March 19, 1929. E. S. PERRY 1,706,251

KNIFE

Filed Oct. 24, 1927

Fig. 1.

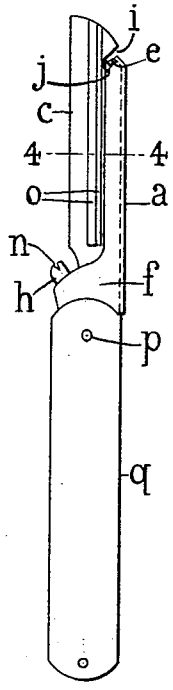



Fig. 2

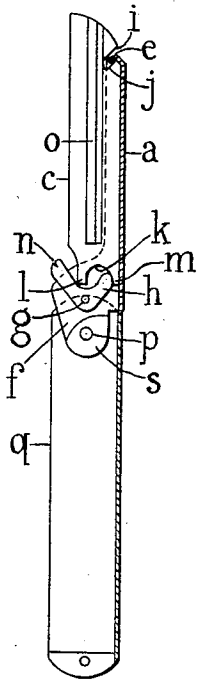



Fig. 3.

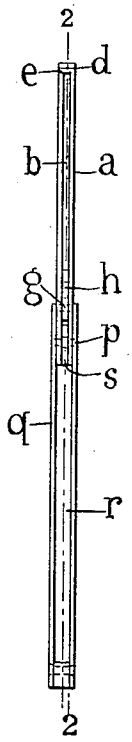



Fig. 4.

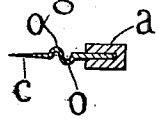



Fig. 5.

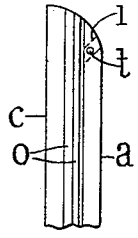



Fig. 6.




Fig. 7.

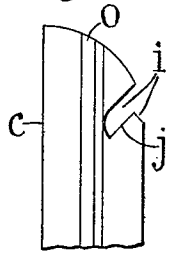
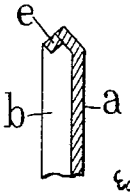



Fig. 8.




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# UNITED STATES PATENT OFFICE.

EDMUND STEPHEN PERRY, OF CHISLEHURST, ENGLAND.

## KNIFE.

Application filed October 24, 1927, Serial No. 228,391, and in Great Britain July 29, 1927.

The object of the present invention is to provide an improved knife of that kind in which the blade or cutting portion may be readily detached and may be replaced by a new cutting portion without undoing any rivet and without the use of any tools.

According to the present invention the back of the blade proper is supported in a channel shaped carrier. The blade and the carrier are so formed that a portion of the blade fits behind a transverse portion of the carrier at its front end. The blade is capable of being moved through an arc around the said transverse portion as on a pivot but cannot move laterally away from said carrier. The rear portion of the blade is formed with two rearward projections and the carrier is provided with a cooperating pivoted two armed lever. One arm of the said pivoted two armed lever is employed to rotate the lever and the other arm enters between the two rearward projections. The blade having been engaged at its front end behind the transverse portion of the carrier is then moved around the same until one arm of the two armed lever can enter between the two rearward projections on the blade. The two armed lever is then rotated in one direction to move the rear end of the blade in an arc and to cause it to enter the carrier. The one arm of the two armed lever then presses against one of the rearward projections and holds the rear end of the blade within the channel shaped carrier. When the two armed lever is rotated in the opposite direction it will move the rear end of the blade in an arc and cause it to move out of the channel shaped carrier, after which the blade may be drawn backwards out of engagement with the transverse part at the forward end of the channel shaped carrier.

The invention is illustrated in the accompanying drawings in which:

Fig. 1 is a side elevation, and Fig. 2 is a section on the line 2—2 of Fig. 3 of an open pocket knife.

Fig. 3 is a front elevation of the same but omitting the cutting blade.

Fig. 4 is a transverse section on the line 4—4 of Fig. 1.

Fig. 5 is a side elevation of the blade and carrier showing a modification, and Fig. 6 is a front elevation of the carrier shown in Fig. 5.

Figs. 7 and 8 show parts of the blade and carrier to a larger scale.

In the method of carrying the invention into effect shown in Figs. 1 to 4 the channel shaped carrier *a* is formed by means of a sheet of metal which is folded upon itself leaving a groove *b* between the two parallel sides sufficiently wide to receive the back edge of the knife blade *c*. A portion of one side of the carrier *a* is turned over at a suitable angle at *d* thereby forming a transverse portion *e* at the front end of the carrier. The rear of the carrier at *f* is wider than that portion *a* which encloses the back edge of the cutting blade *c*, and in this wider portion of the carrier is pivoted at *g* a catch *h* in the form of a two armed lever.

