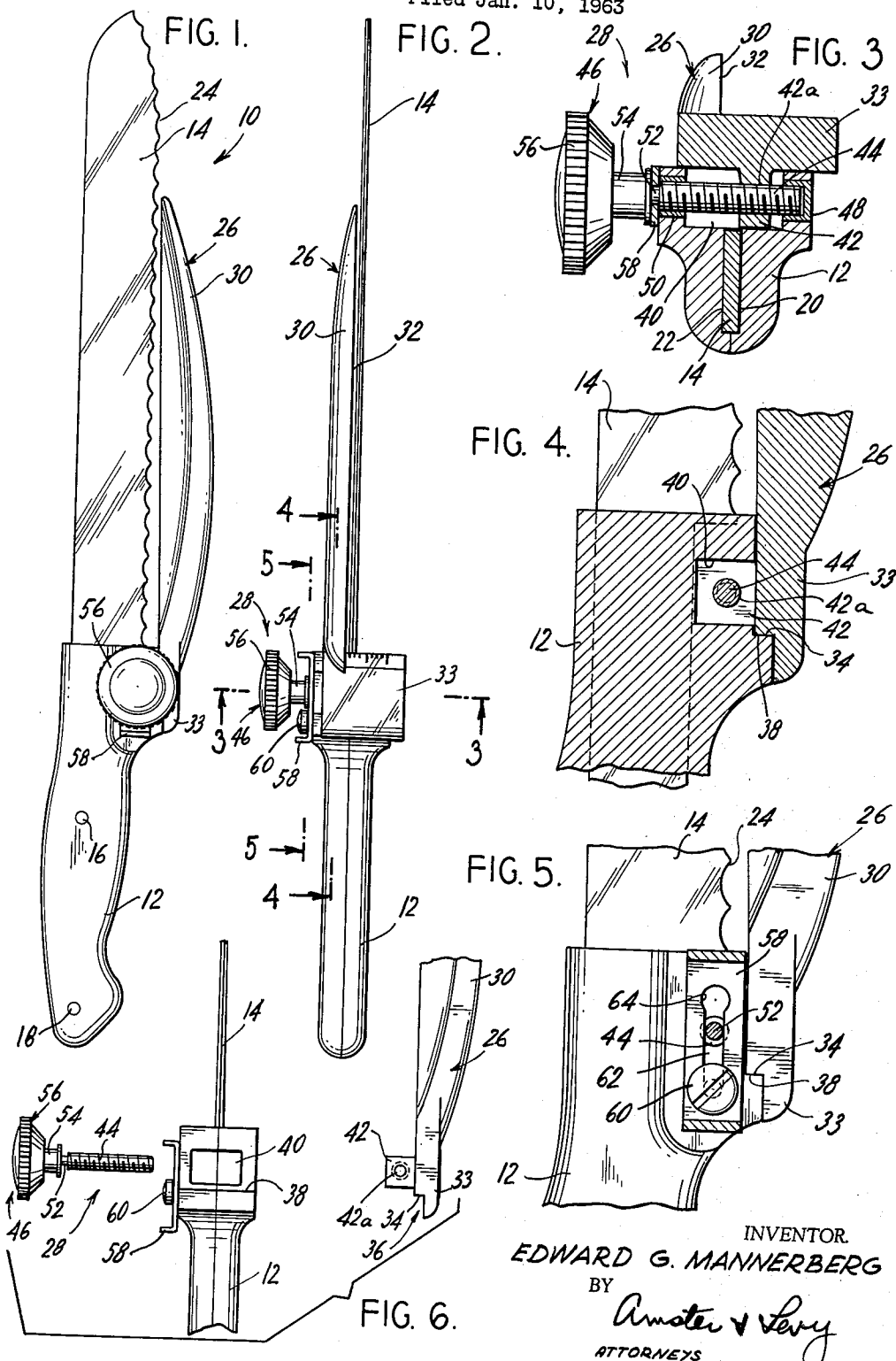


June 4, 1963

E. G. MANNERBERG
ADJUSTABLE GUIDED SLICING KNIFE

3,091,854

Filed Jan. 10, 1963



INVENTOR
EDWARD G. MANNERBERG
BY
Amster & Levy
ATTORNEYS

1

3,091,854

ADJUSTABLE GUIDED SLICING KNIFE
Edward G. Mannerberg, Brooklyn, N.Y., assignor to
Henry J. Stolbach, New York, N.Y.
Filed Jan. 10, 1963, Ser. No. 250,508
4 Claims. (Cl. 30—283)

The present invention relates generally to cutlery and specifically to a slicing knife having a slicing guide mounted for movement parallel to the knife blade and to an adjustment means for so mounting the slicing guide.

