March 13, 1928. 1,662,461

R. KLABOE

COMBINATION TOOL

Filed March 7. 1927

Fig. 1

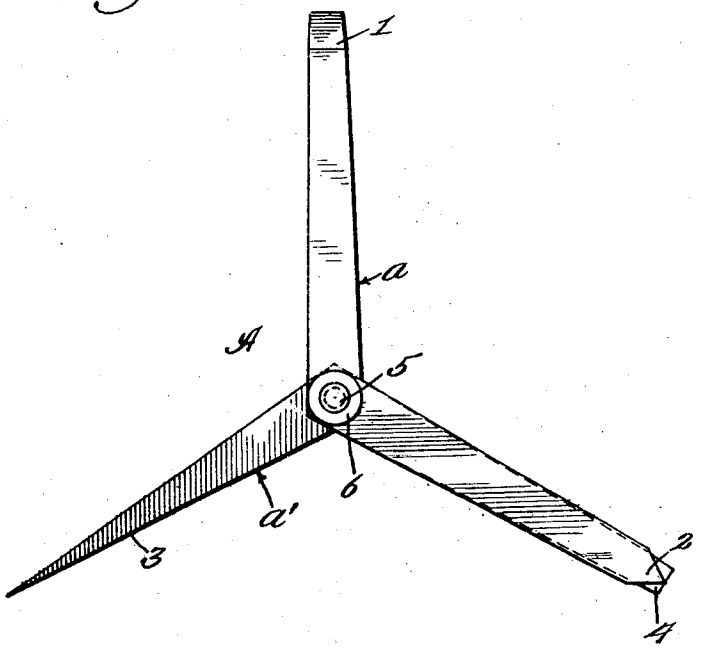


Fig. 2

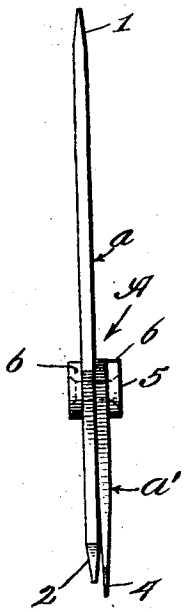


Fig. 3

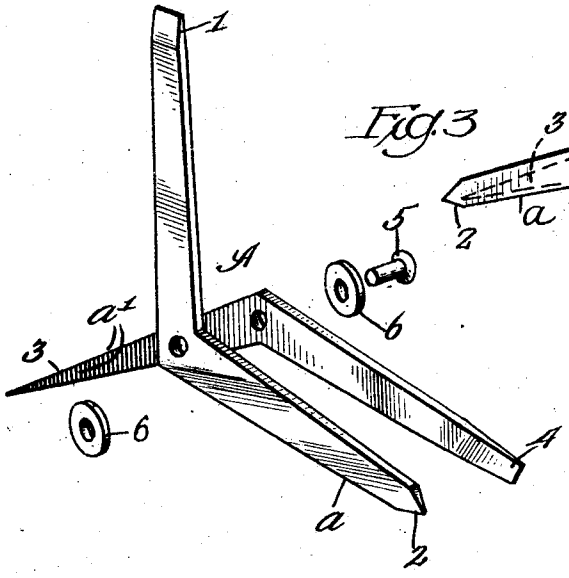
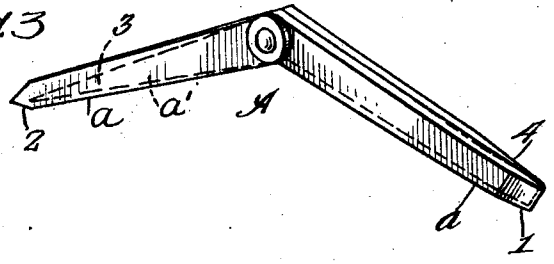


Fig. 4



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UNITED STATES PATENT OFFICE.

RALPH KLABOE, OF CHICAGO, ILLINOIS.

COMBINATION TOOL.

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My invention relates to combination tools.

The object of the invention is to provide a combination tool adapted for manual manipulation and operation which comprises different tools for different uses, all but one of which are adapted to form a handle for manipulating the remaining tool, which will be simple in construction, strong and durable; which may be manufactured at relatively small cost; which provides a handle by means of which great force may be applied to said tools, respectively, in use; and which may be folded so as to form a compact unit which may conveniently be carried.

To attain the objects of the invention, my improved tool consists of a plurality of separate members, each comprising two different tools, the shanks of which are rigidly connected and which diverge from each other at angles of substantially 120 degrees, the separate members of said tools being pivotally connected at their points of divergence, whereby, by turning said members pivotally so that unit tools of different parts occupy coincident positions, a tool will be provided consisting of a plurality of elements which diverge from one another at angles of substantially 120 degrees, the coincident tools and any of the other unit tools forming a handle by which the remaining unit tool may be turned or manipulated; and whereby, also, the separate members of said combination tool may be turned to bring the unit tools of all of the members into coincident positions, thereby effecting the object of the invention as it relates to providing a tool of the type specified, which may be folded compactly for conveniently carrying it.

The invention also comprises the various other features and details of construction hereinafter described and claimed.

In the accompanying drawings, in which the invention is fully illustrated,

Fig. 1 is a plan view of a combination tool embodying my invention and improvements, showing the members of the tool arranged in position for use;

Fig. 2 is a view thereof from the right side of Fig. 1;

Fig. 3 is a perspective view showing the different members of the tool separated; and

Fig. 4 is a view substantially similar to Fig. 1, showing the members of the tool turned to bring the unit tools of the different members into coincident positions.

Describing the invention with particular reference to the drawings, A designates the tool, as a whole, consisting, as shown, of two members, respectively designated, as a whole, a, a', each of which comprises two unit tools, the shanks of which are rigidly connected, being preferably formed integral with each other, and which diverge from each other at angles of substantially 120 degrees. The members a, a', of said tool may conveniently and will preferably be stamped from suitable sheet metal of proper gage to provide adequate strength.

As shown, the member a comprises a screw-driver 1 and a countersink 2; and the member a', a penetrating tool or reamer 3 and a second screw-driver 4.

The separate members a, a' of the tool are pivotally connected at the points of juncture of their respective unit tools, by a rivet 5, or similar means.

Obviously, by turning the members of the tool so that two unit tools of each member a, a' will be in coincident positions, as shown in Fig. 1, said coincident tools with either of the other unit tools, will form a handle which may be conveniently grasped for manipulating or operating the fourth tool. In use, the grip of the hand upon the coincident tools, as for example, the tools 2 and 4, will hold the different members a, a' from relative pivotal movement, thus providing a substantially rigid structure.

The specific tools 1, 2, 3, and 4 shown, exemplify any form of tools adapted to be operated by a turning movement, excepting that the different unit tools will have to be made flat, or substantially so, to permit unit tools of different members a, a' to pass each other when turning said members pivotally to bring unit tools of different members into coincident positions.

To reinforce and strengthen the pivotal connection between the members a, a', my invention contemplates applying washers 6 to opposite sides of said joint, said washers being secured in position by the rivet 5.

I claim:

1. A combination tool consisting of a plurality of separate members, each comprising two unit tools, the shanks of which, respectively, diverge at angles of substantially 120 degrees, and the separate elements of said tool being pivotally connected at the juncture of the unit tools thereof, respectively.

2. A combination tool as specified in claim 1, in which the adjacent sides of both members of the tool are flat.

In testimony that I claim the foregoing as my invention, I affix my signature this 23rd day of February, 1927.

RALPH KLABOE.