Feb. 2, 1932. F. ARNOLD 1,843,535

CUTLERY

Filed March 19, 1930

Fig.1

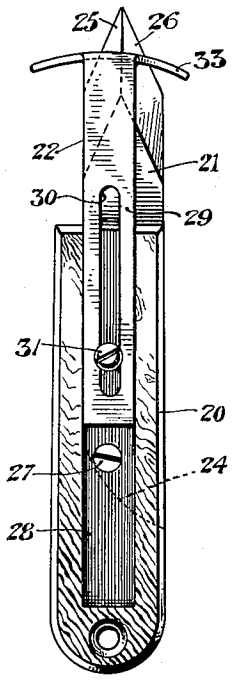


Fig.2

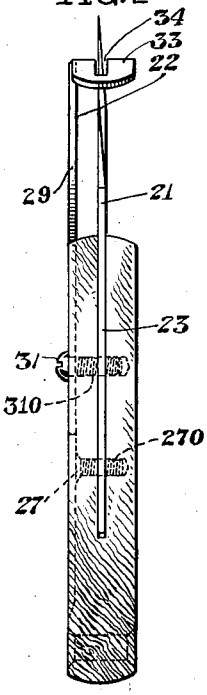


Fig.3

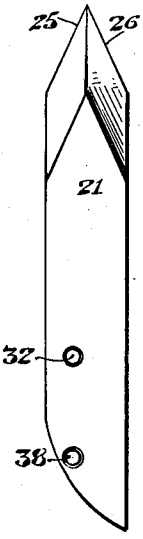


Fig.4

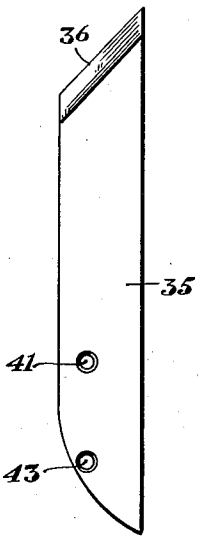


Fig.5

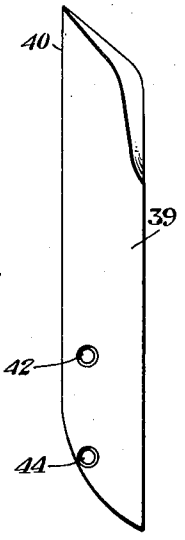


Fig.11

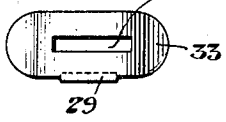


Fig.9

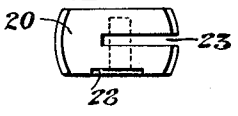


Fig.6

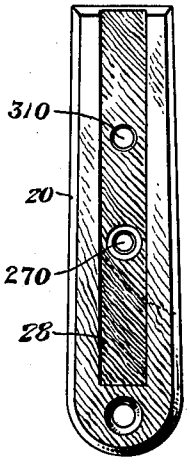


Fig.7

Fig.8.

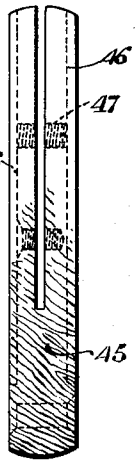


Fig.10

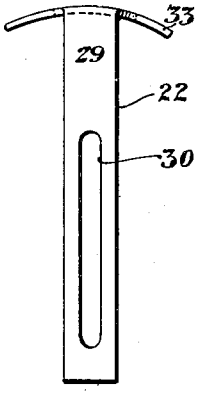
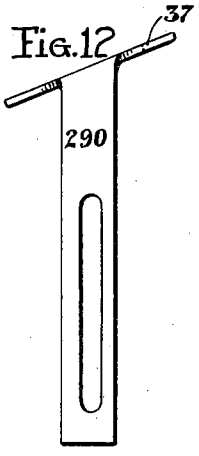


Fig.12



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Patented Feb. 2, 1932 1,843,535

UNITED STATES PATENT OFFICE

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CUTLERY

Application filed March 19, 1930. Serial No. 436,985.

The present invention relates to cutting implements and more especially to a cutting implement which is particularly adapted for use in opening cardboard cartons.

In present day commerce it is becoming increasingly more common to pack commodities in cardboard cartons which require opening by means of cutting or tearing portions of the carton. It has been common to use an ordinary knife for this purpose but due to the stiffness of the cardboard constituting the carton there has been serious danger of injury to the person handling the knife, and further there has been danger of injuring the goods in the carton by thrusting the knife blade too deeply therein, a danger and annoyance which has been difficult to avoid.

