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DRAWINGS ATTACHED

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(54) KNIFE SCABBARD OR HOLDER

(71) We, WILTSHIRE CUTLERY COMPANY PROPRIETARY LIMITED, a Company incorporated under the laws of the State of Victoria, Australia,, of 36—38 Albert Road, South Melbourne, in the State of Victoria, Commonwealth of Australia, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to knife scabbards or holders, and for convenience will be hereinafter described in relation to knives of the kind used in an ordinary household for carving meat for example. It is to be understood however, that the invention is also applicable to other types of knives, irrespective of whether they are used in the home or industry.

The present invention provides an improvement over the scabbard or holder constructions according to our British Patent Specification 1,272,714 and has for its principal object to provide such a scabbard or holder construction in which pressure is positively maintained between a knife blade and the sharpening device. In the aforementioned prior constructions, it is possible to hold the knife blade out of engagement with the sharpening device during insertion and withdrawal simply by restraining the blade against the action of the pressure means.

According to a first aspect of the present invention, there is provided a knife scabbard including, a hollow housing, a knife receiving passage defined within said housing and having an access opening at one end thereof, a carrier member mounted within said passage for movement towards and away from one side of said passage, a sharpening device mounted on said carrier at a position adjacent said opening and being operable to engage a cutting edge of a knife blade located within said passage, and biasing means urging said carrier towards said one side so as to maintain pressure between said sharpening device and a knife blade located within said passage.

In a preferred embodiment, the carrier

member is pivotally connected to the housing at a location spaced from the access opening, and a reaction member is pivotally mounted on the carrier member adjacent to the access opening. The reaction member is arranged to react between the carrier member and a wall of the scabbard so as to create a force opposing the influence of the biasing means, at least during initial insertion of a knife blade into the scabbard.

It is also preferred that guide means is provided to support substantially the full depth of that part of a knife blade which is at any time located within the entrance part of the scabbard. The guide means may form part of the aforementioned reaction member.

An object of the invention in a preferred form, is to provide a knife scabbard including a sharpening device which is constructed and arranged within the scabbard so as to facilitate cleaning and maintenance.

According to a second aspect of the invention, there is provided a knife scabbard including; a hollow housing; an elongate knife receiving passage defined within said housing and having an access opening at a front end thereof; an elongate carrier member located within said passage and having a rear end portion pivotally connected to said housing at a position remote from said access opening, said pivotal connection having its axis extending transverse to said passage to allow said carrier member to be pivoted towards and away from a side wall of said passage; a sharpening device mounted on a front end portion of said carrier member for engagement by a cutting edge of a knife blade inserted into said passage between said wall and said carrier member; biasing means urging said carrier member about its pivot towards said wall into a rest position so as to maintain pressure between said sharpening device and a knife blade located within said passage; a reaction member pivotally mounted on said carrier member and having a reaction part interposed between said front end portion of said carrier member and said passage wall and located forwardly of the pivotal mounting of said reaction member,

at least when said carrier member is in said rest position, the pivotal axis of said reaction member being substantially parallel to the pivotal axis of said carrier member, and said reaction part slidably engages said passage wall so as to be movable rearwardly of said passage when engaged by a knife blade inserted into said passage; and a pair of guide surfaces formed on said reaction member, extending between said reaction part and the pivotal mounting of the reaction member, and being spaced to provide lateral support for a knife blade inserted therebetween.

The following description refers in more detail to the essential features and further optional features of the invention. To facilitate an understanding of the invention reference is made to the accompanying drawings where these features are illustrated in preferred form. It is to be understood however that the essential and optional features of the invention are not limited to the specific forms of these features as shown in the drawings.

In the drawings:

Figure 1 is a longitudinal cross-sectional view of a scabbard according to one embodiment of the invention, and showing the relative positions of some of the major components before insertion of a knife blade into the scabbard;

Figure 2 is a view similar to Figure 1 but showing the sharpening device carrier in section and the relative positions of the major components after insertion of a knife blade (not shown) into the scabbard;

Figure 3 is a cross-sectional view taken along line III—III of Figure 2;

Figure 4 is an enlarged front elevational view of the scabbard shown in Figure 1;

Figure 5 is an enlarged transverse cross-sectional view taken along line V—V of Figure 3;

Figure 6 is an enlarged transverse cross-sectional view taken along line VI—VI of Figure 3;

Figure 7 is an enlarged transverse cross-sectional view taken along line VII—VII of Figure 3;

Figure 8 is a longitudinal sectional view of the front portion of the scabbard showing a knife blade just being inserted into the scabbard;

Figure 9 is a view similar to Figure 2 but on a reduced scale, showing a knife blade almost fully inserted into the scabbard;

Figure 10 is a view similar to Figure 8 but showing the knife blade being withdrawn from the scabbard;

Figure 11 is a longitudinal cross-sectional view of the lower part of the scabbard showing the first operation in its release from an associated mounting;

Figure 12 is a view similar to Figure 11 showing the scabbard partially removed from its mounting;

Figure 13 is a longitudinal cross-sectional view of the scabbard when completely removed from its mounting and showing the biasing spring released from the carrier to allow removal of the carrier from the main housing of the scabbard; and

Figure 14 is a view similar to Figure 13 but showing the carrier partially removed from the housing.