The blade *c* is cut away at *i* at its front end thereby leaving a forwardly inclined edge *j*. At its rear end the blade is cut away at *k* thereby leaving two rearward projections *l* and *m*. The front forwardly inclined edge *j* is placed within the carrier *a* behind the transverse portion *e* thereof, which prevents the blade *c* moving forwardly with respect to the carrier and prevents the front end of said blade moving laterally away from said carrier. The blade *c* is then rotated so that more of its back edge enters the carrier *a*. The two armed lever *h* is then rotated on its pivot *g* which is positioned so that one arm thereof enters the gap *k* between the two rearward projections *l* and *m* in the rear end of the blade *c*. By continuing to rotate the two armed lever *h* the rear end of the blade *c* is moved through an arc and is pressed within its carrier *a* and is held therein. In order to withdraw the blade it is only necessary to rotate the lever *h* in the opposite direction, thereby withdrawing the rear end of the blade *c* from its sheath or carrier *a*. The end of the outer arm of the two armed lever *h* is formed with a V shaped notch *n* in which a finger nail may be inserted to move the same and release the blade *c*.

The blade *c* is preferably made of thin metal having projections at *o*, *o* on opposite sides so that shavings cut by the blade will pass at similar angles across the blade and will not come into contact with the projecting edges of the carrier *a*. The projections *o*, *o* may be produced in known manner by corrugating the thin metal blade as shown in the drawings.

The invention is illustrated as applied to a penknife in which the blade *c* is pivoted at *p* to the handle *q* made of metal, and is adapted

to be moved into the usual groove *r* within the handle. The wider portion *f* of the carrier is strengthened by the spacing piece or washer *s* through which passes the pivot *p*.

It will be obvious that the carrier *a* may be rigidly fixed to the handle *q* and such a construction is therefore not illustrated.

In the modification shown in Figs. 5 and 6 the carrier *a* is an open channel conforming at its front end to the shape of the blade *c* as seen in Fig. 5. The transverse portion of the carrier *a* consists of a pin *t* which is riveted in the sides of the channel. The blade *c* has an inclined slot *i* as in the forms shown in Figs. 1 and 2. The blade *c* is placed within the carrier *a* by passing the slot *i* over the pin *t* and then rotating the blade after which it is moved by the two armed lever *h* into the channel as above described and is retained in said channel by one of the two arms of the lever *h*.

What I claim as my invention is:—

1. An improved knife having in combination a blade, a forwardly inclined edge on said blade, a channelled carrier to receive the back edge of the blade, a transverse part on said carrier behind which passes the forwardly inclined edge of the blade, two rearward projections on the rear end of the blade, a pivoted two armed lever one arm of which engages between the two rearward projections, to move the rear end of the blade into and out of the channelled carrier and to retain the blade in said carrier, and the other arm of which acts as the means for rotating said lever, and a handle to which the said carrier, is connected, substantially as set forth.

2. An improved knife having in combination a blade, a forwardly inclined edge on said blade, a channelled carrier, having parallel sides made from a sheet of metal folded on itself, to receive the back edge of the blade, a transverse part on said carrier formed by turning over part of the channelled carrier and behind which passes the forwardly inclined edge of the blade, two rearward projections on the rear end of the blade, a pivoted two armed lever, one arm of which engages between the two rearward projections, to move the rear end of the blade into and out of said carrier and to retain the rear end of the blade within said carrier, and a handle to which the said carrier is connected, substantially as set forth.

3. An improved knife having in combination a blade, a channelled carrier to receive the back edge of the blade a handle to which the carrier is connected, co-operating means on the blade and on said carrier to allow the blade to move through an arc with respect to said carrier and to prevent the front end of said blade moving laterally away from said carrier, two rearward projections on the rear end of the blade and a two armed lever pivoted in said carrier one arm of which, when the two armed lever is rotated in one direction, engages between the rearward projections and moves the rear end of the blade through an arc into the carrier and retains the blade in said carrier and when the two armed lever is rotated in the opposite direction moves the blade through an arc and withdraws the rear end of the blade from the carrier, substantially as set forth.

In witness whereof I have hereunto set my hand.

EDMUND STEPHEN PERRY.