The present invention aims to provide a cutting implement the use of which enables cardboard cartons to be opened rapidly and with complete safety to the operator, besides furnishing adequate protection against injuring goods in the carton. More specifically, it is an object of the present invention to provide a cutting implement embodying a handle, a cutting blade and a guard member, the guard member being adjustably mounted on the handle and positioned adjacent the cutting edge of the blade to regulate the depth which the blade may be inserted in the material to be cut, as well as to afford a guide for cutting and a means of protection, as will be more fully explained hereinafter. These and further objects are obtained from the cutting implement which is described in detail in the following specification, reference being had to the accompanying drawings which form a part of the specification.

In the drawings:

Fig. 1 is a view in elevation of an embodiment of the improved cutting implement of the present invention. For the purposes of this specification, this view will be regarded as a front view.

Fig. 2 is a view in elevation of the knife shown in Fig. 1 as viewed from a side at right angles to that of Fig. 1. For the purposes of this specification, this view will be regarded as a right side view.

Fig. 3 is a detail view of a form of knife blade adapted for use with the improved cutting implement of the present invention.

Figs. 4 and 5 are detail views of modified forms of cutting blades which may be used as alternatives in the cutting implement of the present invention.

Figs. 6 and 7 are front and side views, respectively, in elevation of the handle.

Fig. 8 is a view in side elevation of a somewhat modified form of handle.

Fig. 9 is a top view of the handle member shown in Figs. 6 and 7.

Fig. 10 is a detail view in front elevation of the guard member of Fig. 1.

Fig. 11 is a top view of the guard member shown in Figs. 1 and 10.

Fig. 12 is a view in side elevation of a somewhat modified form of guard member.

Referring to the embodiment of the invention as shown in Figs. 1 and 2 of the drawings, a cutting implement is provided comprising a handle member 20, a cutting blade 21, and a guard member 22. The handle member may be of wood, rubber, composition or any suitable material. The handle is provided with a slot 23, formed in a manner already known in the manufacture of cutlery, extending inwardly from one side of the handle for a distance corresponding to the width of the cutting blade. The bottom of the slot is formed into a curve 24 corresponding to the similar shaped adjacent end of the cutting blade. The cutting blade 21 is positioned in this slot to project upwardly from one end of the handle as shown in Figs. 1 and 2. The preferred form of cutting blade comprises a double edged cutting surface 25 and 26. A screw 27 is threadedly mounted and countersunk in an aperture 270 in the handle, and passes through a corresponding aperture 38 in the knife blade to hold the blade in place in the handle. A groove or recess 28 is provided in the side of the handle to receive a portion of the guard member 22 for adjustable mounting of this member on the handle.

The preferred embodiment of the guard member 22, as seen in Figs. 1, 2, 10 and 11, comprises an elongated shank portion 29

having formed therein an elongated slot 30. The shank 29 of the guard member is adapted to ride in the recess or groove 28 of the handle for adjustment of the guard member to expose a greater or less amount of the cutting edge of the blade. A set screw 31 is provided in the handle and rides in the groove 30 of the guard shank 29. This set screw is adapted to threadedly engage in an aperture 310 in the handle, and clamp the guard member in place upon the handle in the desired adjusted position, and the screw serves also as an additional means for securing the blade 21 in place in the handle by passing through an aperture 32 in the blade. The preferred form of set screw 31, as shown, is provided with a head adapted for manipulation by such a tool as a screw driver. Obviously, other forms of heads for the set screw 31 may be provided, if desired, such for example as knurled or butterfly heads adapted for direct manual operation.

At the projecting end of the guard member 22 is provided a guard portion 33. As seen in Figs. 1, 2, 10 and 11, this guard portion comprises a member integral with the shank 29 and angularly bent to provide the guide surface 33 in a plane substantially at right angles to the cutting blade. The guard portion 33 is apertured at 34 to permit the cutting edge of the blade to pass therethrough. In the preferred form this guard portion presents a surface which, instead of being flat, is curved somewhat, as shown in Figs. 1 and 10, in order that it may be effective as a guide when the implement is held at various angles in cutting.

In use, the implement, as shown in Figs. 1 and 2 of the drawings, is held by its handle and the point of the cutting blade is thrust into the cardboard of a carton or other article to be cut. The guard will limit the depth to which the knife blade may be thrust. Then, by a drawing motion, one of the cutting edges of the blade will be caused to cut the material into which the knife is thrust. Due to the arrangement of the parts and the rugged construction, the implement is well adapted for reasonably rough usage and speedy manipulation in cutting, without danger of injury to either the operator or the contents of the carton.

It will be seen that the guard member 22 performs several important functions. When properly adjusted only a sufficient amount of the cutting edge of the blade is permitted to penetrate into the material into which the knife is thrust, and in the case of a cardboard carton the amount of exposed knife blade may be adjusted to the thickness of the cardboard of the carton without leaving any exposed cutting surface which might injure the goods contained in the carton.