As with the prior constructions, the scabbard or holder includes a hollow housing 2 having a passage 3 therein for receiving a knife blade 4 (see Figures 8, 9 and 10) and being adapted to protect the cutting edge 5 of the blade 4 while the knife is stored awaiting use. Means as hereinafter described may be provided for securing the housing 2 to a bench, wall, cupboard, or other fixture. The housing passage 3 is open at one end to receive the knife blade 4 and may be closed at the other end by an end wall 6 of the housing. It is further preferred that the housing passage 3 is elongate and has a greater height than width.

For convenience of description, the end of the scabbard through which the knife blade 4 is received will be hereinafter referred to as the front end of the scabbard. Thus, the relative terms "front" and "rear", or words of similar import, as used throughout this specification are to be construed in relation to the front and rear ends of the scabbard.

Similarly, the words "upper" and "lower", or words of similar import, as used throughout this specification are to be construed in relation to the upper and lower (cutting) edges of the knife blade 4. In this regard, the scabbard of the invention will be hereinafter described as arranged to hold a knife blade 4 with its cutting edge 5 lowermost. It is to be realized however, that the scabbard can be mounted to support the knife blade 4 in any desired position, such as upright or on its side.

In the preferred form shown in the accompanying drawings, the scabbard housing 2 includes two side walls 7, an upper wall 8 and a lower wall 9 which cooperate to define the knife receiving passage 3. The aforementioned walls are preferably longer than the knife blade 4 to be contained within the passage 3 so as to provide complete protection for the blade cutting edge 5, and the rear end of the passage 3 is completely closed by a rear wall 6 although that is not essential.

The sharpening device 11 is mounted on or within the housing 2 so as to be movable towards and away from the upper wall 8, and pressure means 10 sets on the sharpening device 11 through a carrier 12 as hereinafter described so as to normally urge the sharpening device 11 towards that upper wall 8. The arrangement is such that the upper wall 8 of the housing 2, or at least a portion

thereof, serves as a reaction surface which the upper edge 5(a) of the knife blade 4 normally engages during insertion and withdrawal. In the preferred arrangement shown in the drawings, the knife blade 4 reacts with the front end portion of the upper wall 8 through a reaction member 13 which is constructed and arranged as hereinafter described.

In the preferred form shown, the carrier 12 includes an elongate body which extends lengthwise of the scabbard passage 3 and is pivotally connected to the housing 2 at a rear end portion and supports the sharpening device 11 at a front end portion. The pivotal connection may be effected in any suitable manner, but conveniently includes a part-cylindrical rib 14 extending transversely across the body of the carrier 12 and projecting upwardly to cooperate at its opposite end portions with curved recesses 15 formed in respective side walls 7 of the housing 2. The recesses 15 open downwardly to receive the rib 14, and their respective upper surfaces are curved substantially complementary to the rib curve so as to act as journal surfaces. The pressure means 10 preferably acts between the lower wall 9 of the housing 2 and the carrier 12 as hereinafter described so as to releasably retain the pivot rib 14 against the curved journal surfaces of the recesses 15. Instead of a single rib 14, two separate rib portions may be provided on opposite sides respectively of the carrier 12, each of which cooperates with a respective one of the curved journal surfaces.

The carrier 12 is arranged so that the pivot rib 14 is located adjacent the rear wall 6 of the housing 2, and the sharpening device 11 is located directly beneath or adjacent the front end of the housing upper wall 8. Also, the dimensions of the carrier 12 are related to those of the scabbard passage 3, so that the carrier 12 is adapted for free pivotal movement within that passage.

The carrier 12 shown in the drawings includes front and rear sections 16 and 17 respectively joined by two laterally spaced side walls 18. The rear section 17 includes or defines the pivot rib 14, and the front section 16 supports the sharpening device 11. The side walls 18 form part of guide means as hereinafter described for guiding a knife blade 4 through the housing passage 3, and the reaction member 13 is preferably pivotally mounted between those walls adjacent or within the front section 16.