It has long been recognized that ordinary household cutting operations, such as slicing meat, bread, vegetables, etc., may be made considerably easier by the provision of a slicing guide mounted adjacent and parallel to a knife blade. With the guiding member engaged against the outside of the object to be sliced, a consistent thickness slice may be easily made. It has even been known to provide an adjustable mount for such guiding members on the handle of a knife to produce slices of various thicknesses. Although devices of this general type have been produced in the past, there is a need for such a device wherein simple and easily operated adjustable mounting means are provided for the mounting of the slicing guide on the knife handle. The prior art devices had relatively complicated mechanisms which were either difficult to adjust and to secure in adjusted position, or which had exposed complicated and sometimes bulky parts which obviated against their complete acceptance. A typical mounting arrangement included slide means between the guiding member and the knife and a projecting stud and locking nut which was used to securely tighten the guiding member against the handle such that the parts were held immovable by friction. By loosening the clamping screw, the operator of the knife could manually alter the position of the guiding member with respect to the knife blade and then reclamp same by tightening the locking nut. Although this system gave us satisfactory performance, it was desirable to find an improved mechanism for adjustably mounting the slicing guide on the handle. A mechanism whereby a simple turning of a knob would effect a transverse movement of the slicing guide with respect to the blade, without a necessity for unlocking and locking, is the most desired form of adjustable mounting for the slicing guide. Further, it is desirable to provide a mechanism which does not become excessively dirty and which can be easily disassembled for purposes of cleaning. The present invention seeks to provide such a mechanism.

Accordingly, it is an object of the present invention to provide an improved guided hand knife for slicing material in predetermined even thicknesses. Specifically, it is an object of the present invention to provide mounting and adjustment means for a slicing guide on a slicing knife whereby the relative positions of the slicing guide and the knife blade may be simply adjusted.

It is further within the contemplation of the present invention to provide a guided hand knife wherein the distance between the provided slicing guide and the knife blade may be selectively varied by the simple turning of an adjustment knob.

Another object of the present invention is the provision of a guided hand knife of the character described in which the adjustment is entirely and automatically accomplished by manual turning of the adjusting knob with the user's fingers located well away from the knife blade, thereby eliminating the possibility of cutting the fingers during adjustment.

It is still further an object of the present invention to provide an adjustment mechanism for mounting a slicing guide on a knife handle wherein adjustments are smoothly

2

and easily accomplished, wherein the mechanism may be simply taken apart for purposes of cleaning and wherein the device generally functions smoothly with little effort on the part of the operator.

In accordance with the present invention there is provided an adjustment means for mounting a slicing guide on the handle of a knife in parallel relation to the flat sides of the knife blade. The adjustment means comprise a mounting block formed at one end of the slicing guide including a handle-contacting face which is oriented perpendicular to the flat sides of the knife blade. The handle-contacting face includes a single stepped shoulder formed transversely therein; and the forward lower face of the handle is formed with a complementary mounting block-contacting face which has a mating stepped shoulder. A cavity is formed in the handle in communication with the mounting block-contacting face. Protruding outwardly from the mounting block is an integral extension which is received within the cavity in the handle. A threaded adjustment screw is rotatably mounted in the handle perpendicular to the flat blade faces and passing through the handle cavity. A mating threaded opening is formed in the mounting block extension and is engaged with the adjustment screw thereby defining the position of the mounting block on the handle and maintaining the mating stepped shoulders in intimate sliding relationship. An adjustment knob, secured to the adjustment screw, is provided to rotate the screw and thereby to adjust the position of the mounting block and slicing guide with respect to the knife blade. The adjustment screw may be secured within the handle by a releasable retaining slide engaged with a necked-down portion of the adjustment screw to prevent lateral and axial movement of the adjustment screw and to selectively release the adjustment screw from the handle to facilitate cleaning of the guided hand knife.

The above brief description, as well as further objects, features and advantages of the present invention, will be best appreciated by reference to the following detailed description when taken in conjunction with the accompanying drawings wherein:

FIG. 1 is a side elevational view of a hand knife incorporating the present invention;

FIG. 2 is a bottom view of the knife illustrated in FIG. 1;

FIG. 3 is an enlarged sectional view taken along the line 3—3 of FIG. 2 looking in the direction of the arrow, illustrating the details of the adjustable mounting mechanism;

FIG. 4 is an enlarged sectional view taken along the line 4—4 of FIG. 2 looking in the direction of the arrows, further illustrating the adjustable mounting mechanism;

FIG. 5 is a partial elevational view, partly in section, taken along the line 5—5 of FIG. 2 looking in the direction of the arrows; and

FIG. 6 is an exploded view of the device illustrating the various individual pieces of the guided hand blade in disassembled form.

