Jan. 29, 1957 E. J. POCOSKI ET AL 2,779,098

COMBINED TOOL

Filed March 14, 1956

FIG. 1.

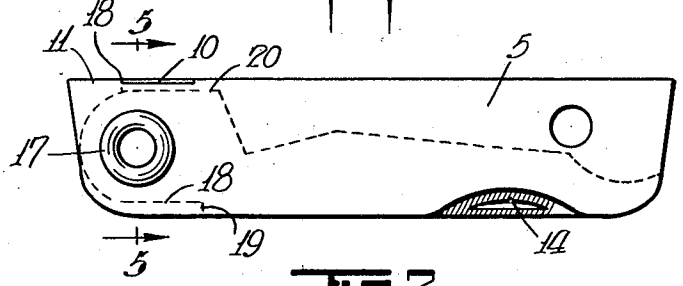


FIG. 2.

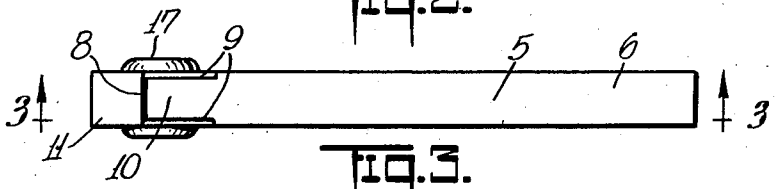


FIG. 3.

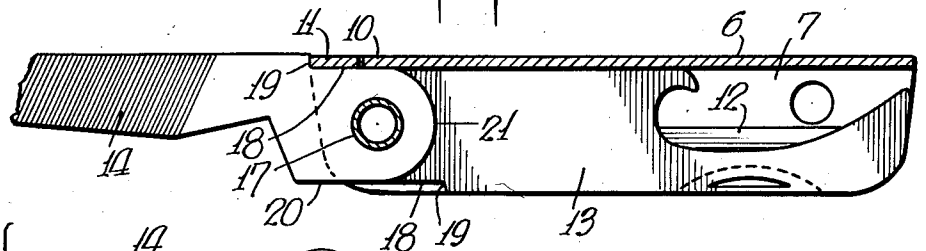


FIG. 4.

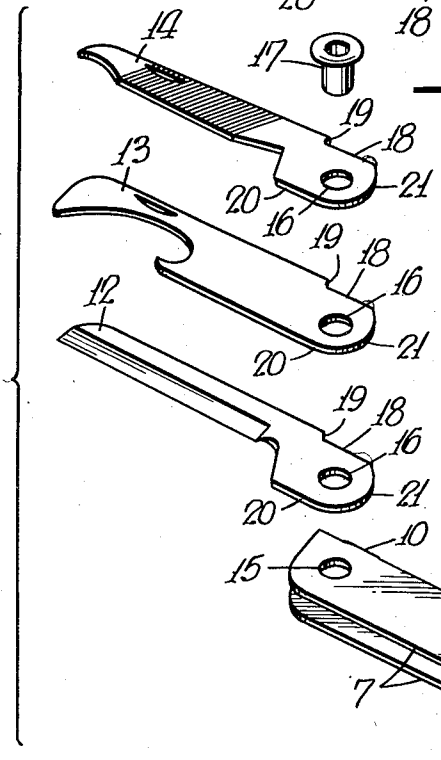
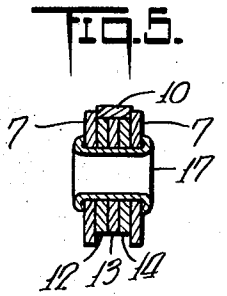


FIG. 5.



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COMBINED TOOL

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4 Claims. (Cl. 30—155)

Our invention relates to a tool having one or more blades, such as a knife blade, a bottle opener and a manicure blade. The blade or blades are carried in a handle and may be moved to open or closed position, as will be understood.

It is an object of the invention to provide an improved tool of the character indicated which has a simple spring arrangement for holding the blade or blades.

More specifically, it is an object to provide a tool of the character indicated wherein the handle is provided with an integral spring.

Another object is to provide an improved tool of the character indicated wherein an integral spring may be provided in the handle by a simple lancing operation.

In the drawings which show, for illustrative purposes only, a preferred form of the invention:

Fig. 1 is a view in side elevation of a tool illustrative of the invention.

Fig. 2 is a back edge or plan view of the tool shown in Fig. 1.

Fig. 3 is a sectional view, taken substantially in the plane of the line 3—3 of Fig. 2.

Fig. 4 is an exploded view of the tool shown in the previous figures.

