Sept. 30, 1958 R. COHEN ET AL 2,854,564

COMBINATION PLIER TYPE TOOL WITH LIGHT

Filed Aug. 5, 1955



FIG. 6



FIG. 3

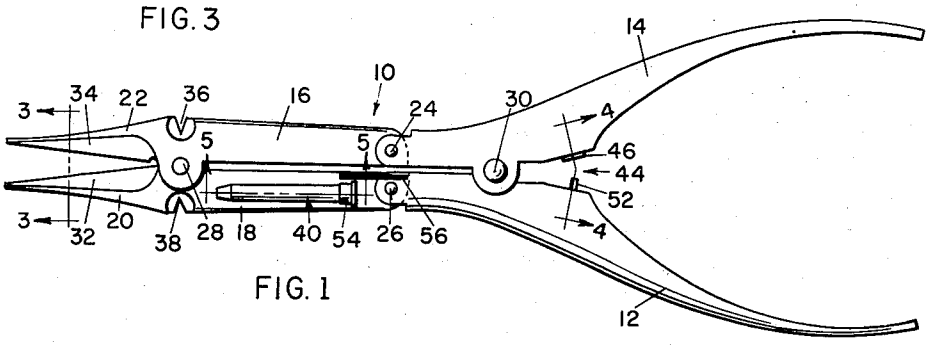


FIG. 1

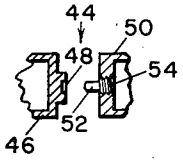


FIG. 4

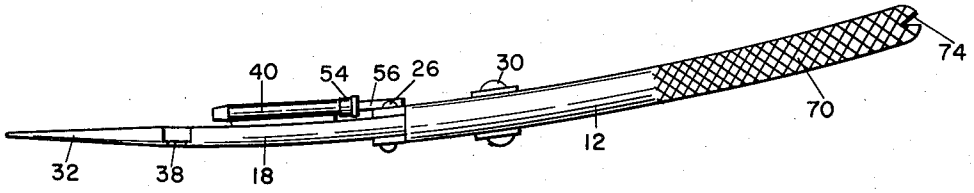


FIG. 2

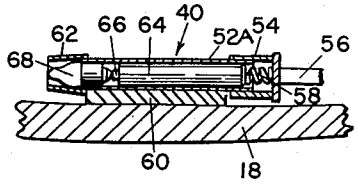


FIG. 5

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COMBINATION PLIER TYPE TOOL WITH LIGHT

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Application August 5, 1955, Serial No. 526,620

1 Claim. (Cl. 240—6.46)

This invention relates generally to tools, and more particularly to a unique tool for pulling nails or tacks. Although this tool is described in connection with pulling nails or tacks from a shoe sole, it is to be noted that it can be readily adapted to other applications without modification since it has a plurality of other means provided thereon for punching holes, for use as a file, as a cutter or snips, and the like.

It is the principal object of this invention to provide a unique tool for pulling nails or tacks from inaccessible places in shoes and the like.

It is another object of this invention to provide a new tool which can be used for a multiplicity of purposes.

Still another object of this invention is to provide a combination tool which is provided with additional means for facilitating the location of a nail or tack located on the surface of the inner sole of a shoe and which is difficult to locate because of its forward position in the shoe.

Still another object of this invention is to provide a combination tool which can be used as a nail puller, a file, a cutter, or as a punch for punching holes.

And still another object of this invention is to provide a combination tool, which has mounted thereon a light for use of the tool in a dark area.

And another object of this invention is to provide a compact combination tool which is economical to manufacture, and which is reliable and efficient in operation.

Other objects and many of the attendant advantages of this invention will be appreciated readily as the same becomes understood by reference to the following detailed description, when considered in connection with the single accompanying drawing, in which:

Fig. 1 is a plan view of the combination tool comprising the invention;

Fig. 2 is a side view of the tool illustrated in Fig. 1;

Fig. 3 is a cross section taken along line 3—3 of Fig. 1;

Fig. 4 is a cross section taken along line 4—4 of Fig. 1;

Fig. 5 is an enlarged cross section of a detail of Fig. 1 taken along line 5—5 thereof; and

Fig. 6 is a side view of a portion of the right handle of the tool illustrated in Fig. 1.

In accordance with the invention, a new design of combination tool is provided for use by persons who sell shoes, and by shoemakers. This combination tool is in the general form of a pair of pliers, and is provided with a sharp nose to facilitate the pulling of nails or tacks which are located near the juncture of the inner sole and the body of the shoe. In addition, light means are mounted on the pliers to facilitate the locating of a nail or tack in a shoe which normally cannot be seen under normal light conditions.

The combination tool is also provided with a removable punch for punching holes in a belt, shoe straps, and the like. Punches of various sizes can be inserted in the tool. The tool has several files of various sizes

formed on its handles for use in sanding or smoothing a shoe surface. In addition, claw means are provided on the tool for pulling nails and tacks. Additional means are provided on the tool for cutting purposes.

