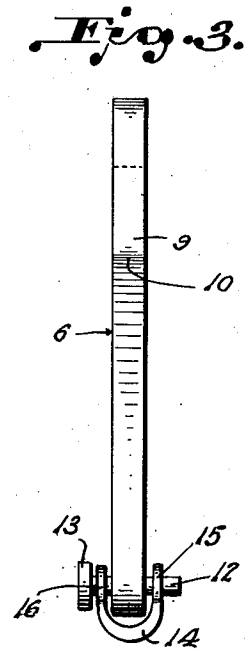
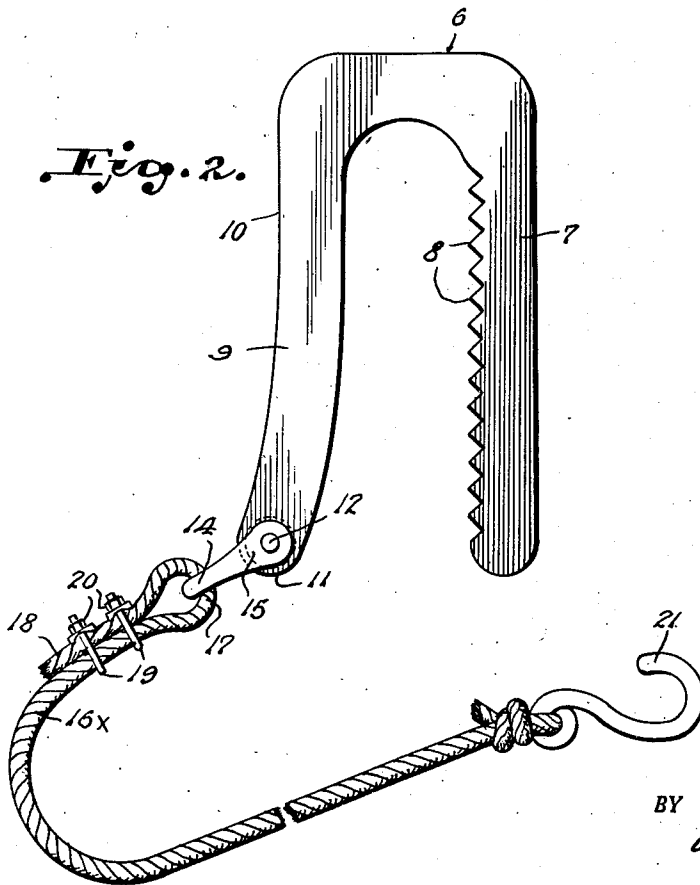
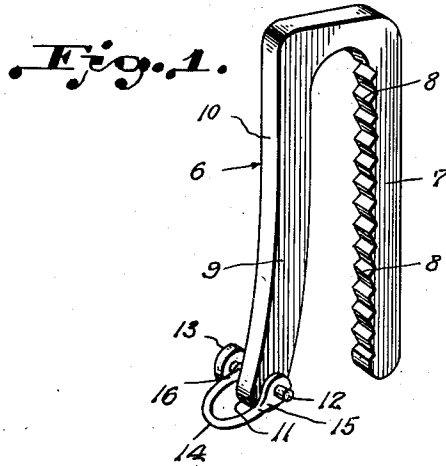


Sept. 8, 1953

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EMERGENCY GRAPPLE
Filed June 20, 1950

2,651,539



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2,651,539

EMERGENCY GRAPPLE

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Application June 20, 1950, Serial No. 169,184

1 Claim. (Cl. 294—92)

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This invention relates to an emergency grapple and more particularly to a multi-purpose grapple device which is adapted to be used in connection with the grappling and pulling open the doors of wrecked vehicles, to engage an overturned vehicle and to pull it upright, or for towing a wrecked vehicle.

It has been found that in many instances where an automobile such as a truck, trailer or pleasure car has been wrecked as the result of an accident or collision, the doors become jammed, because of the automobile having its frame knocked out of line, whereupon the occupants are trapped in the wreckage. When the doors become sprung it is impossible for a person inside or outside to open the same and free the occupants. At present, when such a condition arises it has been the practice to use a torch to cut the metal which is dangerous because of the usual presence of gasoline or other type fuel.

Therefore, an object of the invention is to provide a U-shaped hook having attached to one of its free ends as by a clevis and pin a steel wire rope of sufficient length so that the hook can be used to break the glass window of the automobile or truck, after which the hook can be applied to an edge of the door around the window opening, preferably at a point adjacent the door latch, the free end of the steel cable then being attached to a wrecking truck or other vehicle which pulls the door open to free the occupants.