In a preferred form as shown, the reaction member 13 includes a reaction bar 19 arranged to be directly above the sharpening device 11 in the upper rest position of the carrier 12 (see Figure 1). When the carrier 12 is in that rest position, the side edge portions of the bar 19 rest on the upper surface of the carrier 12. The bar 19 is connected

to a pair of mounting flanges 21 through two laterally spaced arms 22, and a guide slot 23 is defined between the arms 22 and flanges 21. The slot 23 is aligned with the space between the carrier side walls 18 and the flanges 21 locate between the side walls 18 and provide a pivotal mounting for the reaction member 13. That is, each of the flanges 21 is pivotally connected to a respective side wall 18 of the carrier 12 for movement about a common axis extending substantially parallel to the axis of the carrier pivot rib 14. The arrangement is such that the bar 19 and a rod-like section 20 form the only interconnection between the two side parts of the reaction member 13, each of which parts is formed by one flange 21 and an arm 22. As will be seen from Figures 3 and 7, the preferred form of the pivot mounting of each flange 21 includes a boss 24 made integral with the flange 21 and rotatable within a bore in the adjacent side wall 18. Preferably, the width of the slot 23 is substantially the same as the spacing between the carrier side walls 18, in which case each flange 21 is set in a suitable recess 25 (see Figure 3) formed within the inside surface of the adjacent side wall 18 of the carrier 12.

According to the form shown in the drawings, the front section 16 of the carrier 12 has a cavity 26 (see Figure 3) therein containing the sharpening device 11. The sharpening device 11 is pivotally mounted by means of bosses 27 (see Figure 5) within the cavity 26 for movement about an axis extending substantially parallel to the pivotal axis of the carrier 12, and stops are preferably provided to limit the degree of that pivotal movement. In the form shown, the stops are formed by abutments 28 and 29 on side walls of the cavity 26, and one of those side walls may be removable to enable ready replacement or repair of the sharpening device 11.

The sharpening device 11 may be of any appropriate construction, but in the preferred form shown in the drawings, includes a pair of cutting or abrading elements 31 arranged in crossed relationship to define a V-shaped sharpening recess 32. The elements 31 may be made from a relatively hard metal such as tungsten carbide, or an abrasive material, and are preferably molded within a support block 33 of a plastics material. The pivot bosses 27 of the sharpening device 11 may be also molded within or formed integral with the support block 33.

It is further preferred that a cushion spring 34 as shown is provided to cushion forward and rearward pivotal movement of the sharpening device 11, and in the form shown the spring 34 is a leaf spring depending from the support block 33. The spring 34 may be of metal and secured in any appropriate manner to the support block 33, or it may be of plastics material and formed

integral with that block. The cushion spring 34 is engageable with either one of a pair of reaction surfaces 35 and 36 of the carrier member 12 according to whether it is moving forward or rearwardly, and that engagement occurs prior to the sharpening device 11 reaching the extent of its forward or, rearward movement as the case may be, and the spring 34 is preferably inoperative during an intermediate part of the sharpening device movement.

It is preferable to have the sharpening device 11 in its forwardmost position about the pivot thereof, when a knife blade 4 is initially inserted into the housing passage 3, and that may be achieved in any one of several ways. For example, the cushion spring 34 (or some other part of the sharpening device 11) may be snap engageable with a suitable retainer (not shown) when the sharpening device 11 reaches its rearmost position during withdrawal of a blade 4 from the scabbard. Alternatively, the end of the cushion spring 34 remote from the support block 33 may be secured to the carrier 12 to provide the required bias.

According to the preferred arrangement shown in the drawings, the pressure means 10 includes an elongate leaf spring positioned between the carrier 12 and the housing lower wall 9, and extending lengthwise of the scabbard passage 3. The term "leaf spring" is to be interpreted broadly to embrace a spring made from a plate or wire, and in the latter case it may include a single spring bar or two such bars 37 (see Figures 5 and 6) extending side by side and preferably joined at one end. Preferably, the spring 10 is anchored at one end of the housing lower wall 9 and slidably engages the under-surface of the carrier body 12 adjacent its opposite end, although equally satisfactory results may be obtained with the spring 10 anchored to the carrier 12 and slidably engaging the housing lower wall 9. Furthermore, the spring 10 may be arranged to function as required with both end portions anchored to the same or different parts of the assembly.

Means for anchoring the spring 10 in the first described and preferred arrangement which is shown in the drawings, include an opening 38 formed through the housing lower wall 9 adjacent the front end thereof, and a locking recess 39 formed in the under-surface of the lower wall 9 forwardly of the opening 38. An upwardly turned end portion 41 of the spring 10 locates within the recess 39, and in its operative position the spring 10 extends through the opening 38 and is flexed so as to bear firmly against upper and lower surfaces of the housing lower wall 9 in zones located rearwardly and forwardly respectively of the opening 38. The arrangement is such that the upturned end portion 41 of the spring

10 can be pulled clear of the locking recess 39 so that the spring 10 may be slid longitudinally out of the housing 2 through the opening 38 in the lower wall 9.

