No. 861,789. PATENTED JULY 30, 1907.

A. G. ZIMMER.

POCKET KNIFE.

APPLICATION FILED FEB. 12, 1907.

Fig. 1.

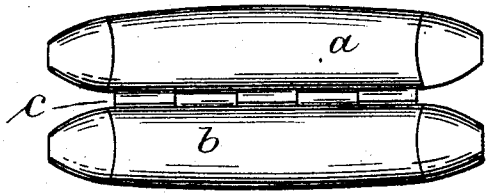
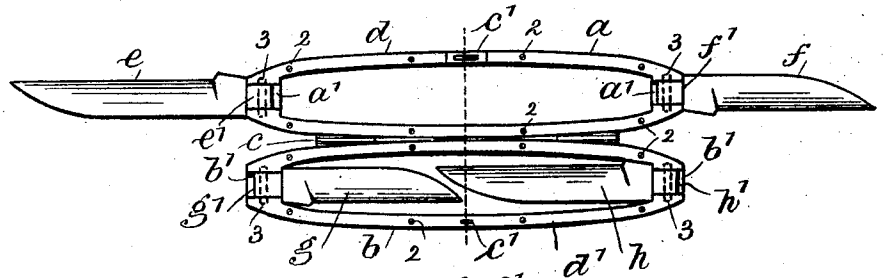


Fig. 3.



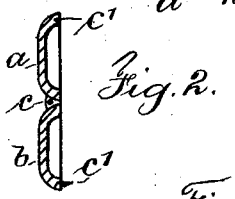
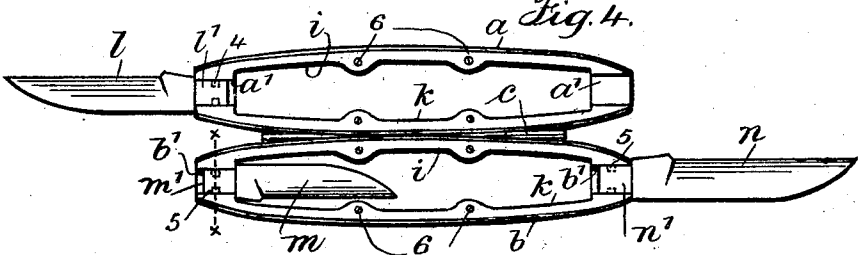


Fig. 2.

Fig. 4.



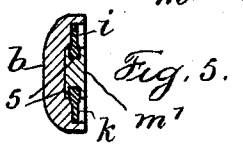


Fig. 5.

Witnesses.

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ARTHUR G. ZIMMER, OF NEW YORK, N. Y.

POCKET-KNIFE.

No. 861,789. Specification of Letters Patent. Patented July 30, 1907.

Application filed February 12, 1907. Serial No. 357,075.

To all whom it may concern:

Be it known that I, ARTHUR G. ZIMMER, a citizen of the United States, residing at the borough of Brooklyn, in the county of Kings, city and State of New York, have invented an Improvement in Pocket-Knives, of which the following is a specification.

My invention relates to a novel form of pocket knife.

As usually and heretofore constructed the case of a pocket knife is open and the blades are transversely pivoted to the case at its end so that they swing into and out of the open case. These open cases collect dust and dirt and permit dampness and perspiration to tarnish and often rust the blades as exposed in the open case, and the object of my invention is to overcome these disadvantages.

In the device of my improvement the case is made in two similar halves hinged together so as to open out flat and adapted to close tightly together and to be so held by a suitable catch.

The ends of the case are apertured to receive the shanks of the blades which are formed to lie therein, the shanks being provided with trunnions at opposite edges received in notches of the case whereby the blades when the case is opened are adapted to swing upon the said trunnions in either direction into or out of the case.

The internal cavity of the case is adapted to receive all the blades when the case is closed and to hold them in place protected from dust, dirt and moisture.

The case is to be opened to turn out a blade and then closed again to hold the blade while in use. The case may be adapted for one, two, three or four blades.

I prefer to employ strips of metal to line and strengthen the juxtaposed faces of the case and the trunnions of the shanks of the blades come below these strips which are preferably held in place by screws. These strips according to one form of my invention may be of spring metal with trunnion ends to enter sockets in the edges of the shanks of the blades; therefore these blades when turned swing against the tension of the spring strips.

With the device of my invention any blade can be readily removed by the owner of the pocket knife and a new blade as readily be inserted in its place and the knife can be more easily kept clean.

