

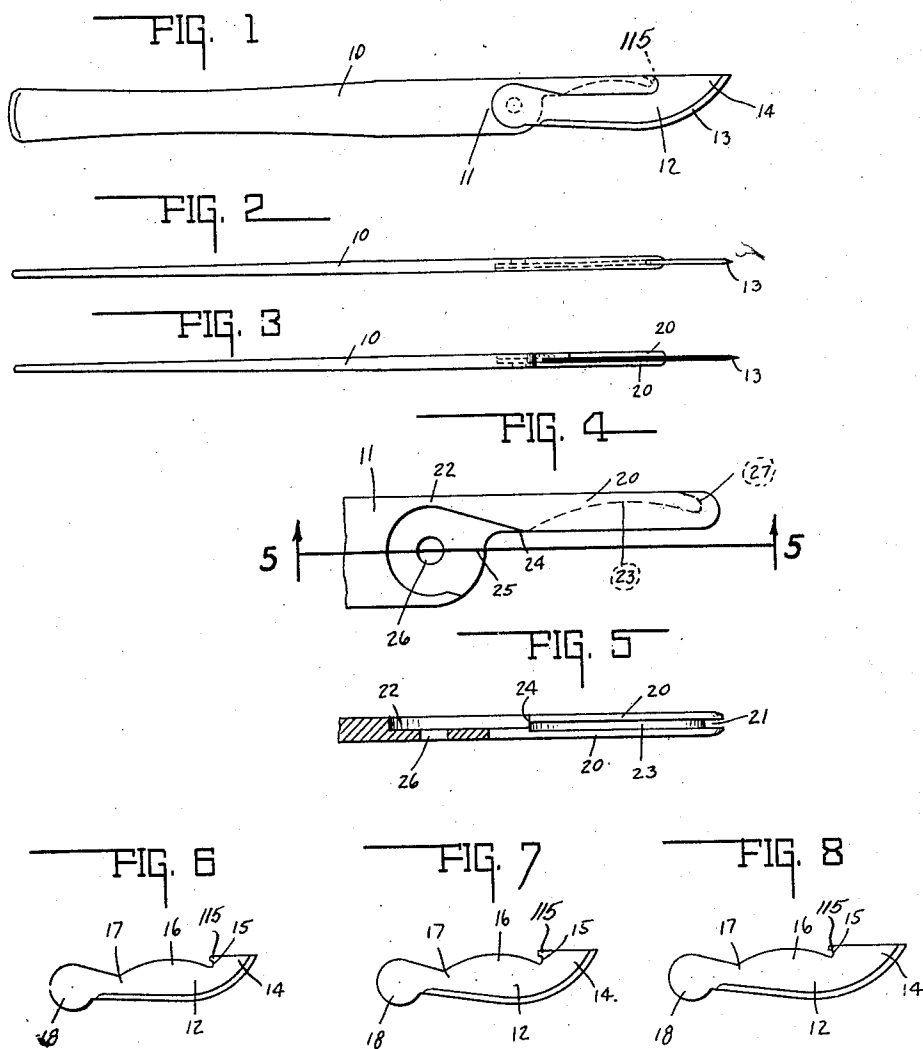
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SURGICAL KNIFE

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UNITED STATES PATENT OFFICE

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SURGICAL KNIFE

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This invention relates to a surgical knife of a character such that the handle can be used with any one of a number of sizes of blades, each blade being detachably receivable by the handle, whereby the handle may be sterilized before and after any operation and the blade or blades to be utilized therein may be sterilized following sharpening and after the immediate use discarded.

10 The chief object of the invention is to improve the mounting of surgical blades upon a handle whereby the resultant knife may be used in any operation with certainty that the blade will not become detached from the handle while in use notwithstanding sub-
15 jection to extreme usage.

The chief feature of the invention consists in the particular formation of the blade mounting and the cooperating mounting
20 formed in the handle whereby the blade is positively yet detachably locked to and upon said handle permitting the resultant knife to be used in certain surgical work heretofore not possible with knives of a similar char-
25 acter unless the same incorporated a plurality of additional parts other than the blade and the handle.

Another important feature of the inven-
30 tion consists in the restriction of the number of parts comprising the knife to but two, to wit, the handle with its mounting integral therewith and the blade with its mounting integral therewith and the association of but
35 these two parts together through a particular mounting arrangement.

