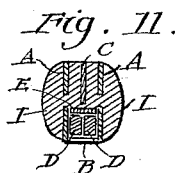
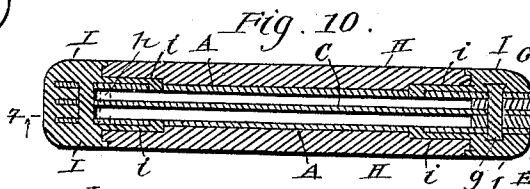
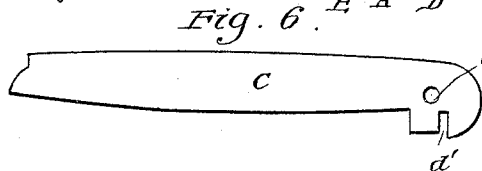
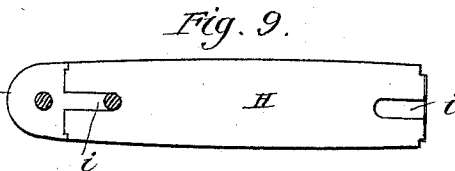
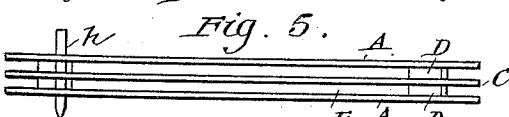
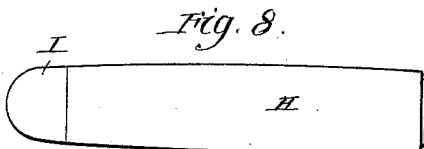
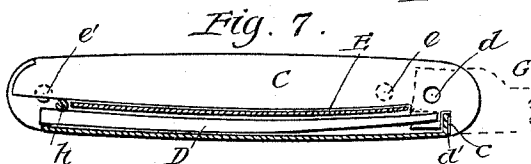
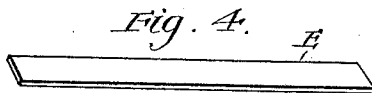
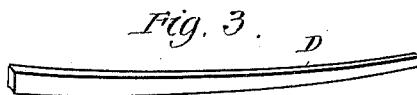
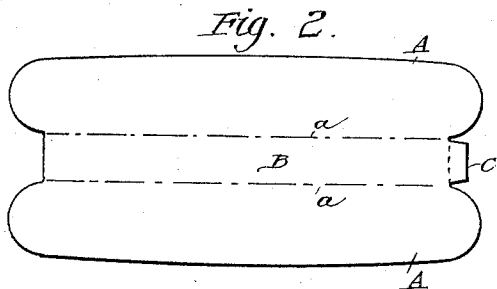
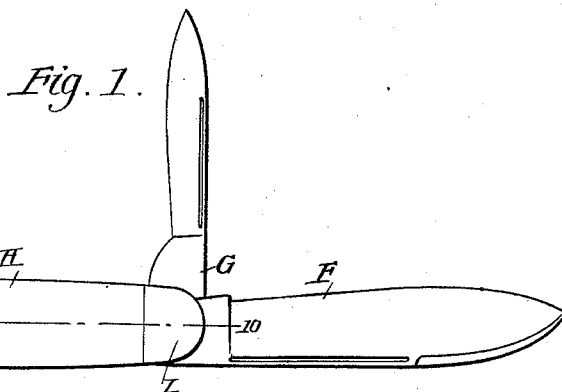


W. SCHMACHTENBERG.
POCKET KNIFE.

No. 449,499.

Patented Mar. 31, 1891.



WITNESSES:

J. H. Clark
C. Sedgwick

INVENTOR:

W. Schmachtenberg
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ATTORNEYS

(No Model.)

2 Sheets—Sheet 2.

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Fig. 13.

