

[54] KNIFE WITH ADJUSTABLE BLADE

[75] Inventor: Yozo Ibata, Osaka, Japan

[73] Assignee: Nippon Tenshasei Kabushiki
Kaisha, Osaka, Japan

[22] Filed: June 16, 1971

[21] Appl. No.: 153,760

[52] U.S. Cl. 30/320, 30/333, 30/162

[51] Int. Cl. B26b 1/08, B26b 5/00

[58] Field of Search 30/162, 320, 332,
30/333, 335, 336, 337, 339

[56]

References Cited

UNITED STATES PATENTS

2,284,168	5/1942	Rickenbacher	30/162
2,105,663	1/1938	Laverty	30/162
3,192,624	7/1965	Gringer	30/162
1,960,130	5/1934	Trubel	30/320
2,051,199	8/1936	Christianson	30/320

FOREIGN PATENTS OR APPLICATIONS

1,936,196 2/1970 Germany 30/162

Primary Examiner—Othell M. Simpson

Attorney—Harold A. Dreckman

[57]

ABSTRACT

This knife with adjustable blade consists of a handle in which an elongated strip blade is slidably mounted and can be ejected from one end of the handle by means of a manually slidable ejector which is releasably attached to one end of the blade strip. The blade strip is scored at an angle at spaced intervals so that the used or dull end of the blade strip can be broken off and discarded when no longer useful. The blade is also held in extended position by means of a set screw.