Referring now specifically to the drawings, there is shown in FIG. 1 a guided hand knife, generally designated by the numeral 10 including a handle 12 and a blade 14. The blade 14 may be secured within the handle 12 by any suitable means such as the rivets 16, 18. The blade 14 includes two flat sides 20, 22 and a cutting edge 24.

A slicing guide, generally designated by the numeral 26, is secured to the handle 12 by adjustable mounting means 28. The slicing guide 26 includes an elongated material contacting member 30 having one flat surface 32 which is positioned parallel to and spaced from the

3

knife blade 12. The elongated member 30 extends outwardly from a mounting block 33 which is cooperatively engaged with the handle 12 and forms a portion of the adjustable mounting means 28. Specifically, the mounting block 33, seen in section in FIGS. 4 and 5, has a handle-contacting face formed with a single stepped shoulder 34 defined by a cut-out 36 which runs perpendicular to the elongated material contacting member 30. A mating shoulder 38 is formed on the mounting block-contacting surface of the handle 12 adjacent its forward end and is engaged against the shoulder 34. It will be realized that the slicing guide 26 may be moved in a direction transverse to its length with the cooperating shoulders 34, 38 in sliding interengagement.

Protruding from the handle-contacting face of the mounting block 33, and into a rectangular cavity 40 formed in the body of the handle 12 in communication with the handle-contacting face is an integral extension 42 of the mounting block 33. Also extending into the cavity 40 is a threaded shaft 44 of an adjustment screw 46. The adjustment screw 46 is received at the outer end of the shaft 44 in a cup-shaped bearing and seat 48 which is rigidly secured within the handle 12 at one end of and in communication with the cavity 40. The other end of the shaft 44 is received within a bearing 50 mounted in the handle at the opposite side thereof and at the opposite end of the cavity 40. Extending outwardly from the threaded shaft 44 of the adjustment screw 46 is a necked-down portion 52 and then a portion of increased diameter 54 which is attached to an adjustment knob 56. It will be appreciated that the necked portion forms a pair of shoulders on either side thereof. The adjustment screw 46 is secured against lateral movement within the handle 12 and the cavity 40 by means of a slide retainer 58 which is slidably secured to the side of the handle 12 by means such as the screw or rivet 60. As seen in FIG. 5, the slide retainer 58 is formed with an elongated opening 62 through which the screw 60 is engaged in the handle 12 to retain the slide 58 in position. Also passing through the opening 62 is the necked-down portion 52 of the adjustment screw 46. The rib of the opening 62 is just slightly greater than the diameter of the necked-down portion 52, but is less than the diameters of the shoulders formed on either side of the necked-down portion 52, such that the adjustment screw 46 is retained against lateral movement with respect to the slide retainer 58 and thereby with respect to the handle 12. A portion of increased diameter 64 is formed at one end of the elongated opening 62 and is of a diameter larger than the threads of the shaft 42 such that when the slide retainer 58 is moved to bring the enlarged portion 64 of the opening 62 into registry with the axis of the adjustment screw 46, the adjustment screw may be released from the slide retainer 58.

The extension 42 of the mounting block 33 is formed with a central threaded opening 42a which receives the threaded shaft 44 of the adjustment screw 46 thus determining the location of the mounting block 33 with respect to the screw 46 and the handle 12. Furthermore, the interengagement of the screw 46 and the extension 42 secures the mating shoulders 34, 38 in intimate contact to prevent rocking of the slicing guide 26 with respect to the rest of the knife 10.

Understanding of the present invention will be obtained by considering the following description of the operation of the device. When a device is completely assembled, as shown in FIGS. 1 through 5, the sliding guide 26 is retained rigidly on the handle 12, in a relationship wherein the elongated portion 30 is parallel to the blade 14. This rigidity is maintained by the engagement of the adjustment screw 46 securely within the handle 12 and the then interaction between the threaded shaft 44 of the adjustment screw 46 and the extension 42 of the mounting block 32 to maintain the mounting block 32 rigidly against the

4

bottom of the handle 24 and in alignment with the shaft 44. In addition, the interengagement of the shaft 44 with the extension 42 of the mounting block 33 which is effective to maintain the cooperating shoulders 34, 38 in interengagement to add further support against relative movement between the slicing guide 26 and the handle 12.