The full nature of the invention will be understood from the accompanying draw-
40 ings and the following description and claims:

In the drawings Fig. 1 is a side elevational view of the knife including the handle and blade. Fig. 2 is a top plan view thereof. Fig. 3 is a bottom plan view thereof. Fig. 4
45 is an enlarged side elevational view of the mounting end of the handle. Fig. 5 is a transverse sectional view taken on line 5—5 of Fig. 4 and in the direction of the arrows. Figs. 6, 7 and 8 are side elevational views
50 of different sizes of detachable blades.

In the drawings, 10 indicates the handle

portion terminating in a socket or mounting 11, parts of which will be hereinafter more specifically described. 12 indicates the body portion of a blade having the bevelled cut-
55 ting edge 13 and the point 14. The knife blade 12 includes a socket or notch 15 immediately adjacent the termination of an arcuate anchoring portion 16 and extending rear-
60 wardly and upwardly from the notch is lug 115. The anchoring portion 16 has an opposite termination in a neck 17 joined to a circular base 18. That portion of the blade
65 and including the same, has a temper drawn to a blue color, whereby spring action is obtainable as will be hereinafter pointed out.

In Figs. 6, 7 and 8 three different sizes of the same style of blade are illustrated. The size of the blade also may vary and generally the three sizes herein illustrated are
70 sufficient for all routine surgical work. The mounting 11 of the handle comprises a reinforcing back or blade support 20 which includes a central longitudinal groove 21
75 that extends from the blade supporting end of the handle to a circular recess 22 formed in one side of the handle. The groove 21 has two flat faces spaced apart the thickness
80 of the blade for side support. It also has an arcuate surface 23 which terminates in a toothed portion 24 between said groove
85 and the mouth 25 communicating with the circular recess 22. A central opening 26 is concentric with the circular recess and serves as an opening for receiving a tool or pro-
90 jection for removing the blade from its seat or position. The forward end of the groove back 23 is extended outwardly and thereby forms a locking tongue 27 that is position-
95 able in the locking socket or notch 15 of the blade. As will be readily apparent, the arcuate anchoring portion 16 of the blade is receivable by the arcuately formed groove
21—23 and the neck portion 17 is receivable by the mouth 25 of the circular recess 22,
the latter receiving the circular base 18 of the knife blade.

It will be apparent from Fig. 5 that the knife blade proper lies in a plane slightly offset from the circular recess 22, whereby 100

the knife blade is seated under tension in its mounting.

The blade is mounted upon the handle by inserting the same in the groove 21 and moving it rearwardly until the tongue 27 seats in notch 15 and tooth 24 seats in neck 17. The remainder of the blade is passed over the body portion adjacent the mouth 25 and opposite the position from the tooth 24 until the circular base 18 seats in the circular recess 22 and is retained therein by the spring tension in the blade.

The blade is demounted by inserting a projection into the opening 26 which removes the circular base 18 laterally from circular recess 22 and after this has been removed the entire blade may be removed from the handle.

The resultant construction, therefore, is a firmly and rigidly connected blade and handle permitting use of the knife in substantially all surgical operations such as cutting, scraping and incision work.

The invention claimed is:

1. A two-piece knife comprising a handle including an elongated groove with spaced side walls and a forwardly and downwardly extending tongue positioned between the walls thereof and adjacent one end and a circular recess at the opposite end of the groove and having an open face and a mouth less than the diameter of said recess and opening adjacent said groove, and a blade positionable in said groove and said recess and including a back having its opposite end faces engaging said grooved side walls and a circular base receivable by said recess, and a notch oppositely positioned relative to said base and near the forward end of the blade for receiving said tongue, said notch extending toward the blade tip.

2. A two-piece knife comprising a handle including an elongated groove with spaced side walls and a forwardly and downwardly extending tongue positioned between the walls thereof and adjacent one end and a circular recess having an open face and a mouth of less than the diameter of said recess and opening adjacent said groove, the back wall of the groove being arcuately formed, and a blade positionable in said groove and recess and including a back having an arcuate anchorage receivable by said arcuate groove and its opposite faces engageable by the grooved side walls and a circular base receivable by said recess.

3. A blade for a detachable knife construction comprising a body portion having a back edge including an intermediate arcuate portion, a rearwardly and upwardly directed lug, a forwardly and downwardly directed notch adjacent one edge thereof and near the blade point and merging with the forward end of the arcuate portion and the lug, a circular end opposite from the point and connected to said opposite end of the arcuate edge por-

tion to form a locking portion, said body portion having a cutting edge connected to the circular end at one end and extending forwardly and upwardly to the blade point.

In witness whereof, I have hereunto affixed my signature.

HAYDEN R. SHEARER.