Dec. 26, 1933. H. FRIEDMAN 1,940,855

KNIFE

Original Filed June 25, 1931

Fig. 1

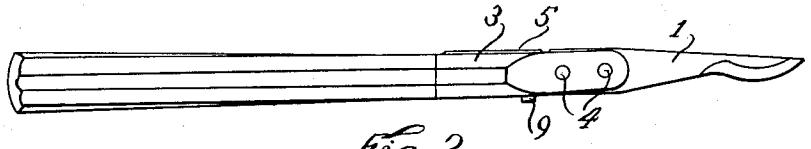


Fig. 2

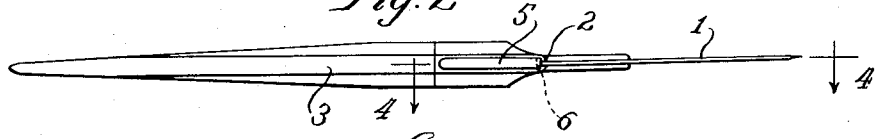


Fig. 3

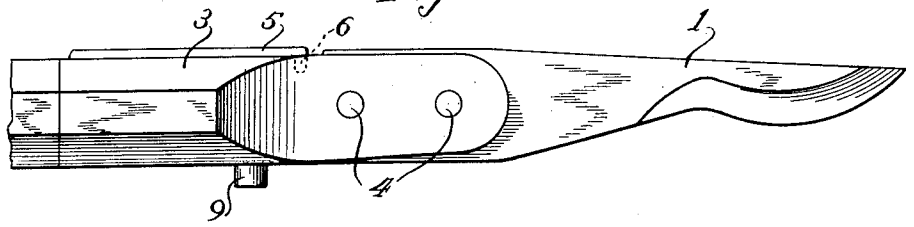


Fig. 4

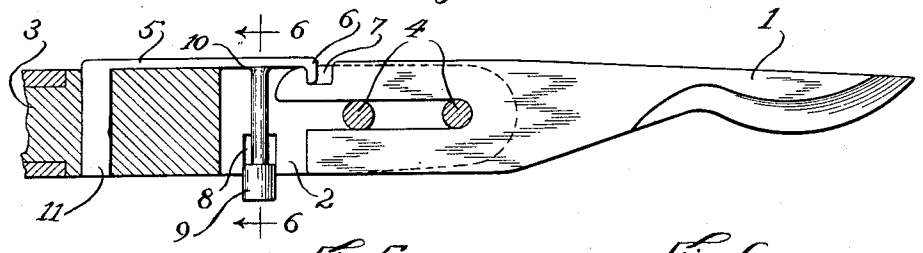


Fig. 5

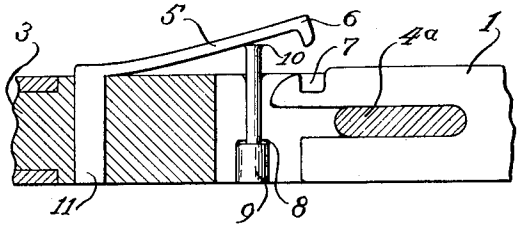
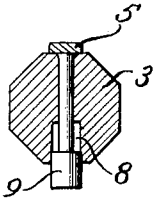


Fig. 6



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Patented Dec. 26, 1933 1,940,855

UNITED STATES PATENT OFFICE

1,940,855

KNIFE

Hugo Friedman, Chicago, Ill.

Application June 25, 1931, Serial No. 546,820
Renewed June 5, 1933

2 Claims. (Cl. 30—9)

My invention relates to knives and more particularly to dental or surgical knives having detachable blades. Knives of this class thus far offered to the profession have presented numerous difficulties in changing from one blade to another.

One of the objects of my invention is to provide a construction which will permit the several blades to be changed easily and quickly.

Another object is to provide a construction admitting of greater nicety of balance and design.

A further object is to provide a construction which will reduce the danger of personal injury to a minimum while changing blades.

Further objects will appear from the description and claims.

In the drawing, in which my invention is illustrated,

Figure 1 is a side elevation of the knife;

Fig. 2 is a top view;

Fig. 3 is an enlarged view of the knife with part of the handle broken away;

Fig. 4 is a section on the line 4—4 of Fig. 2;

Fig. 5 is a fragmentary section showing the retaining spring in its raised position and a modified form of blade-positioning means, and

Fig. 6 is a section on the line 6—6 of Fig. 4.

Referring to the drawing in detail, the construction shown comprises a knife blade 1 removably retained in the slotted portion 2 of the handle 3 by means of the rivets 4 and the retaining spring 5. The spring 5 has, at its forward end, an angular portion so formed as to be received in the slot 7 of the blade 1. The slotted portion of the handle 3 has a suitable hole 8 bored into it to receive and permit the necessary motion of the headed plunger or push button 9, said plunger having a head 10 to prevent its falling from the knife. As an alternative construction, the knife blade 1 may be positioned by means of the rib 4*a*, as shown in Fig. 5, and then retained in position by the retaining spring 5, as before.

In Fig. 4 the spring 5 and the plunger 9 are shown in the position they assume when the blade is locked in position. In Fig. 5 the spring 5 and plunger 9 are shown in the lifted position, as when a blade is to be inserted or withdrawn.

To detach a blade, the user simply grasps the handle in one hand and presses on the push button 9 with the thumb to move the latch portion 6 out of the notch 7 in the back of the blade, enabling the blade to be readily withdrawn lengthwise from engagement with the handle.

It will be apparent that in the event the spring 5 breaks, it may be replaced without difficulty, since it can be removed by simply withdrawing the shank portion 11 from the opening in the handle into which it fits snugly.

In the embodiment shown I have provided a construction which will cause the blade to be positively locked in position and yet be readily removable. It will be seen that that the construction described enables the blades to be changed easily and quickly without danger of injury to the user. It is also apparent that while I have shown and described a surgical knife, this invention may be used with any knife or device wherein it is necessary to use interchangeable blades.

It will be apparent to those skilled in the art that various modifications thereof may be apparent to those skilled in the art without departing from the spirit and scope of this invention and, therefore, the same is to be limited only by the scope of the prior art and the appended claims.

I claim:

1. A knife construction comprising a handle, a blade having a longitudinally extending open-ended slot in its securing portion, said handle having positioning means which enter the slot in assembly, and means for detachably securing said blade to said handle comprising a cantilever leaf spring member mounted on the handle and extending along the back thereof and having a latch portion adjacent its free end for engaging an edge of the securing portion and a push button extending transversely through the handle and engaging a portion of the leaf spring intermediate its secured end and its free end, for moving the spring to releasing position, said push button having a portion engageable for operation on the side of the handle opposite that along which the leaf spring extends.

2. A knife construction comprising a handle, a blade having a longitudinally extending open-ended slot in its securing portion, said handle having positioning means which enter the slot in assembly, and means for detachably securing said blade to said handle comprising a cantilever leaf spring member mounted on the handle and extending along the back thereof and having a latch portion adjacent its free end for engaging an edge of the securing portion and a push button extending transversely through the handle and engaging a portion of the leaf spring intermediate its secured end and its free end for moving the spring to releasing position, said push button having a portion engageable for operation on the side of the handle opposite that along which the leaf spring extends, said leaf spring member having a shank portion extending into the handle and frictionally held therein whereby the spring can be readily removed for repair and replacement.

HUGO FRIEDMAN.