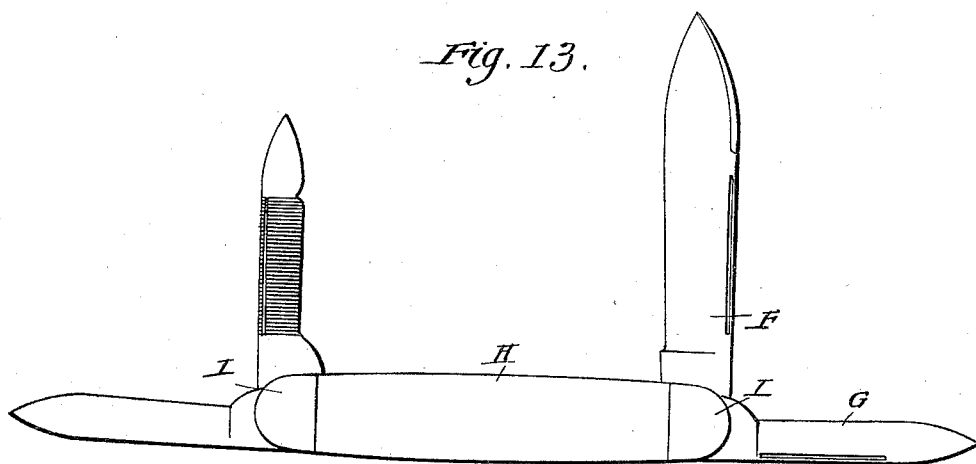


Fig. 14.

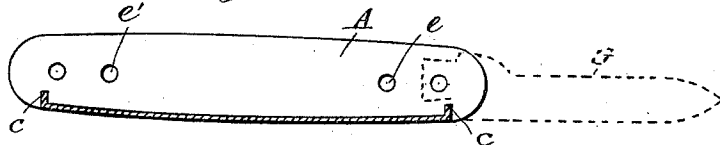
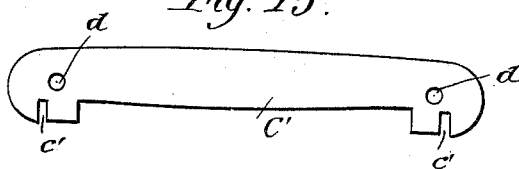


Fig. 15.



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UNITED STATES PATENT OFFICE.

WILLIAM SCHMACHTENBERG, OF NEW YORK, N. Y.

POCKET-KNIFE.

SPECIFICATION forming part of Letters Patent No. 449,499, dated March 31, 1891.

Application filed December 11, 1890. Serial No. 374,303. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM SCHMACHTENBERG, of New York city, in the county and State of New York, have invented a new and useful Improvement in Pocket-Knives, of which the following is a full, clear, and exact description.

This invention relates to improvements in the manufacture of pocket-knives, and has for its objects to produce a cheap, neat, well-finished knife by a plan of construction that will expedite the work and render the finished product substantial.

To these ends my invention consists in certain features of construction and combinations of parts, as is hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side view of a two-bladed knife complete embodying the improvements. Fig. 2 is a side view of the blank, from which is bent two lining plates and an integral back plate. Fig. 3 indicates the form of two springs that engage the blades. Fig. 4 represents an interior finishing-plate, which covers the springs. Fig. 5 shows an edge view of the lining-blank, bent into form to afford two parallel lining-plates, an intermediate lining-plate being also shown in position, together with two springs and a finishing-plate, also a key-pin inserted transversely near one end of the lining-plates in proper holes made therein. Fig. 6 is a side view of the intermediate lining-plate. Fig. 7 represents the parts shown in Figs. 3, 4, 5, and 6, assembled in relative positions, the view being a longitudinal section, taken on the line 7 in Fig. 10, viewed in the direction of an arrow in said figure, an inserted blade, broken, being also shown in open adjustment. Fig. 8 represents a detached view of the exterior of one of the sides of the knife, technically termed "scales," with a heel-bolster in place on it. Fig. 9 is a view of the opposite face or inner side of the scale shown in Fig. 8. Fig. 10 is a longitudinal section of the knife, with the blades shown broken off and in opened condition, taken on the line 10 10 in Fig. 1. Fig. 11 is a transverse section of the heel of the knife-handle, showing

interior parts, taken on the line 11 11 in Fig. 1. Fig. 12 represents, in perspective, one of the handle-bolsters for the blade end of the knife detached and enlarged, the inner face being shown. Fig. 13 shows a side of a four-bladed knife having the improvements. Fig. 14 is a longitudinal section of a blank for side linings of the handle for a four-bladed knife, the relative position of a knife-blade being also shown in dotted lines; and Fig. 15 represents the intermediate lining of the knife-handle.

The blank shown in Fig. 2 for a two-bladed knife is formed of sheet metal, cut into shape by dies on proper machinery, and when bent on the parallel dotted lines *a* in the same direction at right angles to the portion B two parallel lining-plates A are afforded, which have their edges shaped alike and represent by their contour the form of the knife-handle. A lip *c*, which projects at one end of the back plate B is then turned up between the lining-plates A, the use of which will be explained.

An intermediate lining-plate C is provided, which is shown detached in Fig. 6, said plate being formed on its edges to suit the shape of the other lining-plates, and as it is designed for a two-bladed knife it has a rivet-hole *d* formed in it at a proper point on the appropriate end portion, which also has a notch *d'* cut in the edge that will rest on the back-plate B, said notch receiving the lip *c*, as shown in Fig. 7.