3 Claims, 14 Drawing Figures

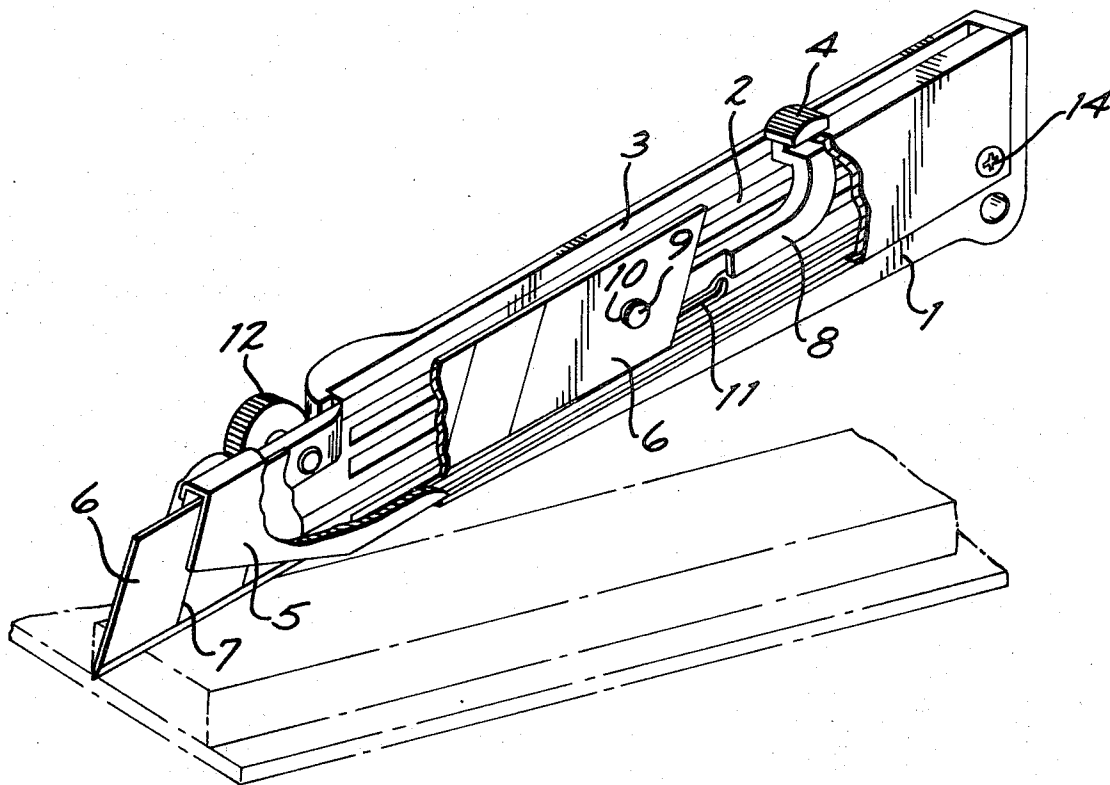


FIG. 1

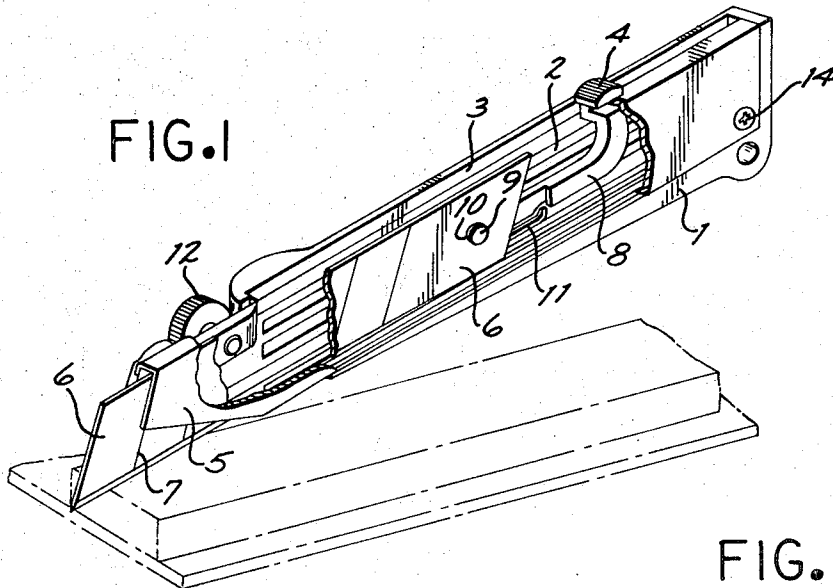


FIG. 2

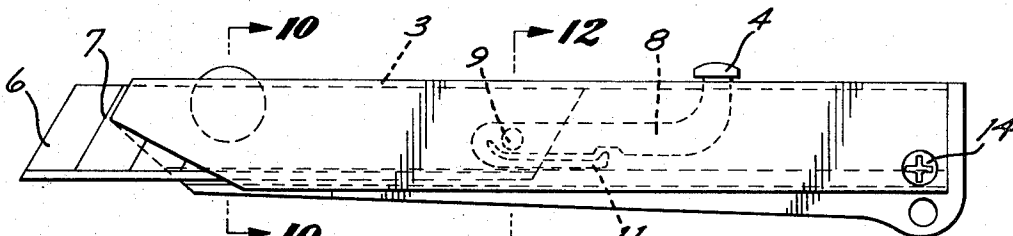


FIG. 3

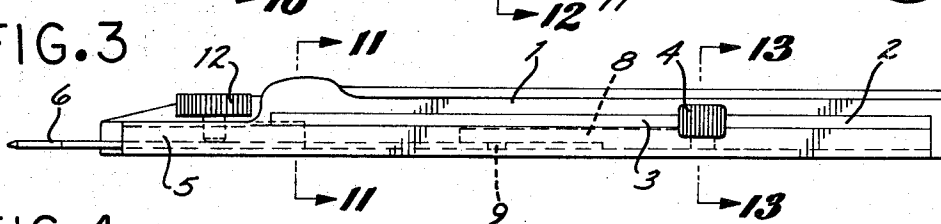


FIG. 4

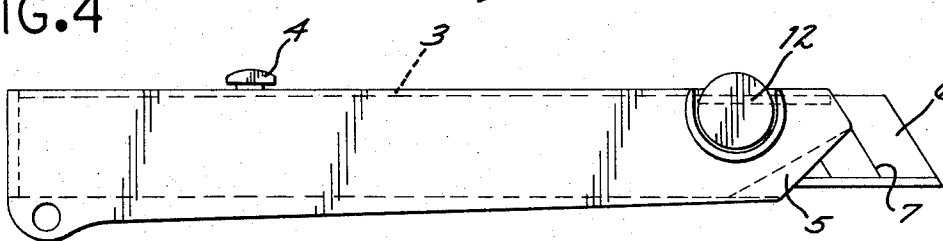
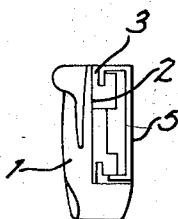


