April 28, 1964 J. T. LINTZ 3,130,884

AUTOMOBILE ESCAPE TOOL

Filed April 8, 1963

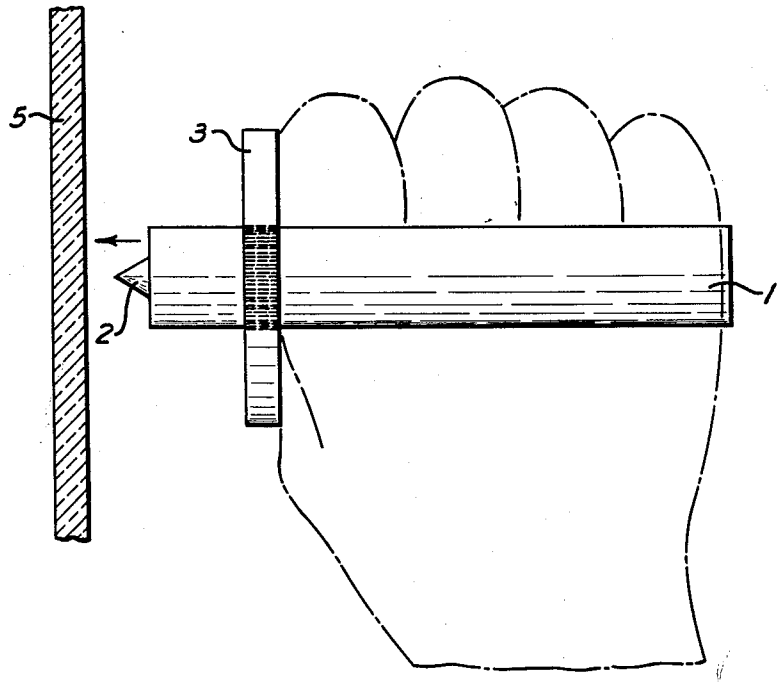


Fig. 1

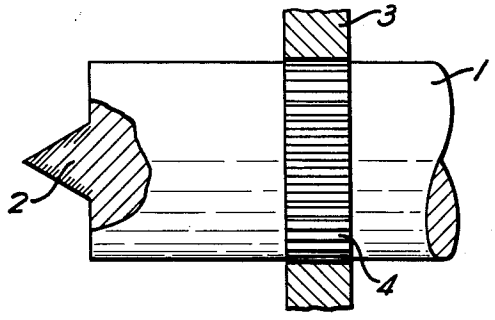


Fig. 3

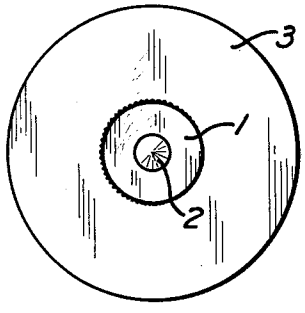


Fig. 2

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AUTOMOBILE ESCAPE TOOL

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This invention relates to tools for the escape of persons trapped in automobiles and trucks involved in accidents, and more particularly to a tool for breaking the windows of such vehicles.

The windows of automobiles used to be made of laminated glass, which could be broken if struck hard by the fist or kicked with a shoe. This would allow a person trapped in an automobile because of an accident to escape therefrom if neither the doors nor the windows could be opened. It is difficult to break a laminated windshield, and the newer ones are being bonded in place so securely that they cannot be pushed or kicked out of their frames. In the last couple of years tempered glass has taken the place of laminated glass in most new cars, except for the windshields. Tempered glass windows in automobiles are extremely difficult to break, even if a heavy object is thrown or thrust against the glass. On the other hand, if the surface or skin of tempered glass can be penetrated by a sharp point, the glass will shatter and disintegrate into a pile of small fragments.

It is among the objects of this invention to provide an escape tool which can be quickly and easily used in emergencies to shatter the tempered glass windows of automobiles, which is safe and dependable, which is simple and compact in construction, which is inexpensive, and which can be conveniently mounted in an accessible location near the driver.

The preferred embodiment of the invention is illustrated in the accompanying drawings, in which—

FIG. 1 is a side view of my emergency escape tool;

FIG. 2 is a front end view; and

FIG. 3 is an enlarged fragmentary longitudinal section of the tool.