When it is desired to slice a relatively thin thickness of material, the adjustment screw 46 is turned to a position wherein the threaded shaft 44 will move the extension 42, the mounting block 33 and the slicing guide 26 into a position which is quite close to side 22 of the blade 12. The slicing guide 26 is placed against the material to be sliced and the normal slicing operations are commenced with the blade 14 being guided by the engagement of the flat face 32 of the slicing guide 26 engaged against the side of the material being cut. When it is desired to cut a thicker slice of material, the adjustment screw 46 is rotated and the threaded engagement between the shaft 44 and the threaded opening 42a and the extension 42 is effective to move the entire slicing guide 26 transversely to the blade 14 to reposition the slicing guide 26. Any position which is desired may be obtained by rotating the knob 56 of the adjustment screw 46. It should be noted that there is no requirement for a separate locking nut to be tightened.

Although the illustrated design presents a particularly clean appearance free from the sharp corners and protruding members which might trap food, provision is made according to the present invention for the disassembly of the various moving components of the knife 10 such that complete cleaning may be effected. Specifically, the slide retainer 58 is moved from the position shown in FIG. 5 to that shown in FIG. 6 such that the enlarged portion 64 of the opening 62 is in alignment with the shaft 44. The adjustment screw 46 may be then unscrewed from the extension 42 and removed from the bearings 48, 50 and from the handle 12. The slicing guide 26 may then be lifted outwardly from the lower portion of the handle 12. Assembly is simply accomplished by placing the extension 42 of the mounting block 33 into the cavity 40, inserting the adjustment screw 46 through the slide retainer 58 and threading same into the extension 42 until the end of the shaft 44 is received within the seat and bearing 48 and then sliding the retaining slide 58 into the position shown in FIG. 5 such that the edges of the opening 62 engage the adjustment screw 46 at the necked-down portion 52 thus retaining the adjustment screw 46 against transverse movement. The slicing guide 26 may then be positioned in any side location as stated above.

It will be appreciated that there is provided in accordance with the present invention a guided hand knife wherein an elongated slicing guide is mounted on the handle of a knife and is adjustable in various positions with respect to the knife by simply turning one knob. Turning the knob in one direction will produce movement of the slicing guide toward the blade and turning of the knob in the other direction will produce movement of the slicing guide in the opposite direction. According to the present invention there is no requirement for manual positioning of the sliding guide and locking same in place by operation of some separately controlled locking member. Further, the features of the present invention provide an extremely neat and compact, and efficiently operating structure which is free from complicated mechanisms and external projections and therefore is easy to maintain in clean and neat fashion and is easy to use.

Although the foregoing description illustrates one illustrative embodiment of the present invention, many variations of the knife described above may be produced without departing from the concepts of the present invention. Therefore, the following claims should be construed broadly in a manner consistent with the spirit and scope of the invention.

What I claim is:

1. In a guided hand knife for slicing material into pre-determined thicknesses including a knife handle, a knife blade having first and second flat sides and a cutting edge rigidly mounted on said handle, and an elongated slicing guide, the improvement comprising adjustment means mounting said slicing guide on said handle in parallel relation to said flat sides for movement through an adjustment path for determining thicknesses of material to be sliced, said adjustment means comprising a mounting block formed on said slicing guide including a handle-contacting face perpendicular to said flat sides having a transverse sliding surface formed therein perpendicular to said flat faces, and an extension protruding outwardly from the center of said handle-contacting face, said adjustment means further comprising a mounting block-contacting face formed at the forward edge of the bottom side of said knife and having a mating transverse sliding surface complementary to the sliding surface formed on the mounting block, a cavity formed in said handle in communication with said mounting block-contacting face and sized to receive said extension and to allow transverse movement of said mounting block and extension with said mating surfaces in sliding engagement, a threaded adjustment screw rotatably mounted in said handle perpendicular to said flat blade faces extending through said cavity, a mating threaded opening formed in said extension and positioned such that said adjustment screw, when threaded into said opening, maintains said stepped shoulders in intimate contact, and an adjustment knob secured to said screw for rotating same to adjust the position of said mounting block and said slicing guide with respect to said knife blade.