FIG. 5



INVENTOR.
YOZO IBATA
BY *[Signature]*
ATTORNEY

FIG. 6



FIG. 7

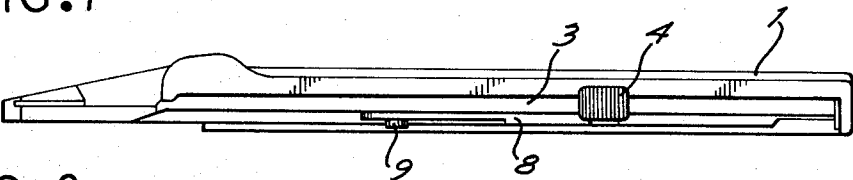


FIG. 8

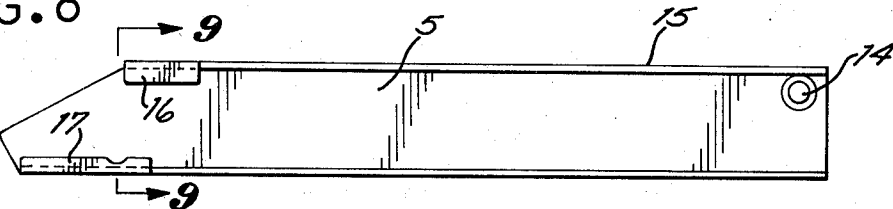


FIG. 10

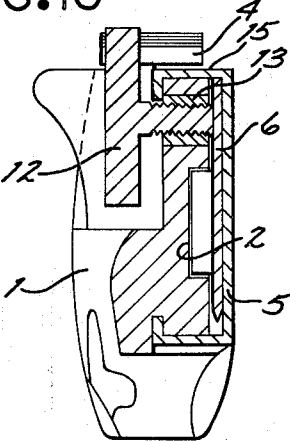


FIG. 11

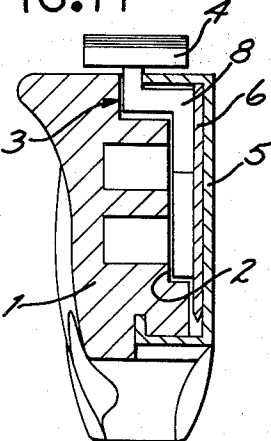


FIG. 12

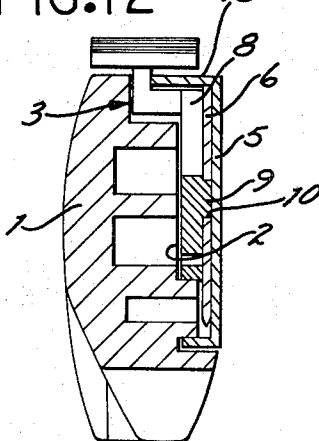


FIG. 13

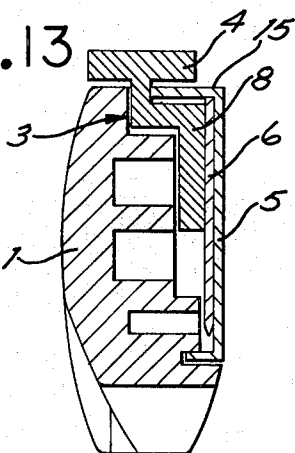


FIG. 14

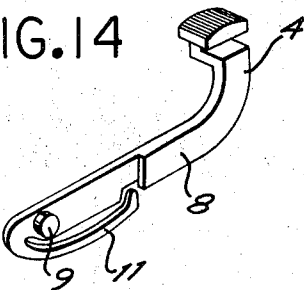
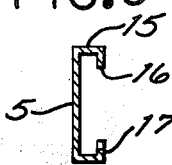


FIG. 9



INVENTOR.
YOZO IBATA
BY
[Signature]
ATTORNEY

KNIFE WITH ADJUSTABLE BLADE

An object of my invention is to provide a knife with adjustable blade in which the edge of the handle is straight and can be used as a ruler to draw a straight line. Also the shaped handle enables the blade to advance in a straight line.