The spring 10 preferably slopes or is curved upwardly and rearwardly from the lower wall opening 38 so as to engage the under-surface of the carrier 12 adjacent the pivoted end thereof and slopes or curves downwardly from that zone of engagement. A downwardly depending retaining rib 42 is formed at each longitudinal side of the carrier 12 so as to limit lateral movement of the spring 10 and thereby maintain it in engagement with the carrier 12. If the spring 10 comprises two laterally spaced bars 37 or lengths of wire as is shown in the drawings, a single downwardly projecting rib or lug located between those bars 37 will generally be sufficient. A further opening 43 is provided through the housing lower wall 9 adjacent the rear end thereof so as to enable the rear end 44 of the spring 10 to be pulled downwards away from the carrier 12 as shown in Figure 13. Without the biasing influence of the pressure spring 10, the carrier 12 is able to drop towards the housing lower wall 9 so that the pivot rib 14 is released from the associated journal recesses 15 and the carrier 12 is then free for removal through the open front end of the housing 2 as shown in Figure 14. In an alternative arrangement not shown, the front surface 15(a) of each recess 15 is sloped so that the carrier 12 can be pulled clear of the recesses 15 by a force in the direction of arrow "D" (Figure 14), thereby avoiding the necessity of first pulling the spring 10 downwardly as previously described. Guide means is preferably provided to keep the knife blade 4 in alignment with the sharpening device 11 during movement through the scabbard passage 3. In the illustrated embodiment, such means includes the upstanding side walls 18 of the carrier 12 which extend rearwardly of the sharpening device 11. The base surface 45 of a recess 46 defined within the carrier section 16 and located forwardly of the sharpening device 11 conveniently curves or slopes downwardly and forwardly from the sharpening device 11 so as to facilitate entry of the knife blade 4 into the scabbard in all pivotal positions of the carrier 12. The side surfaces 47 of the recess 46 also forms part of the guide means and may diverge upwardly and outwardly for at least part of their depth to facilitate initial insertion of a knife blade 4. Preferably, the guide passage defined between the side walls 18 extending between the carrier sections 16 and 17 is open along both the top and bottom thereof. A base or bottom wall may be provided, but it is preferably omitted as a knife blade 4 can be caused to bear against such a base so as to reduce the pressure acting between the blade 4 and

the sharpening device 11, and thereby reduce the sharpening effect.

As previously mentioned, the reaction bar 19 overlies the sharpening device 11 when the carrier 12 is in its upper rest position. In that position of the bar 19 the front edge 48 thereof preferably slopes rearwardly and downwardly (see Figure 1) to facilitate initial entry of a knife blade 4 between the bar 19 and the sharpening device 11. The reaction member slot 23, arm 22 and flanges 21 also form part of the aforementioned guide means.

Means may be also provided for releasably mounting the scabbard housing 2 on a support 50 (see Figures 11 and 12) such as a wall or bench. In the form shown in the drawings, that mounting includes a plate-like member 49 adapted to be secured to the support by screws 60 or any other suitable fastening means, and having retaining means thereon for releasable engagement with cooperating retaining means of the housing 2. The retaining means includes front and rear abutments which cooperate with corresponding abutments of the housing 2 to hold the housing against longitudinal movement relative to the mounting plate 49, and a detent releasably securing the housing 2 against upward separation from the mounting plate 49. In addition, a pair of laterally spaced and upstanding side walls 51 are provided on the mounting plate 49 so as to hold the housing 2 against substantial lateral movement relative thereto when the housing 2 and mounting plate 49 are combined in assembly. Each side wall 51 of the mounting plate 49 may be receivable within a recess 52 in the outer surface of the respective housing side wall 7, and the outer side surfaces of the housing 2 and mounting member walls 51 may be substantially flush or stepped relative to each other as desired.

In the illustrated embodiment, the front pair of retaining abutments includes a forwardly directed shoulder 53 formed on the under-surface of the lower wall 9 of the housing 2, and an opposed surface 54 of a lug, rib, or shoulder 55 upstanding from the mounting plate 49. Both of the abutment surfaces 53 and 54 slope upwardly and forwardly to assist in providing a wedging action in the retained position of the housing 2.