In the drawing, Figure 1 is an elevation of the case open. Fig. 2 is a cross-section of the same. Fig. 3 is an elevation from the inner surface of the open case with two blades turned into one-half of the case and two blades turned out from the other half of the case. Fig. 4 is an elevation of a form of my invention; this elevation showing the inner surface of the case with one small blade turned into the case, a small blade turned out of the case and a large blade at the other end of the case turned out. Fig. 5 is a cross section at the dotted line x, x, of Fig. 4.

The parts of the hollow case of the knife are illustrated in $a\ b$. These are connected along similar edges by a hinge c and removably connected along the other opposite edges by a catch device c^1. This catch device may be of any well-known or suitable character but should be strong enough to hold the parts of the case from accidental separation while the knife is in use.

Each end of each half of the case is provided with internal end recesses $a^1\ b^1$ and the surfaces of the case which come into a juxtaposed relation when the case is closed are preferably formed with metal strips $d\ d^1$ advantageously secured in position by screws 2 shown in Fig. 3.

Referring to Fig. 3, $e\ f\ g\ h$ represent the blades, the two former being out-turned and the two latter in-turned into the hollow parts of the case. These blades are provided with shanks $e^1\ f^1\ g^1$ and h^1 which fit into the recesses formed in the ends of the case. These shanks are preferably made with edge trunnions 3 received in recesses adjacent to the recesses receiving the shanks, and these trunnions are preferably covered over and held down to the case by the ends of the metal strips $d\ d^1$.

In the form of my invention shown in Figs. 4 and 5, the surface strips $i\ k$ are made of spring metal provided upon their respective ends with trunnions 4 5 and held to the case by screws 6. The blades l m and n are formed with shanks $l^1\ m^1$ and n^1, the edges of which are recessed to receive the trunnions 4 5 of the spring strips. These shanks are received and lie in recesses formed in the respective ends of the hollow case similar to the blades hereinbefore described with reference to Fig. 3; thus establishing a positive relation between the blades and the spring strips by the trunnions of the spring strips and recesses in the shanks of the blades so that when these blades are turned over and swing on the trunnions their springs are put under more tension than the initial tension as either blade turns over.

It will be noticed that most of the shanks of the blades in thickness agree with the depth of the recesses in the case so that when the parts of the case come together, the respective parts are in contact, but the blade n is an exception because it illustrates a large heavy cutting blade where the shank is of a thickness to fit the companion recesses at one end of the case.

In both forms of my invention illustrated there is a spring function exercised either by the strips $d\ d^1$ or by the strips $i\ k$ to hold the shanks of the blades in their place. In either case however, it is an exceedingly easy matter for the owner of the pocket knife to loosen the surface strips of metal so as to remove any blade and replace it with a new one. It will be thus apparent that the useful life of the case over the useful life of the blades is materially prolonged, that the blades are readily removed and that they are furthermore kept concealed within the case of the knife away from dust

and moisture and from constant liability to tarnish and rust.

I claim as my invention:

1. A pocket knife comprising a two-part pivoted hollow case having recessed ends, removable blades received in the recesses at the ends of the case, trunnion devices upon which the blades are turned and swung into or out of the case and strips of metal secured to the inner surfaces of the parts of the case and at their ends performing the functions of a spring with reference to the said trunnions and the shanks of the blades.

2. A pocket knife comprising a hollow two-part case, a hinge device connecting said parts along adjacent edges, a catch device adapted to engage said parts along the other adjacent edges and said parts having recesses in the respective ends, the blades having shanks adapted to fit and be received in said recesses, spring metal strips adapted to be secured to the juxtaposed faces of the case, trunnions formed with said spring strips at the ends thereof and adapted to fit into recesses formed in the opposite edges of the shanks of the blades, said blades being adapted to be swung into or out of the case and in so doing to turn upon said trunnions and apply tension to the springs.

3. A pocket knife comprising a two-part hollow case having recessed ends, removable blades received in the recesses at the ends of the case, trunnion devices upon which the blades are turned and swung into or out of the case and strips of metal secured to the inner surfaces of the parts of the case and at their ends performing the functions of a spring with reference to the said trunnions and the shanks of the blades.

Signed by me this 7th day of February, 1907.

ARTHUR G. ZIMMER.

Witnesses:
ARTHUR H. SERRELL,
E. ZACHARIASEN.