Two springs D are furnished, substantially the same in form, which is shown in Fig. 3, their proportionate length being indicated in Fig. 7, where the side of one spring in position is shown.

The side lining-plates A are perforated to align with the rivet-hole *d* in the intermediate lining-plate C, and said plates A are also perforated at *e e'* to receive metal anchors that are produced when the bolsters are cast, as will be further described.

The springs D are left unfinished after they are tempered, and are inserted between the side lining-plates A, resting upon the back-plate B, as shown in Fig. 7. Said springs are concealed from view by the rectangular finishing-plate E, which is cut from tin-plate preferably, said plate being made of a proper width and length to permit its insertion between the side lining-plates A, and imposition

upon the springs D so as to conceal the latter and afford a polished non-corrosive surface above the springs. The finishing-plate just described, when made of ordinary sheet-tin, provides a polished cover for the unfinished springs D, which is inexpensive and not so liable to rust as a finished surface on the springs. The intermediate lining-plate C is now inserted to rest upon the finishing-plate E, and have its notch *d'* embrace the lip *c* of the back plate. The blades F G are now placed with their laterally-perforated stub ends between the ends of the lining-plates A A C and a rivet *g*, inserted through the aligning holes of the blades and plates and upset on its ends, as will be further mentioned.

The blades F G are of any well-approved form, having stub ends which are notched to rest upon the upper edge and outer face of the lip *c*, when they are in opened adjustment, as shown in Fig. 7. Near the other end of the handle aligning holes are formed in the side linings A and intermediate lining C for the introduction of a key-pin *h*, said holes being located at a point which will permit the pin to hold the springs D in contact with the inner surface of the back plate B when it is driven in. After the springs D have been compressed and secured, as just mentioned, the ends of the key-pin *h* are cut off close to the outer faces of the side lining-plates A, thus fitting the assembled parts of the knife to receive the side scales H, which are of similar form.

The scales H are preferably made plano-convex in cross-section and are of equal thickness throughout their length, which is proportioned to that of the side linings A, so as to allow a vacant space at each end of the linings for the reception of the bolsters I. At each end of the scales H on their exterior surfaces a rabbet is produced of slight depth and length, and on the flat opposite sides of the scales short shallow channels *i* are formed, as represented in Fig. 9.

In order to affix the scales H upon the side lining-plates A, said scales are clamped thereon by any suitable means, (not shown,) and a properly-shaped matrix (not shown) is placed over each of the end portions of the linings, the blades of the knife being opened. Molten metal or a composition of metals, preferably of a white color, and capable of melting quickly and cooling in a short time, is now poured into the cavity afforded by each matrix, which will produce the bolsters I, previously mentioned, these end portions being

locked fast over the rabbeted ends of the scales H by the penetration of the hot metal through the holes *ee'* and into the channels *i*, thus securely anchoring the bolsters at each end of the handle, the key-pin *h* and rivet *g* being also bound fast at their ends by the same means. After the bolster-matrices are removed from the handle of the knife, the entire surface is finished smoothly and the bolsters J polished, when the handle will be complete and have no external rivets on the scales or bolsters, thus avoiding the labor incidental to the usual method of riveting the lining-plates and scales together.

The four-bladed knife (shown in Fig. 13) has its parts made in the same manner as has been specified with regard to the two-bladed knife. The only change necessary is to turn a lip *c* at each end of the back plate B and forming the intermediate lining-plate C' with both ends alike and notched to engage the lips *c*, as at *c'*, in Fig. 15.

In a four-bladed knife it will not be necessary to provide a key-pin, as the rivets for the blades will retain the springs in compressed condition to receive the bolsters J, which are formed in matrices that are filled with melted metal, as has been already explained.

On account of the peculiar form of construction given to the parts and the manner of assembling them, the manufacture of pocket knives so produced is cheapened, while a superior article is afforded.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the side lining-plates of a knife-handle having a back plate between them and springs resting on the back plate, of a non-corrosive finishing-plate on the springs within and held in place by an intermediate lining-plate that is secured to the side lining-plates, substantially as set forth.

2. The combination, with two side lining-plates and an integral back plate, of an intermediate lining-plate engaged at one end with a lip on the back plate, blades held by a transverse rivet, springs for the blades which are engaged at one end by the blades and near the other end by a transverse key-pin, and said key-pin which passes through the lining-plates and presses the springs against the blades, substantially as set forth.

WILLIAM SCHMACHTENBERG.

Witnesses:

WM. P. PATTON,
C. SEDGWICK.