2. In a guided hand knife for slicing material into pre-determined thicknesses including a knife handle, a knife blade having first and second flat sides and a cutting edge rigidly mounted on said handle, and an elongated slicing guide of a length less than the length of said blade, the improvement comprising adjustment means mounting said slicing guide at one of its ends on said handle in parallel relation to said flat sides for movement through an adjustment path transverse to said flat sides for determining thicknesses of material to be sliced, said adjustment means comprising a mounting block formed at said one end of said slicing guide including a handle-contacting face perpendicular to said flat sides having a single stepped shoulder formed transversely therein perpendicular to the length of said slicing guide, and an extension protruding outwardly from the center of said handle-contacting face, said adjustment means further comprising a complementary mounting block-contacting face formed at the forward edge of the bottom side of said handle and having a single stepped shoulder mating with the stepped shoulder of said mounting block, a cavity formed in said handle in communication with said mounting block-contacting face and sized and located to receive said extension and to allow transverse movement of said mounting block and extension with said mating shoulders in sliding engagement, a threaded adjustment screw rotatably mounted in said handle perpendicular to said flat blade faces extending through said cavity, a mating threaded opening formed in said extension and positioned such that said adjustment screw, when threaded into said opening, maintains said stepped shoulders in intimate contact, and an adjustment knob secured to screw for rotating same to adjust the position of said mounting block and said slicing guide with respect to said knife blade.

3. In a guided hand knife for slicing material into pre-determined thicknesses including a knife handle, a knife blade having first and second flat sides and a cutting edge rigidly mounted on said handle, and an elongated slicing guide of a length less than the length of said blade, the improvement comprising adjustment means mounting said slicing guide at one of its ends on said

handle in parallel relation to said flat sides for movement through an adjustment path transverse to said flat sides for determining thicknesses of material to be sliced, said adjustment means comprising a mounting block formed at said one end of said slicing guide including a handle-contacting face perpendicular to said flat sides having a single stepped shoulder formed transversely therein perpendicular to the length of said slicing guide, and an extension protruding outwardly from the center of said handle-contacting face, said adjustment means further comprising a complementary mounting block-contacting face formed at the forward edge of the bottom side of said handle and having a single stepped shoulder mating with the stepped shoulder of said mounting block, a cavity formed in said handle in communication with said mounting block-contacting face and sized and located to receive said extension and to allow transverse movement of said mounting block and extension with said mating shoulders in sliding engagement, a threaded adjustment screw rotatably mounted in said handle perpendicular to said flat blade faces extending through said cavity, a mating threaded opening formed in said extension and positioned such that said adjustment screw, when threaded into said opening, maintains said stepped shoulders in intimate contact, an adjustment knob secured to said screw for rotating same to adjust the position of said mounting block and said slicing guide with respect to said knife blade, and releasable retaining means for selectively securing said adjustment screw against lateral and axial movement in said handle and for selectively releasing same from said handle to facilitate cleaning of said guided hand knife.

4. A guided hand knife for slicing material into pre-determined thicknesses comprising a knife handle, a knife blade having first and second flat sides and a cutting edge rigidly mounted on said handle, an elongated slicing guide of a length less than the length of said blade, and adjustment means mounting said slicing guide at one of its ends on said handle in parallel relation to said flat sides for movement through an adjustment path for determining thicknesses of material to be sliced, said adjustment means including a mounting block formed at said one end of said slicing guide including a handle-contacting face perpendicular to said flat sides having a single stepped shoulder formed transversely therein perpendicular to the length of said slicing guide, and an extension protruding outwardly from the center of said handle-contacting face, said adjustment means further comprising a complementary mounting block-contacting face formed at the forward edge of the bottom side of said handle and having a single stepped shoulder mating with the stepped shoulder of said mounting block, a cavity formed in said handle in communication with said mounting block-contacting face and sized and located to receive said extension and to allow transverse movement of said mounting block and extension with said mating shoulders in sliding engagement, a threaded adjustment screw rotatably mounted in said handle perpendicular to said flat blade faces extending through said cavity, a mating threaded opening formed in said extension and positioned such that said adjustment screw, when threaded into said opening, maintains said stepped shoulders in intimate contact, and an adjustment knob secured to said screw for rotating same to adjust the position of said mounting block and said slicing guide with respect to said knife blade.

References Cited in the file of this patent

UNITED STATES PATENTS

2,064,718	Baker	Dec. 15, 1936
2,081,361	Marshall	May 25, 1937
2,134,839	Perkins	Nov. 1, 1938
2,737,719	Ember et al.	Mar. 13, 1956
2,968,867	Wolff	Jan. 24, 1961