The rear pair of retaining abutments of the illustrated embodiment, include a lug 56 attached to the plate 49 and being locatable within an aperture 57 extending through the lower wall 9 of the housing 2 at or adjacent its junction with the housing rear wall 6, so as to engage the forwardmost wall edge or surface 58 defining the aperture 57. Alternatively, the lug 56 may be located within the lower wall opening 43 which allows access to the carrier spring 10, in which case the lug 56 cooperates with the front edge of that opening. Preferably, the front surface

59 of the lug 56 slopes upwardly and forwardly as shown to over-hang part of the housing lower wall 9 and thereby prevent direct upward separation of the rear end of the housing 2 from the mounting plate 49. That angular arrangement also facilitates location of the lug 56 within the housing aperture 57. An upstanding rear wall 61 is also provided on the mounting plate 49 to engage the lower edge of the housing rear wall 6.

The retaining detent of the preferred embodiment shown in the drawings includes a catch plate 62 forming a lower front wall of the housing 2 and which is attached to the lower wall 9 and separated from the side walls 7. In the form shown, an upwardly directed shoulder 63 is formed on the front surface of the catch plate 62 intermediate the height thereof, and is adapted to cooperate with the under-surface 64 of a detent bar 65 extending between the side walls 51 of the mounting member and spaced from the base plate 49 thereof. The catch plate 62 is arranged to flex about its zone of connection 66 with the housing lower wall 9 so as to be movable rearwardly to effect release of the shoulder 63 and bar 65 as shown in Figure 11. A forwardly projecting push button element 67 is provided at the upper end of the catch plate 62 and is located above the detent bar 65 to be engageable to cause release movement of the catch plate 62 relative to the detent bar 65.

In the preferred embodiment according to the drawings, a forwardly facing surface 68 projects downwardly from the housing upper wall 8 adjacent its rear end so as to provide a knife blade stop which prevents the knife from being inserted too deeply into the scabbard. Furthermore, downward movement of the carrier 12 relative to the housing 2, is limited by a front wall 69 of the carrier 12, the lower edge or surface of which is engageable with the housing lower wall 9.

It is also preferred that a chamber 71 is defined beneath the sharpening device 11 to collect swarf produced during sharpening operations. That swarf should desirably fall clear of the sharpening device 11 to avoid clogging. The chamber 71 is defined between the front wall 69 of the carrier 12 and another transverse wall 72 thereof which separates the sharpening device 11 cavity from the recesses 25 containing the reaction member flanges 21. The swarf collects on the lower wall 9 of the housing 2 from which it can be easily removed when the housing 2 is separated from the mounting plate 49 and the carrier 12 is withdrawn from the housing 2.

Having now described the principal components of a preferred practical embodiment of the invention the operation thereof is as follows.

(13)

When a knife blade 4 is not located within the scabbard passage 3 the carrier 12 is held in its uppermost position by the pressure spring 10 as shown in Figure 1, and in that position the reaction bar 19 bears against the housing upper wall 8 and it is preferred that relatively little, or no clearance exists between the adjacent surfaces of the sharpening device 11 and that bar 19. Thus, only the tip of a knife blade 4 can be inserted into the recess 32 of the sharpening device 11 before that device is caused to move downwardly with the carrier 12 against the action of the pressure spring 10, and pressure is thereby maintained between the blade cutting edge 5 and the sharpening device 11 for substantially the whole of the blade's movement into the scabbard.

As the depth or height of the blade 4 generally increases towards the heel 73 of the knife, the carrier 12 is progressively moved downwards as the blade 4 is moved longitudinally into the scabbard.

In addition, engagement between the front edge 48 of the reaction bar 19 and the blade upper edge 5(a), causes the reaction bar 19 to be maintained in engagement with the housing upper wall 8 as shown in Figures 8, 9 and 10. Because of the pivotal mounting of the reaction member 13, the zone of its engagement with the housing upper wall 8 progressively shifts as the depth of the blade 4 engaging the reaction bar 19 increases or decreases, and in this regard see the different positions of the bar 19 shown in Figures 8 and 9. The reaction member 13 ensures that substantially the full height of the blade 4 is located between lateral guide surfaces defined by the arms 22 and flanges 21, for at least the major part of the length of the blade 4, thereby minimizing the possibility of the blade 4 being twisted sideways and jamming between the carrier 12 and the housing upper wall 8.

The reaction member 13 has the further advantage of reducing the longitudinal force necessary to cause initial insertion of the knife blade 4 within the housing passage 3. This results from the fact that the blade 4 first bears against the reaction bar 19 at a position some distance forwardly of the pivot bosses 27, and a mechanical advantage results. That is, the upward pressure of the bar 19 against the wall 8 produces a downward reaction which is transferred through the arms 22 and flanges 21 to the bosses 27 to act on the carrier 12 in opposition to the influence of the spring 10, and that reaction force is magnified according to the longitudinal spacing between the bar 19 and the axis of the bosses 27.