Referring to the drawings, the tool consists of three parts; a metal bar 1, a metal point 2 and a shielding collar 3. The bar most conveniently is about 4½ inches long. No useful purpose is served by making it longer. Preferably, it is a cylindrical steel bar about ¾ of an inch in diameter so that it will be easy to grip in the hand and will have considerable weight, which is important. One end of the bar, which will be called the front end, is provided with the metal point 2, preferably integral with the bar. This point may be formed, for example, by starting with a 4¾ inch bar and turning a ¼ inch long conical point on one end. Preferably, the base of the point is of less diameter than the bar.

To make sure that the point of the tool will penetrate the surface of a tempered glass window and not be flattened by it, the point must be extremely hard. Therefore, it is case-hardened, preferably to a depth of about .0065 inch as indicated in FIG. 3, and to a hardness equal to a Rockwell C scale reading of about 60.

The shielding collar 3 encircles the bar a short distance from its front end, preferably about ¾ of an inch. One way of making the collar is to stamp a flat ring from a ¼ inch thick steel plate. The inside diameter of the ring should be the same as the diameter of the bar. After the circular area of the bar that is to receive the collar has been knurled as indicated at 4 in FIG. 3, the collar is forced over the bar and onto this knurled band to securely join the two elements together. The long portion of the bar between its rear end and the collar forms a handle that can be gripped in the hand, with the collar either against the thumb and forefinger bent around the handle, or against the opposite side of the fist.

When an emergency arises, the tool is grasped by the handle with the fist against the collar, and then the tool is swung or thrust point-first against the window 5. The force of the blow, aided materially by the momentum of the heavy tool, will cause the hard steel point to penetrate the tempered skin of the glass, whereupon the glass will disintegrate into countless tiny fragments.

The shielding collar has four functions. It spaces the hand from the point, so that the hand will not strike the window at the same time as the tool or become pinched between them. The collar is made large enough to prevent the hand from sliding over it when the point is driven against a window, whereby most of the force exerted by the fist is transmitted to the tool through the collar and is not lost by slipping of the hand along the tool. The collar also shields the hand from the shattering glass in front of the tool, and finally it adds needed weight to the tool. To accomplish all of these purposes, it is desirable that the collar be at least 2 inches in diameter, preferably about 2¼ or 2½ inches. In order to maintain the weight of the tool, the diameter of the collar should be increased if its thickness is reduced, as the tool should weigh nearly a pound for best results.

A suitable and convenient place to carry this escape tool, where it always will be handy in an emergency, is in a clip or bracket mounted on the steering post of the vehicle. Such a tool not only can be used by someone wanting to escape from a car, but also by anyone, including police, on the outside attempting to rescue the occupants of vehicles in which they have been trapped. Consequently, police cars and ambulances should be equipped with these tools primarily for helping accident victims.

According to the provisions of the patent statutes, I have explained the principle of my invention and have illustrated and described what I now consider to represent its best embodiment. However, I desire to have it understood that, within the scope of the appended claims, the invention may be practiced otherwise than as specifically illustrated and described.

I claim:

1. An automobile escape tool for shattering tempered glass automobile windows, comprising a metal bar, a hardened metal point on one end of the bar, the hardness of said point being substantially equal to a Rockwell C scale reading of about 60, and a rigid metal shielding collar rigidly mounted on the bar and spaced from said end, the opposite end of the bar being spaced from the collar to provide a handle adapted to be gripped in the hand, the collar being large enough to prevent the hand from sliding past it on the bar when the hand thrusts said point forcefully against one of said windows.

2. An automobile escape tool for shattering tempered glass automobile windows, comprising a metal bar, a metal point on one end of the bar having a hardness equal to a Rockwell C scale reading of at least 60, the bar being provided with a band of knurls near said point, and a rigid metal shielding collar encircling said band and pressing tightly against the knurls to hold the collar rigidly in place, the end of the bar opposite said point being spaced from the collar to provide a handle adapted to be gripped in the hand, the collar being large enough to prevent the hand from sliding past it on the bar when the hand thrusts said point forcefully against one of said windows.

3. An automobile escape tool for shattering tempered glass automobile windows, comprising a metal bar, a metal point on one end of the bar having a hardness

equal to a Rockwell C scale reading of at least 60, and a rigid metal shielding collar rigidly mounted on the bar near said point, the opposite end of the bar being spaced from the collar to provide a handle adapted to fit in the fist, the collar being large enough to keep the fist from sliding past it on the bar when the fist thrusts said point forcefully against one of said windows, and the weight of the tool being about a pound.

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