lock 19.

When a blade 12 is to be disconnected from a handle 11, the lever lock 19 of the handle is opened by pressing the distal end of lever lock 19 inwardly of the slot 16 against the bias of its leaf spring action and pivoting latch 28 out of its latch opening 18b so as to remove the hooked end 32 of the latch from registry with notch 25 of the lever lock, and the lever lock 19 is then allowed to pivot outwardly of the slot 16 about its pivot pin 21. As lever lock 19 pivots outwardly of slot 16, its cam lock protrusion 22 also pivots outwardly with respect to slot 16 and out of the cam lock recess 41 of tang 36 of blade 12. Blade 12 can then be moved longitudinally with respect to handle 11 so that tang 36 is withdrawn from tang opening 18a and the blade is disconnected from the handle. A different combination of handles or blades can then be made. For example, another blade 12 can be used with the handle 11. The tang 36 of the new blade is substantially identical to the tang of the blade removed from the handle and is inserted in the tang opening 18a until the pin recess 42 of the tang abuts pin 35, and then lever lock 19 is pivoted back toward its closed or locked position. As the lever lock pivots toward slot 16, its cam lock protrusion 22 wedges into the cam lock recess 41 of the tang 36. As lever lock 19 continues to move into slot 16, cam lock protrusion 22 becomes fully seated in cam lock recess 41 before the distal end of the lever lock is fully positioned within the slot 16. Since lever lock 19 is fabricated from resilient material and of a length approximately the same as the length of the slot of said handle pivotally connected at one of its ends in the slot of said handle adjacent said tang opening and arranged to pivot about its pivoted end into and out of said slot, said lever lock including a cam lock protrusion adjacent its pivoted end extending into said slot, a blade including a tang insertable into said tang opening of said handle, said tang defining a cam lock recess of a size and shape corresponding to the size and shape of the cam lock protrusion of said lever lock to receive the cam lock with a friction fit when the tang is fully inserted in said tang opening and said lever lock is pivoted toward said slot, said cam lock protrusion being constructed and arranged to become seated in said cam lock recess as the lever lock is pivoted toward said slot but before said lever lock is fully received in said slot and to urge said tang further into said tang opening of said handle as said lever lock is moved further toward said slot, and said lever lock being bendable to move further into said slot after said cam lock protrusion is seated in said cam lock recess, and a latch carried by said handle for maintaining said lever lock bent within the slot of said handle, whereby the cam lock protrusion is biased toward its seated position in the cam lock recess.

The knife of claim 1 and wherein said handle includes a pin extending through said slot, and wherein the tang defines a pin recess for insertion about said pin when said tang is inserted into said tang opening.

3. The knife of claim 1 and wherein said latch is pivotally mounted in the pommel of said handle and includes a hook movable over said lever lock, and said lever lock defines a recess in its distal end for receiving and holding said hook.

4. The knife of claim 1 and wherein the cam lock protrusion of said lever lock is displaced along the length of said lever lock from the pivoted end of the lever lock whereby the cam lock protrusion is movable into and
out of the slot of the handle with the pivotal movement of the lever lock.

5. A knife comprising a handle defining a slot extending along its length and a tang opening at one of its ends intersecting said slot, a lever lock fabricated from resilient material and pivotally connected at one of its ends to said handle and including a protrusion intermediate its ends facing said slot and movable with said lever lock into and out of said slot upon pivotal movement of said lever lock with respect to said handle, a latch carried by said handle and arranged to engage said lever lock at a position displaced further away from the pivotal connection of said lever lock to said handle than said protrusion for retaining the protrusion of said lever lock in said slot, and a blade including a tang defining a recess for receiving the protrusion of said lever lock when said tang is fully inserted in the tang opening of said handle and said lever lock is moved partially into said slot, said protrusion being of a size corresponding to the size of said recess and constructed and arranged to become seated in said recess before said lever lock is fully inserted into said slot and being shaped to urge said tang further in the tang opening of said handle as said lever lock is pivoted into said slot whereby said lever lock must be bent further into said slot to be retained in said slot by said latch and said latch maintains said lever lock bent in said slot and maintains the protrusionbiased toward its seated position in said recess and maintains said tang biased into said tang opening.

6. The knife of claim 5 and wherein said lever lock is pivotally mounted about a pin extending through the slot of said handle, and wherein substantially the entire lever lock is pivotal into said slot.

7. The knife of claim 5 and wherein said latch is pivotally connected at one of its ends to the pommel of said handle and includes a hooked end movable over the distal end of said lever lock to hold the protrusion of said lever lock in said slot.

8. A knife comprising a handle defining a slot extending along its length, a tang opening at one of its ends intersecting said slot, and a pin extending through said slot, a lever lock fabricated from resilient material and bendable along its length, said lever lock being pivotally connected at one of its ends to said handle and including at a position intermediate its ends a rounded cam lock protrusion facing said slot and movable with said lever lock into and out of said slot upon pivotal movement of said lever lock with respect to said handle, a blade including a sharpened end portion and a tang, said sharpened end portion being wider than said tang and including shoulders facing said tang, said tang defining a cam lock recess on a side portion thereof and a pin recess at its end opposite to said sharpened end portion and facing away from said shoulders, said shoulders, pin recess and cam lock recess being spaced so that when said tang is fully inserted into said tang opening the shoulders will be in abutment with the end of said handle, the pin recess will be seated about said pin and the cam lock recess will be positioned to receive said cam lock protrusion, said cam lock protrusion being of a size large enough to become seated in said cam lock recess before said lever lock is pivoted fully into said slot and to urge said tang into said tang opening toward said pin and said shoulders toward said handle, and said lever lock being bendable further into said slot after said cam lock protrusion is seated in said cam lock recess, and a latch connected to said handle for maintaining said lever lock bent in said slot so as to maintain the cam lock protrusion biased toward its seated position in said cam lock recess.

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