The guard portion 33 of the guard member furnishes a guide which bears on the surface to be cut and affords an easy and controlled cutting. The aperture 34 in the guard portion limits any undesirable lateral motion of the cutting blade which might occur in the course of rough usage and minimizes danger of breaking of the blade. Furthermore, the guard member is seen to have portions projecting from all sides of the cutting blade and danger of injury to the user which might arise from careless handling is greatly lessened. It will be seen that by adjusting the guard member outwardly until no part of the cutting blade extends beyond the guard portion 33 that the whole implement is placed in a safe condition for non-use. Although the invention has been described with special reference to an implement for cutting carton containers, it will be understood that the invention is adapted for many other uses where a manual cutting implement is desired which may be manipulated with speed, as well as safety.

It will be understood also that various modifications may be made in the construction and arrangement of parts without deviating from the essentials of the present invention. For example, although a double edged cutting blade is shown in the preferred form of Figs. 1 and 2, blades having other forms of cutting edges may be used with equal success. In Fig. 4 there is illustrated a modified form of blade 35 of the "sloyd" type, wherein a single cutting edge 36 is provided on a bias with respect to the sides of the blade proper. In Fig. 5 still another form of blade of the "sheep foot" type is shown at 39 having a cutting edge 40 that extends parallel to the longitudinal axis of the implement. The portions of blades 35 and 39 which engages the handle are shaped similarly to corresponding portions of blade 21, and apertures 41 and 42 are provided to correspond with aperture 32 of blade 21, while apertures 43 and 44 are provided corresponding to aperture 38 of blade 21. Blades of various shapes and forms of cutting edges may be substituted as desired, and because of the detachable mounting which is provided by the present invention, blades may be changed or re-inserted at will.

Alternative forms of guard members may be used. In Fig. 12 I have illustrated a modified form of guard member possessing a construction somewhat similar to that of the form illustrated in Fig. 10, but in this modification a flat surfaced guard portion 37 is provided extending at an angle oblique to the shank portion 290 of the guard member. It is desired by some users to hold the cutting implement at a fixed angle oblique to the surface being cut rather than normal thereto and the provision of an obliquely disposed guard portion, as illustrated in Fig. 12, is adapted for the convenience of such users.

In the preferred embodiment of the inven-

tion as shown in Figs. 1 and 2 it will be noted that the portion of the cutting blade which engages the handle is flush with one side thereof and projects part way into the handle. The blade is not symmetrical with respect to the handle as viewed in Fig. 1, and the guard member 22, being attached to the handle at the front only, is not symmetrical with respect to the handle as viewed in Fig. 2. It may be preferred by some users to have the guard member mounted at the back of the handle instead of the front thereof, owing to the somewhat different "feel" or balance the implement will then have in the hand of a user. For such users a handle is provided with which the guard member may be mounted at the front or back of the handle at will. In Fig. 8 there is shown an embodiment of such a handle at 45. This handle is somewhat similar in construction to handle 20 of Figs. 6 and 7, but is provided with a guard shank groove 46 at both the front and the back of the handle. These grooves are each adapted to receive the shank 29 of the guard member, and the guard shank is adapted to be held therein by the set screw 31. In shifting the guard member it is necessary merely to remove screw 31, change the position of the guard member, and re-insert the screw member at the back of the handle, the threaded aperture for receiving the screw being formed clear through this handle as at 47 to afford reception of the screw from either the front or back of the handle.

As hereinbefore pointed out, various modifications in structure and arrangement of parts may be made without departing from the essential nature of the invention and it is therefore to be understood that the embodiments shown and described are purely illustrative and are not to be taken as limiting the scope of the invention except insofar as is defined in the following claims.

What is claimed is:

1. A cutting implement of the class described, comprising a handle, a cutting blade projecting from said handle, a member mounted on said handle and having an apertured guard portion positioned adjacent said blade, said blade projecting through the aperture of said guard portion, a shank integral with said member, and means for adjustably securing said shank to said handle.

2. A cutting implement of the class described, comprising a handle, a slot formed in said handle, a cutting blade detachably mounted in said slot and having a cutting edge projecting from said handle, a groove in said handle, and a member having a guard portion positioned adjacent said cutting edge, said member being adjustably mounted in said groove and its outer surface being substantially flush with the surface of the handle.

3. A cutting implement of the class described, comprising a handle, a cutting blade projecting from said handle, a member having a guard portion positioned adjacent said cutting blade, a shank integral with said member and formed with an elongated slot, a plurality of grooves in said handle adapted to slidably receive said shank, and means adapted to be positioned in said slot in engagement with said shank and said handle to adjustably secure said shank in either of said grooves.

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