Another object of my invention is to provide a knife of the character stated in which the blade is secured to the handle at its rearmost end, and the front part of the blade is held against sidewise movement at the forward end of the handle by means of a set screw. This prevents sidewise movement of the blade when in use and, consequently, the use of the knife is more efficient.

Other objects, advantages and features of invention may appear from the accompanying drawings, the subjoined detailed description and the appended claims.

In the drawings:

FIG. 1 is a perspective view of my knife with parts broken away to show interior construction.

FIG. 2 is a side elevation of my knife.

FIG. 3 is a top plan view of the same.

FIG. 4 is a side elevation of my knife as viewed from the side opposite that shown in FIG. 2.

FIG. 5 is an end view of the handle of the knife.

FIG. 6 is a side elevation of the handle with the cover plate removed.

FIG. 7 is a top plan view of the portion of the handle shown in FIG. 6.

FIG. 8 is a side elevation of the handle cover plate.

FIG. 9 is a sectional view taken on line 9—9 of FIG. 8.

FIG. 10 is a sectional view taken on line 10—10 of FIG. 2.

FIG. 11 is a sectional view taken on line 11—11 of FIG. 3.

FIG. 12 is a sectional view taken on line 12—12 of FIG. 2.

FIG. 13 is a sectional view taken on line 13—13 of FIG. 3.

FIG. 14 is a perspective view of the advancing push button.

Referring more particularly to the drawing, the numeral 1 indicates an elongated handle which is formed with an elongated groove 2 in the side thereof. A slot 3 is formed in the handle 1 and this slot opens into the groove 2 to permit lengthwise sliding by the ejector 4, as will be subsequently described. A protective sheath 5 is fitted in the groove 2 to protect the blade 6 against damage by rubbing over the metal surface of the handle. The blade 6 is a thin sheet of metal formed as an elongated strip and divided into cutter segments by means of transverse score cuts 7. The score cuts 7 permits the user to break off the outermost portion of the blade strip 6 after it has been dulled by use.

The ejector or rider 4 is slidably mounted in the

groove 2 and can be moved back and forth manually by the user. The ejector includes a horizontally extending finger 8 which has a pin 9 extending from the forward end thereof. The pin 9 extends into an appropriate hole 10 in the blade 6, thus permitting the blade to be advanced or retracted manually by the user. A spring finger 11 is formed on the ejector 4 to yieldably hold the ejector in position and to prevent accidental retraction of the blade 6.

A set screw 12 is positioned at the forward end of the handle 1, and this set screw threads through a sleeve 13 and bears against the blade 6. Thus the blade can be held in its adjusted position. The set screw 12 being positioned at the forward end of the handle 1 also will press against the side of the blade 6 and will push that blade against the sheath 5 to prevent sideways movement or wobble of the cutting blade.

At its rear end the cover plate 14 is secured to the handle 1 by means of the rivet 14, and at the forward end the cover plate is secured to the handle by means of the set screw 12 as previously described. Thus the cover plate 14 is securely held at both ends and its upper edge 15 is straight and can be used as a ruler. At the forward end the cover 15 is provided with a short upper flange 16 and a short lower flange 17, which flanges engage the handle 1 to hold the parts in position.

Having described my invention, I claim:

1. A knife with adjustable blade consisting of a handle, said handle having a groove therein extending the length thereof, and a blade slidably mounted in said groove, said handle having a slot therein extending into said groove, an ejector slidably mounted in said slot and projecting into said groove, a stud on the ejector fitting into the blade to slide the blade longitudinally in the handle, and a spring finger on the ejector pressing the ejector upwardly to raise the blade in the groove, a sheath positioned on one side of the handle and enclosing said groove, a rivet securing one end of the sheath to the handle, and a flange securing the other end of the sheath to the handle.

2. A knife with adjustable blade as recited in claim 1, a sheath positioned on one side of the handle and enclosing said groove, a rivet securing one end of the sheath to the handle, a flange securing the other end of the sheath to the handle, and said rivet and set screw being positioned at opposite ends of the sheath to hold the sheath pressed against the handle and the blade.

3. A knife with adjustable blade as recited in claim 1, a sheath positioned on one side of the handle and enclosing said groove, a rivet securing one end of the sheath to the handle, a flange securing the other end of the sheath to the handle, the upper edge of said sheath being flat and straight to form a ruler.

* * * * *