If desired, the pressure spring 10 may be arranged so that the upward force applied to the carrier 12 by the spring 10 remains substantially constant in all pivotal positions of

the carrier 12. For example, the spring 10 may slidably engage an under-surface of the carrier 12 so that its zone of engagement with the carrier 12 is moved generally longitudinally of the housing 2 with pivotal movement of the carrier 12. That effect could be achieved by suitable formation of the spring 10 and the contour of the under-surface of the carrier 12 with which it engages.

As the knife blade 4 is first inserted into the sharpening recess 32 of the sharpening device 11, the device 11 is moved about its pivot into a rearwardly tilted position as shown in Figures 8 and 9. As withdrawal of the blade 4 is commenced the sharpening device 11 is moved about its pivot into a forwardly tilted position as shown in Figure 10. If desired, the sharpening device 11 may be arranged to produce two different cutting angles on the knife blade 4 during insertion and withdrawal respectively, and such an arrangement ensures a fine cutting edge 5.

The guide walls 18 of the carrier 12 keep the knife blade 4 in alignment with the sharpening device 11, and the side flanges 21 and arms 22 of the reaction member 13 hold the blade 4 against excessive lateral tilting at the critical zone adjacent the sharpening device 11. If excessive pressure is applied to the knife generally in the longitudinal direction, the cushion spring 34 acts as a compensator and minimizes the possibility of the blade 4 jamming in the sharpening recess 32. The pressure spring 10 serves the same purpose in the event of excessive downward pressure being applied to the knife.

Removal of the scabbard housing 2 from its mounting is effected by applying inwardly directed pressure to the button element 67 of the catch plate 62 as shown by arrow "A" in Figure 11, and thereby releasing the detent bar 65 from the cooperating shoulder 63 of the catch plate 62. The housing 2 can then be lifted at the front end as shown by arrow "B" in Figure 12 and drawn forward to separate the abutment surfaces 57 and 59, after which it is free for complete removal from the mounting.

The carrier 12 can be withdrawn from the housing 2 by pulling the pressure spring 10 downwards as shown by arrow "C" in Figure 13, by applying finger pressure through the opening 43 in the housing lower wall 9, although as previously mentioned such manipulation of the spring 10 is not necessary in a slightly modified embodiment (not shown). The carrier pivot rib 14 is then able to drop clear of the journal recesses 15 so permitting the carrier 12 to be moved bodily through the open front of the housing 2 in the direction shown by arrow "D" in Figure 14. Replacement of the carrier 12 is an equally simple operation, as it is only necessary to slide the carrier 12 longitudinally between the pressure spring 10 and the upper wall 8

of the housing 2 until the pivot rib 14 snaps into engagement with journal recesses 15.

It will be appreciated that the foregoing preferred construction can be altered substantially without departing from the scope of the invention as defined by the appended claims. For example, the pressure means may take any one of numerous forms such as one or more coil springs, an air bag, a counterweight, magnetic means, or hydraulic means. Furthermore, the carrier may be mounted for linear movement instead of pivotal movement, and similar considerations apply to the sharpening device. In fact the sharpening device may be fixed against movement relative to the carrier if so desired, in which event the carrier may form the support block for the sharpening elements of the sharpening device.

One of the principal advantages of the present invention is that pressure is continually applied between the knife blade and the sharpening device, and that pressure cannot be released simply by manipulation of the knife as in the case of constructions according to our aforesaid Specification 1,272,714. Also, in the preferred embodiment of the present invention, the double pivot mounting of the sharpening device enables production of a constant cutting angle or a double cutting angle, as desired. Still further, the removability of the carrier greatly facilitates cleaning and other maintenance such as replacement of the sharpening device.

Finally, it is to be understood that various alterations, modifications and/or additions may be introduced into the constructions and arrangements of parts previously described without departing from the scope of the invention as defined by the appended claims.

WHAT WE CLAIM IS:—

1. A knife scabbard including, a hollow housing, a knife receiving passage defined within said housing and having an access opening at one end thereof, a carrier member mounted within said passage for movement towards and away from one side of said passage, a sharpening device mounted on said carrier at a position adjacent said opening and being operable to engage a cutting edge of a knife blade located within said passage, and biasing means urging said carrier towards said one side so as to maintain pressure between said sharpening device and a knife blade located within said passage.

2. A knife scabbard according to claim 1, wherein said carrier member has a rear end portion pivotally connected to said housing at a position remote from said access opening, said pivotal connection having its axis extending transverse to said passage to allow said carrier member to be pivoted towards and

away from a wall of said passage at said one side thereof.