Referring now to Figs. 1 and 3 of the drawing, there is illustrated the combination tool **10** comprising the invention. This tool **10** consists of a pair of handles **12** and **14** pivotally connected together by pin **30** which extends through both handles. These handles **12** and **14** are pivotally attached to two members **18** and **16** by pins **24** and **26**, respectively, which pass therethrough. These members **16** and **17** form the body of the tool **10**.

Members **16** and **18**, in addition, are pivotally connected together by pin **28** which passes through both members. These members **16** and **18** each have a jaw **22** and **20**, respectively. These jaws **20** and **22**, it is to noted, are tapered or pointed, and are not very wide, as can best be seen from Figs. 1 and 2.

Each jaw member **20** and **22** has a sharp edge **32** and **34**, respectively, formed thereon, as best seen in Figs. 1 and 3, so that the tool **10** can be used as a pair of snips. In addition, the inner faces of the pointed ends of the jaws **20** and **22** are provided with gripping surfaces so that the tool **10** can be used for pulling nails and tacks. Thus, the members **16** and **18**, together with their handles **14** and **12**, respectively, form a unique pair of pliers and snips for pulling nails and tacks as well as for cutting any material that might be left in an area after the nail or tack is pulled.

The tool **10** is also provided with two sharp V-shaped notches **36** and **38** on the jaws **22** and **20**, respectively, which can also be used for pulling small nails and tacks.

In the outer surface of each handle **12** or **14**, there is provided a file, such as indicated by reference numerals **70** and **72**, respectively, for coarse and fine filling of a shoe surface, or the like. A V-shaped notch **74** can be provided in the end of each handle **12** or **14**, as shown in Fig. 2, which can be used for pulling nails and tacks.

Between the handles **12** and **14**, there is provided a punch device **44**, as best seen in Figs. 1 and 4, which can be used for punching holes in shoe straps, belts, and the like. This punch **44** consists of a member **46** which has a small recess **48** formed therein for receiving a punch **52** which is threaded into a threaded aperture **54** of member **50**. Thus, different size punches can be inserted in the member **50** for punching holes in belt or shoe strap. In use, the strap is placed between members **46** and **50**, and the handles **12** and **14** are closed to force the punch **52** through the strap into the recess **48**.

In order to facilitate the location of a small nail or tack in the innersole of a shoe, a light device **40** is provided on member **18**, as best seen in Figs. 1, 2, and 5. This housing **52A** is mounted on a metal base **60** by suitable means, such as clips (not shown). This device **40** consists of a housing **52A** which receives a small battery **64**, and a light bulb **68** which makes connection with the battery at **66**. A small transparent open-ended cap **62** holds the bulb **68** in the housing **52A**. A second cap **54** consisting of a cylindrical Bakelite or hard insulating portion and a metal end is fitted over the end of the housing **52A** opposite the end containing the light bulb.

This cap **54** has a suitable coiled spring element **58** located therein which makes contact with the metal end of the cap **54** and the battery **64**.

When the handles **12** and **14** are compressed, a strip **56** of spring metal mounted on handle **12**, as indicated in Figs. 1 and 2, makes contact with the metal end of the cap **54** to cause a closed electric circuit through the spring **58**, battery **64**, metal base **60**, the member **18**, and handle **12**, to light the bulb **68**. Thus, the spring

metal strip **56** make it possible to complete the electric circuit to light the bulb **68**.

Cell or battery **64** can be a pen type dry cell of one and one half volts. It will be sufficient to light the bulb **68** and thus give enough light so that the inside of a shoe can be seen to locate a nail or tack in an innersole of the shoe. Suitable means can be provided for positioning the lighting device **40** so that the bulb will be pointing in the correct direction when the tool **10** is utilized for one of the purposes mentioned.

Obviously many modifications and variations of the present invention are possible in light of the above teachings. It is therefore to be understood that within the scope of the appended claim, the invention may be practiced otherwise than as specifically described.

What is claimed is:

An electrical circuit arrangement for a tool having a pair of pivotally connected body members, a pair of pivotally connected handle members, each handle member being pivotally connected at one of its ends to one of said body members, with said body members having their free ends formed to provide a pair of jaws, said electrical circuit arrangement comprising a housing mounted on one of said body members, a bulb positioned at one end of said housing and arranged to point in the direction

of said pair of jaws for providing light when said tool is utilized, a first cap opened at both ends, said cap fitting over said bulb and engaging said end of the housing for holding said bulb in an operative position in said housing, a second cap comprising a cylindrical insulating body with a metallic end and positioned on the other end of said housing, at least one battery located in said housing and having one end electrically associated with said bulb, a metallic spring located between the other end of said battery and said metallic end of said second cap, and a metallic strip located on the handle member connected to the housing mounted body member and arranged to contact said metallic end of said second cap when said handle members are compressed together to complete the circuit arrangement and light said bulb.

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