

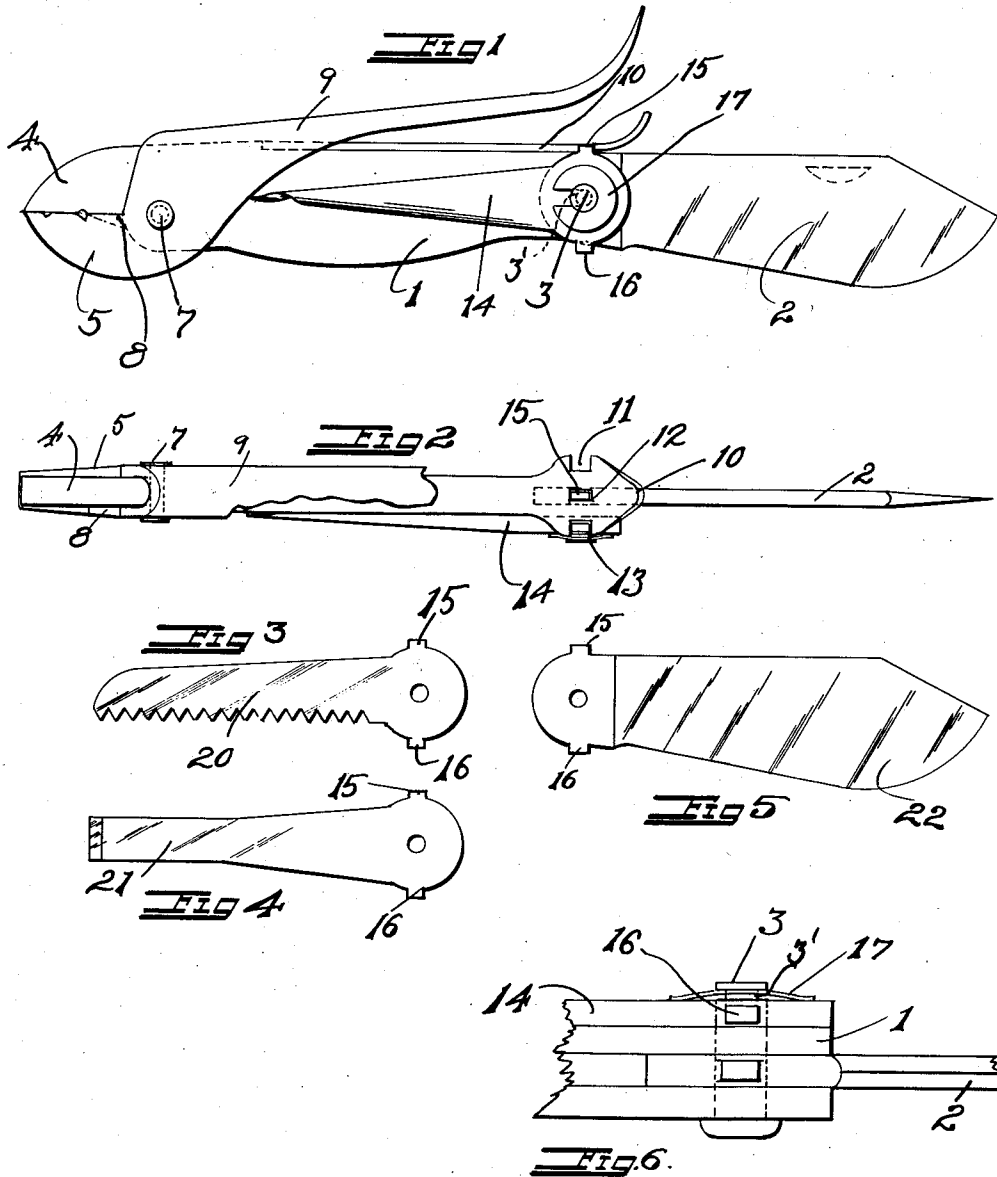
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F. NIELSEN

COMBINATION TOOL

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COMBINATION TOOL.

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To all whom it may concern:

Be it known that I, FREDERIK NIELSEN, a citizen of Denmark (who has taken out first papers as a citizen of the United States), residing at Briceburg, in the county of Mariposa, State of California, have invented a new and useful Combination Tool, of which the following is a specification in such full and clear terms as will enable those skilled in the art to construct and use the same.