3. A knife scabbard according to claim 2, wherein said pivotal connection between said carrier member and said housing includes a part-cylindrical rib formed on said carrier member and extending transverse thereof, and at least one recess formed within said housing and being open in a direction away from said one side of the passage; said rib being releasably retained in said recess by the influence of said biasing means; and said carrier member is adapted to be withdrawn out of said housing through said access opening when said rib is disengaged from said recess.

4. A knife scabbard according to any preceding claim, wherein said sharpening device is mounted on a front end portion of the carrier member for engagement by a cutting edge of a knife blade inserted between said one side of the passage and said carrier member; and guide means is located within said passage adjacent said access opening and is operative to minimize lateral tilting movement of a knife blade located within said passage.

5. A knife scabbard according to claim 4, wherein said guide means includes two laterally spaced guide surfaces, each of which is located on a respective side of a knife blade located within said passage, and said surfaces extend substantially the full height of that part of the said blade which is at any time located between said surfaces.

6. A knife scabbard according to any preceding claim, wherein a reaction member is located within said passage and has a part located between said one side thereof and said carrier member for engagement by a knife blade inserted into said passage between said carrier member and said one side and to be thereby urged against said one side; and said reaction member cooperates with said carrier member so as to apply a force thereto in opposition to the influence of said biasing means when said reaction member part is urged against said one side, at least during initial insertion of said knife blade into said passage.

7. A knife scabbard according to claim 6, wherein said reaction member is pivotally mounted on said carrier member for movement about an axis which is located rearwardly of said reaction member part, and said part is interposed between a front end portion of said carrier member and said one side of the passage; at least when said carrier member is in a rest position, which is the extreme position of the carrier member in its movement towards said one side of the passage.

8. A knife scabbard according to claim 7 when appended to claim 5 through claim 6, wherein said guide surfaces are defined by



of the housing 2 until the pivot rib 14 snaps into engagement with journal recesses 15.

It will be appreciated that the foregoing preferred construction can be altered substantially without departing from the scope of the invention as defined by the appended claims. For example, the pressure means may take any one of numerous forms such as one or more coil springs, an air bag, a counterweight, magnetic means, or hydraulic means. Furthermore, the carrier may be mounted for linear movement instead of pivotal movement, and similar considerations apply to the sharpening device. In fact the sharpening device may be fixed against movement relative to the carrier if so desired, in which event the carrier may form the support block for the sharpening elements of the sharpening device.

One of the principal advantages of the present invention is that pressure is continually applied between the knife blade and the sharpening device, and that pressure cannot be released simply by manipulation of the knife as in the case of constructions according to our aforesaid Specification 1,272,714. Also, in the preferred embodiment of the present invention, the double pivot mounting of the sharpening device enables production of a constant cutting angle or a double cutting angle, as desired. Still further, the removability of the carrier greatly facilitates cleaning and other maintenance such as replacement of the sharpening device.

Finally, it is to be understood that various alterations, modifications and/or additions may be introduced into the constructions and arrangements of parts previously described without departing from the scope of the invention as defined by the appended claims.

WHAT WE CLAIM IS:—

1. A knife scabbard including, a hollow housing, a knife receiving passage defined within said housing and having an access opening at one end thereof, a carrier member mounted within said passage for movement towards and away from one side of said passage, a sharpening device mounted on said carrier at a position adjacent said opening and being operable to engage a cutting edge of a knife blade located within said passage, and biasing means urging said carrier towards said one side so as to maintain pressure between said sharpening device and a knife blade located within said passage.

2. A knife scabbard according to claim 1, wherein said carrier member has a rear end portion pivotally connected to said housing at a position remote from said access opening, said pivotal connection having its axis extending transverse to said passage to allow said carrier member to be pivoted towards and

away from a wall of said passage at said one side thereof.

3. A knife scabbard according to claim 2, wherein said pivotal connection between said carrier member and said housing includes a part-cylindrical rib formed on said carrier member and extending transverse thereof, and at least one recess formed within said housing and being open in a direction away from said one side of the passage; said rib being releasably retained in said recess by the influence of said biasing means; and said carrier member is adapted to be withdrawn out of said housing through said access opening when said rib is disengaged from said recess.

4. A knife scabbard according to any preceding claim, wherein said sharpening device is mounted on a front end portion of the carrier member for engagement by a cutting edge of a knife blade inserted between said one side of the passage and said carrier member; and guide means is located within said passage adjacent said access opening and is operative to minimize lateral tilting movement of a knife blade located within said passage.

5. A knife scabbard according to claim 4, wherein said guide means includes two laterally spaced guide surfaces, each of which is located on a respective side of a knife blade located within said passage, and said surfaces extend substantially the full height of that part of the said blade which is at any time located between said surfaces.