A further object of the invention consists of an improved form of hook which has one leg thereof flared slightly away from the opposite leg to thus provide a hook which can be slipped over doors of different thicknesses; and/or door posts or door frames of different thicknesses.

Another object of the invention provides the inner surface of the rear leg of the hook with a plurality of lateral saw teeth-like serrations whereby this surface will bite into the inner face surface of the door and prevent the hook from slipping off the door in use.

Other objects and advantages will become apparent when considered in connection with the following description and accompanying drawing in which—

Fig. 1 is a perspective view of the grapple hook;

Fig. 2 is a side view of the grapple hook showing only a fragment of the steel wire tow rope; and

Fig. 3 is an edge view looking at the left hand side of Fig. 2, with the tow rope removed.

Referring to the drawing, in which like num-

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erals have been used to designate similar parts throughout the various views, the emergency grapple comprises a U-shaped hook 6 having a rear leg 7, the leg 7 having formed on its inner surface a plurality of transverse saw tooth serrations 8 extending across the inner rear leg surface from a point near the outer end thereof to a point where the leg starts to bend to form the upper bend of the hook. The front leg 9 of the hook starts to flare outwardly at an upper point 10 adjacent the upper bend to its extreme lower end 11, the distance between the two legs 7 and 9 of the hook gradually increasing to provide an inwardly tapered or wedge-shaped opening between the respective legs of the hook whereby the same is capable of wedging attachment to doors or door posts of different thicknesses.

The outwardly converging leg 9 is provided at its lower end 11 with an opening for receiving a pin 12 having an enlarged head 13. A clevis 14 has its spaced arms 15 and 16 embracing the lower end 11 of the leg 9 and the arms, as is usual, have openings through which the pin 12 extends to pivot the clevis 14 to the leg 9. The steel wire rope 16x, which is in the nature of a tow rope, is looped at one end as at 17 around the body of the clevis 14, the free end 18 being clamped by the usual U-bolts 19 and nuts 20. The opposite or far end of the tow rope 16 is provided with an attaching hook 21, said hook being adapted to be attached to a tow truck or the like during the use of the device.

In the use of the emergency grapple, and assuming that a vehicle has been wrecked and the occupants thereof are trapped in the same, the hook 6 is slipped over the vehicle door in an advantageous position around the window frame opening. Thereafter, the hook 21 of the tow rope 16 is attached to a wrecking truck or any other pulling vehicle, whereupon the movement of the pulling vehicle away from the wrecked vehicle will pull the door of the wrecked vehicle open by virtue of springing or even breaking the door latch bolt. The persons trapped in the wrecked vehicle can then either get out of the wreckage by their own efforts or be carried out by rescuers if need be.

It will be recognized that because of the outwardly inclined leg 9 of the grapple hook and the fact that the tow cable or rope is attached to the lower end thereof, a pull on the tow rope tends to cant the hook 6 and thereby cause the toothed portions 8 of the leg 7 to bite into the inner surface of the door which prevents any possibility of the hook slipping off the door, regard-

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less of the amount of pull. Thus, the inclined leg 9 serves the function of causing the opposite leg 7 of the hook to bind against the inner side of the vehicle door.

It is to be understood, of course, that the inner surface of the leg 7 may be smooth, that is to say, devoid of the serrations 8 illustrated in Figs. 1 and 2. A pull on the line 16 secured to the lower end of the opposite leg 9 will cause such binding of the inner surface of leg 7 against the inner surface of the car door as to maintain the device in operative position.

Therefore, the present construction is extremely simple and eliminates all possible fire hazards as those now present in the use of a torch for cutting the metal of the vehicle door. And further, anyone at the scene of an accident can use the grapple without special tools or skill.

It is not intended that the invention be limited to the exact construction disclosed, as the same is capable of various changes and modifications within the scope of the following claim.

I claim:

A jammed door opener for wrecked automobiles for facilitating removal of occupants comprising in combination an inverted U-shaped grapple-like member having a bight portion and front and rear legs, the space between said legs at all points being at least equal to the thickness of the thickest automobile door at the site of the window sill thereof, and at least the front arm of said member progressively diverging away from said rear arm whereby to provide a taper-

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ing entrance opening for said grapple-like member to facilitate engagement of same with an automobile door at the site of the window sill, the bight portion of said grapple-like member adapted to engage the window sill of an automobile door when in use, a flexible cable connection secured to the outer end of said front arm and adapted to be connected to a pulling element such as a wrecking vehicle whereby the jammed door can be forceably pulled open, and the inner surface of the inner arm of said grapple-like member providing transverse tooth-like serrations for biting into the inner surface of the door to which it is applied whereby to obviate possibility of the grapple-like element being pulled loose from its connection with the automobile door.

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