May 18, 1943 J. D. KEVORKIAN ET AL 2,319,607

KNIFE

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Fig. 1.

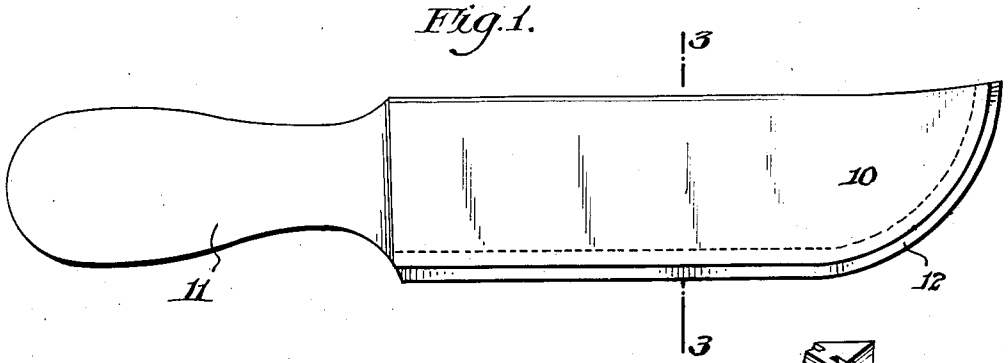


Fig. 2.

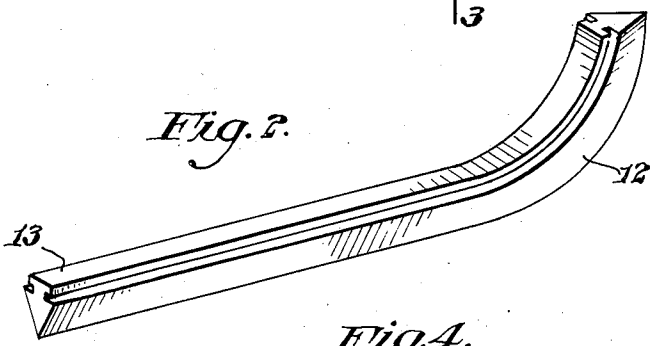


Fig. 4.

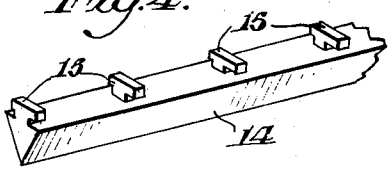
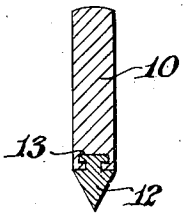


Fig. 3.



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KNIFE

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2 Claims. (Cl. 30—345)

The present invention relates to cutlery and more particularly to a novel knife blade.

Many present day household knives are now made of material other than steel, silver, or other metals, such material being of glass, and synthetic substances of the plastic family. While such knives are molded with a fairly sharp cutting edge, it has been found in practice that such edges are only efficient when serving relatively soft material, such as cake, bread, butter and the like, and are entirely useless when used on heavy solid material, such as beef, lamb, fowl and the like.

Some of the objects of the present invention are to provide an improved knife of the molded type; to provide a knife, wherein the body of the knife is of relatively cheap material while the cutting edge is formed of steel or other hard material capable of being sharpened to a keen edge having relatively permanent characteristics; to provide a knife body of synthetic material having a cutting edge of different material; to provide a knife formed by molding a body of thermo-plastic material about a shaped steel cutting member, one portion of which is permanently embedded in the body while the edge portion is exposed for cutting purposes and lends itself to resharpening when dull; to provide an efficient cutting blade wherein the quantity of steel required is reduced to a minimum and consequently the cost of manufacture is not only low but steel heretofore required is released for other purposes; to provide a novel method of uniting a plastic knife blade with a steel strip forming the cutting edge of the knife; and to provide other improvements as will hereinafter appear.

In the accompanying drawing Fig. 1 represents a side elevation of a knife embodying one form of the present invention; Fig. 2 represents a perspective of one form of the cutting edge of the knife; Fig. 3 represents a section on line 3—3 of Fig. 1; and Fig. 4 represents a detail in perspective of another form of cutting edge.

Referring to the drawing, one form of the invention consists of a blade 10 having, as here shown, an integral handle 11 which is of convenient shape and size to be readily grasped by the hand of the user. The blade 10 is formed of a material such as thermo-plastic or other substance suitable for molding to the required shape and may have any normal knife configuration, though preferably, the shape is one in which the cutting edge 12 converges at its outer end to meet the back of the blade. Thus, the blade has one side and one end forming the cutting edge.

In accordance with the present invention the cutting edge 12 is formed of a forged or otherwise fabricated strip of steel suitably hardened and tempered for long life and capable of being sharpened to a keen cutting edge. This strip has a rear face formed as an elongated flange 13, which is T-shaped in transverse section so that in the molding process the thermo-plastic or other substance flows in around the head of the T to fill the spaces at opposite sides of the T shank. In this way the steel edge strip 12 is firmly held in place with a complete bond with the body of the blade. It will be seen that the strip 12 has some considerable width in order to allow sufficient material for grinding and resharpening, and the major portion of the width of the strip is exposed in order to form the necessary area for resharpening purposes.

In the form of the invention shown in Fig. 4, the cutting edge strip 14 has its back face, formed with a plurality of T-shaped anchoring members 15, arranged at suitable intervals throughout the length of the blade. Thus, in addition to the blade substance flowing around the T heads, it also fills the succession of spaces between the members 15 and so anchors the strip against relative endwise movement.

The method of making the novel knife of the present invention consists in the use of a die which has a matrix of the predetermined configuration to produce the desired knife shape. This die with the knife edge strip 14 properly located therein is placed in a molding machine, preferably of the injector type, though a compression machine is also in contemplation, but in both machines the prepared plastic powder is subjected to high pressure while under a temperature of some four hundred degrees Fahrenheit. Thus, the plastic powder, such as methromethacrolate, is converted into a heavy viscous mass which flows evenly about the T-shaped anchoring member of the strip 14, where it sets to form a complete unitary bond between it and the aforesaid strip.

It will now be apparent that a novel combination knife blade has been devised whereby it is now possible to make a knife of cheap plastic material which has an efficient cutting edge for all household purposes. Furthermore, it has the advantage of utilizing a relatively small amount of steel as compared to ordinary steel knives and thus releases a large percentage of steel for other purposes. Also, by providing a steel edge having

a major portion of its width projecting beyond the attached blade body it is possible to resharpen the edge an almost limitless number of times, and thereby prolong the life of the knife almost indefinitely.

Having thus described our invention, we claim:

1. A knife consisting of a blade body of thermo-set plastic, a steel cutting blade, and a member of undercut section preformed on the back of said blade to anchor said blade in said body.

2. A knife consisting of a blade body of thermo-set plastic, a steel cutting blade and a plurality of preformed undercut projections integral with the back of said edge to anchor said edge in said body.

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