6. A knife scabbard according to any preceding claim, wherein a reaction member is located within said passage and has a part located between said one side thereof and said carrier member for engagement by a knife blade inserted into said passage between said carrier member and said one side and to be thereby urged against said one side; and said reaction member cooperates with said carrier member so as to apply a force thereto in opposition to the influence of said biasing means when said reaction member part is urged against said one side, at least during initial insertion of said knife blade into said passage.

7. A knife scabbard according to claim 6, wherein said reaction member is pivotally mounted on said carrier member for movement about an axis which is located rearwardly of said reaction member part, and said part is interposed between a front end portion of said carrier member and said one side of the passage; at least when said carrier member is in a rest position, which is the extreme position of the carrier member in its movement towards said one side of the passage.

8. A knife scabbard according to claim 7 when appended to claim 5 through claim 6, wherein said guide surfaces are defined by

5 respective opposite side portions of said
reaction member, said side portions being
laterally spaced to form a guide slot there-
between and each is pivotally connected to
a respective side wall of said carrier mem-
ber, and said reaction member part is a bar
extending between and interconnecting
adjacent end sections of said side portions
located remote from said pivotal connections
thereof.

10 9. A knife scabbard including; a hollow
housing; an elongate knife receiving passage
defined within said housing and having an
access opening at a front end thereof; an
15 elongate carrier member located within said
passage and having a rear end portion
pivotally connected to said housing at a posi-
tion remote from said access opening, said
pivotal connection having its axis extending
20 transverse to said passage to allow said
carrier member to be pivoted towards and
away from a side wall of said passage; a
sharpening device mounted on a front end
portion of said carrier member for engage-
25 ment by a cutting edge of a knife blade
inserted into said passage between said wall
and said carrier member; biasing means urg-
ing said carrier member about its pivot
towards said wall into a rest position so as to
30 maintain pressure between said sharpening
device and a knife blade located within said
passage; a reaction member pivotally
mounted on said carrier member and having
a reaction part interposed between said front
35 end portion of said carrier member and said
passage wall and located forwardly of the
pivotal mounting of said reaction member,
at least when said carrier member is in said
rest position, the pivotal axis of said reaction
40 member being substantially parallel to the
pivotal axis of said carrier member, and said
reaction part slidably engages said passage
wall so as to be movable rearwardly of said
passage when engaged by a knife blade
45 inserted into said passage; and a pair of guide
surfaces formed on said reaction member,
extending between said reaction part and the
pivotal mounting of the reaction member,
and being spaced to provide lateral support
50 for a knife blade inserted therebetween.

55 10. A knife scabbard according to claim 9,
wherein said pivotal connection between said
carrier member and said housing includes a
part-cylindrical rib formed on said carrier
member and extending transverse thereof,
and at least one recess formed within said
60 housing and being open in a direction away
from said passage wall; said rib being releas-
ably retained in said recess by the influence
of said biasing means; and said carrier mem-
ber is adapted to be withdrawn out of said

housing through said access opening when
said rib is disengaged from said recess.

11. A knife scabbard according to any
preceding claim, wherein said sharpening
65 device includes a support block mounted on
said carrier member for pivotal movement
about an axis extending transverse of said
passage and transverse to the direction of
70 movement of said carrier member, and
sharpening elements carried by said support
block for engaging with and sharpening the
cutting edge of a knife blade; and stop means
is provided to limit the degree of pivotal
75 movement of said support block relative to
said carrier member.

12. A knife scabbard according to claim 11,
wherein said stop means includes a leaf spring
dependent from said support block, and a
80 pair of reaction surfaces formed on said
carrier member and being spaced apart in the
longitudinal direction of that member; said
leaf spring engaging a respective said reaction
surface in each of the extreme pivotal posi-
85 tions of said support block relative to said
carrier member.

13. A knife scabbard according to any
preceding claim, wherein laterally spaced side
walls of said carrier member define a guide
passage between them for maintaining a
90 knife blade in substantial longitudinal align-
ment with said sharpening device.

14. A knife scabbard according to any
preceding claim, wherein said housing is
releasably connectable to a mounting plate by
a sloping abutment surface provided adjacent
95 the rear end of said housing and being
cooperable with a complementary surface of
said mounting plate, and a detent member
flexibly attached to the front end of said
100 housing for snap engagement with a part
attached to said mounting plate.

15. A knife scabbard having parts con-
structed, arranged and adapted to function
substantially as herein described with
105 reference to Figures 1 to 10 of the accom-
panying drawings.

16. A knife scabbard having parts con-
structed, arranged and adapted to function
substantially as herein described with
110 reference to Figures 11 and 12 of the accom-
panying drawings.

17. A knife scabbard having parts con-
structed, arranged and adapted to function
substantially as herein described with
115 reference to Figures 13 and 14 of the accom-
panying drawings.

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