Fig. 5 is a sectional view, taken substantially in the plane of the line 5—5 of Fig. 1.

The invention will be described as embodied in a combined tool involving a knife blade, a bottle opener and a manicure blade, but it is to be understood that a single blade may be employed or different combinations of blades may be used.

In the tool illustrated, there is a handle member **5** of sheet material, preferably sheet metal, which may be heat-treated so as to give a spring action to parts at least of the handle member. This handle member is bent up into the form of a channel including a base **6** and spaced-apart channel legs **7**. Before or after bending the handle member into a channel form, the base portion **6**, or what will become the base portion, is lanced transversely, as indicated at **8**, and lanced longitudinally at opposite sides, as indicated at **9**, which latter lancings intersect the lancing **8** so as to leave a distinct integral tongue **10** on the base of the channel.

It will be seen that the tongue **10** terminates short of the end of the channel handle but adjacent thereto. Thus, the base of the channel is provided with an end abutment part **11** against which the shoulder or abutment on a blade or blades may abut, as will be clear from Fig. 3.

Between the legs of the channel are mounted a blade or a plurality of blades such as **12**, **13** and **14**, and the legs of the channel are pierced to provide registering apertures **15** which register with the apertures such as **16** in the blade or blades. A pivot member, which may be an eyelet rivet **17**, passes through all of the registering apertures and is riveted or beaded over so as to pivotally secure all of the blades to the handle member.

Each blade is provided with a flat surface **18** which

when the blade is in open position, abuts flat against the tongue **10** and preferably against the under side of the end abutment member **11**. Thus the spring tongue **10** tends to hold the blade in open position with the flat surfaces in engagement with the flat surface beneath the parts **10** and **11**, as indicated, and with a shoulder **19** on each blade member in engagement with the front edge of the channel-base abutment part **11**. Each blade preferably is further provided with an opposite flat surface **20** to engage beneath the tongue **10** when the blade is in closed position. Thus the tongue abutting the surfaces **20** will tend to hold the blades in closed position. The ends of the blades adjacent the pivot are preferably rounded, as indicated at **21** and as the blade is opened or closed the round surface, such as **21**, stresses the spring tongue **10** to provide some friction against opening and closing of the blades.

It will be seen that we have provided a novel method of providing an integral spring on the handle member, which spring may serve to hold the blade or blades in extreme position, either opened or closed or both.

The handle member is preferably formed of sheet material, such as sheet metal, which is heat-treated or otherwise treated to provide a spring action in the tongue **10** and to give sufficient rigidity to the handle member in general.

Novel matter disclosed but not claimed herein is claimed in William E. Bassett application, Ser. No. 615,200, filed October 10, 1956.

While the invention has been described in considerable detail, it is to be understood that slight changes and variations may be made within the scope of the invention, as defined in the appended claims.

We claim:

1. In a tool of the character indicated, a handle member of sheet material in the form of a channel having a base and opposed upstanding side walls, said base adjacent one end of said channel having an integral spring thereon terminating short of the extreme end of the channel so as to leave a rigid, abrupt end or shoulder at the end, a blade between the side walls of said channel and pivoted thereto adjacent said spring, said blade having a surface to cooperate with said spring to hold said blade in open position, said blade having an abrupt transverse shoulder to engage the said extreme end of said channel to limit the opening of said blade.

2. In a tool of the character indicated, a handle comprising a single-piece sheet-metal channel having a base and opposed upstanding side walls, said base being lanced to define an elongated spring tongue with the free end thereof near but short of one end of said base, whereby an abutment may be defined by said base at said end, said abutment being integral with the adjacent portions of said side walls, and an elongated blade member having one end thereof pivotally mounted between said side walls at the longitudinal location of said spring tongue, said blade having a surface to cooperate with said spring tongue to hold said blade in one extreme position relatively to said handle.

3. In a tool of the character indicated, a handle comprising a single-piece sheet-metal channel having a base and opposed upstanding side walls, said base being lanced to define an elongated spring tongue with the free end thereof near but short of one end of said base, whereby an abutment may be defined by said base at said end, said abutment being integral with the adjacent portions of said side walls, and a plurality of elongated blade members each having an end thereof formed for pivotal suspension, a single pivot member suspending all said blade members on the same axis and between said side walls at the longitudinal location of said spring tongue, said

tongue being of a width spanning the combined thickness of said blades, and each of said blades being formed with an edge portion to cooperate with said spring tongue to hold each particular selected blade in one extreme position.

4. A tool according to claim 3, in which said edge portion cooperating with said spring tongue is substantially straight and is oriented to engage both said tongue and said abutment when a selected blade member is in extreme open position.

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