This invention relates to a combination tool, consisting of a pair of pliers within one handle of which is a knife blade, and which handle is also adapted to carry several other different types of tools, as may be desired; while, at the same time, the blades or tool may be rotated to position with the minimum of friction, because the spring which holds either the blades or the tools in the extended or retracted position does so with the aid of the lug thereon which engages openings in the spring to secure the tools in the desired position.

Another object of the invention is to provide a combination tool consisting of a handle carrying a pair of pliers at one end and a series of foldable tools at the other end, with a spring lock for said foldable blades, which lock is operated by the action of the thumb and finger bearing on one plier handle and on which the foldable blades are carried. This is necessary, since the spring must be quite stiff and cannot be raised easily without touching the adjacent plier handle.

Other objects of the invention will appear as the description proceeds.

An embodiment of the invention is shown in the accompanying drawings in which the same reference numeral is applied to the same portion throughout, but I am aware that there may be modifications thereof.

Fig. 1 is a side elevation of the tool, with the knife blade open;

Fig. 2 is a plan view of the tool, with a portion of one handle broken away for the purpose of illustration;

Fig. 3 is a side elevation of a saw blade used in connection with the tool;

Fig. 4 is a side elevation of the chisel blade that may be used in connection with the tool;

Fig. 5 is a side elevation of the knife blade, used in the tool; and

Fig. 6 is a plan view of the tool adjacent the pivot end for the knife blade, showing the manner of locking the blades in place.

The numeral 1 indicates a handle which has a recess therein deep enough and wide enough to receive the blade 2, which is pivotally connected therewith by means of the pin 3. The opposite end of the handle is shaped by one jaw of the pair of pliers as indicated at 4, and it meets a similar jaw 5 on the handle which is pivotally connected to the handle 1 by means of the pin 7.

The plier jaws are provided with wire cutting shoulders at 8, and the plier handle 9 embraces both sides of the handle 1 to provide the greatest strength with the minimum of material.

On the back of the handle 1 there is a spring 10 which spring has three openings 11, 12 and 13 for the purpose of securing the blade 2 or any tool, as for example, the awl 14, in a fixed position with respect to the handle 1, either open or closed.

Each tool has a lug 15 on one side and a similar placed lug 16 on the other side, said lugs engaging the holes 11, 12 or 13 as the case may be.

By simply disengaging the spring washer 17 from the groove 3' with which it is normally engaged, the pin may be removed and new tools substituted for those formerly in use.

The tool 20 is used as a saw, the tool 21 as a chisel, and the blade 22 is either a duplicate of the blade 2 or of replacements of a different shape as may be desired.

An advantage of the construction of the spring 10 lies in the fact that in the operation of the tool, any pressure applied to the spring 10 tends to make it hold the tools more closely than otherwise in either the closed or the extended position.

It will be seen from the above description that the knife, saw, or chisel blades may be easily replaced by removing the washer 17 and the pivot 3, while they are all securely held either in the open or closed position as desired by the locking spring 10. Since the spring 10 must be very stiff to be able to hold the tools extended it is necessary to provide

means to aid in releasing it and this means is the handle 9. This handle also serves to operate the plier jaws 4 and 5 and forms means whereby the workman may open the spring 10 by pressure thereon with the thumb, while the fingers lift the spring.

What I claim is as follows, but modifications may be made in carrying out the invention shown in the drawings and in the above particularly described form thereof, within the purview of the invention:

1. A combination tool comprising a handle, a tool pivotally mounted thereon, means on the pivot to permit the pivot to be disengaged from the handle for the replacement of the tool, a spring for locking the tool in either the extended or folded-up position, and another tool pivoted to the han-

dle at the opposite end thereof, the latter tool having a handle extending over the spring to aid in releasing the spring when the first tool is to be opened for use.

2. A combination tool comprising a handle, a tool pivotally mounted upon the handle, a spring to lock said tool in the open or closed position at will, means to secure the tool pivot releasably in place, and another tool pivotally mounted on the handle at the opposite end from the first pivot, the latter tool having a handle extending over the locking spring for the first tool to aid in releasing it when the latter tool is to be opened or closed.

In testimony whereof I have hereunto set my hand this 22nd day of May A. D. 1923.

FREDERIK NIELSEN.