Feb. 12, 1929. 1,701,771

J. DI STEFANO

ICE PICK

Filed Oct. 11, 1926

Fig. 1.

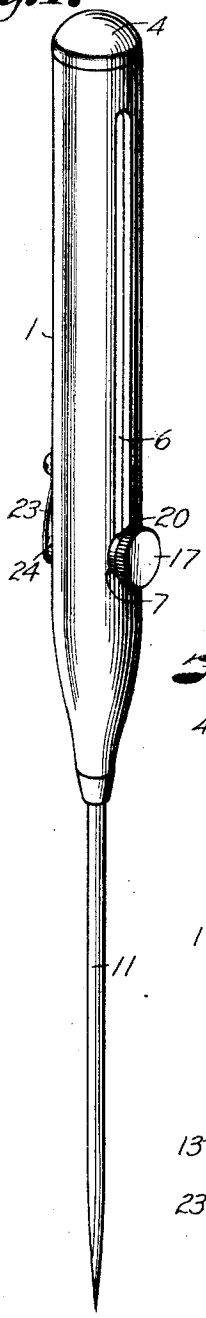


Fig. 2.

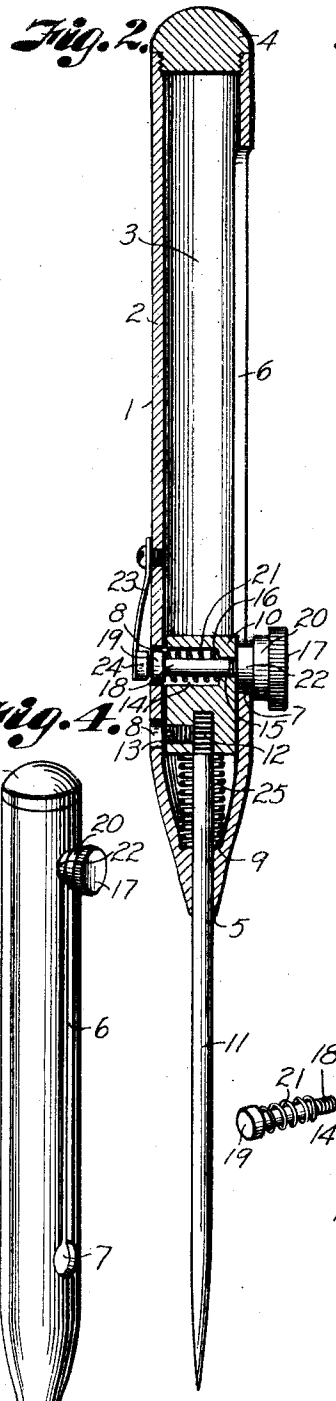


Fig. 3.

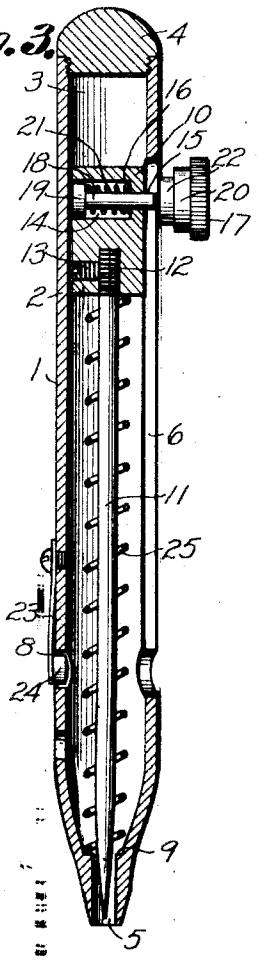
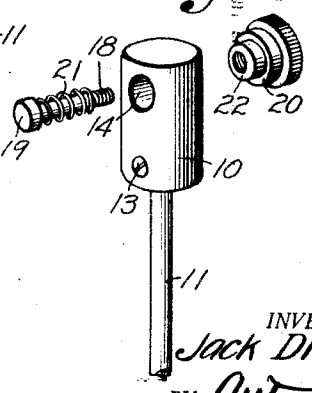


Fig. 4.

Fig. 5.



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UNITED STATES PATENT OFFICE.

JACK DI STEFANO, OF KANSAS CITY, MISSOURI.

ICE PICK.

Application filed October 11, 1926. Serial No. 140,794.

My invention relates to hand tools and particularly to picks having retreating point elements. My object is to provide a tool having improved factors of safety and convenience especially for non-use periods. More specifically, my device comprises an ice pick in which the shank and point rest normally wholly within the handle and are projected to operative position by manual means, are secured in such operative position by improved details of structure, and when released therefrom by means provided return automatically to rest within the handle.

In accomplishing my object I provide the improved details of structure and combination illustrated in the drawings, in which:

Fig. 1 is an exterior view of the pick in operative position.

Fig. 2 is a longitudinal sectional view of the pick in operative position.

Fig. 3 is a longitudinal sectional view of the pick in released, that is, non-operative position.

Fig. 4 is an exterior view of the pick in non-use position.

Fig. 5 represents detail perspective view of the head member of the point element and its operating means shown in spaced relation.

Referring in detail to the drawings:

1 designates a barrel which is the handle of the device, the barrel having a wall 2 and channel 3, the cap 4 engaging the wall and closing the channel at one end of the barrel while the wall and channel taper at the other end to reduced diameter forming an opening 5. The barrel has a longitudinal slot 6 expanding into a socket 7, and an aperture 8 opposite the socket, and shoulders on the interior surfaces of its base at 9, for purposes to be described.

A cylindrical head or plunger 10 is slidably mounted in the channel 2 of barrel 1, the head carrying point element 11 which is attached to it by threads 12 and set screw 13, being thus removable for replacement. The point element is adapted to move through the opening 5 of the barrel 1, to exposed or operative, and concealed or non-use positions, as the head 10 is moved in one direction or oppositely and longitudinally of the barrel channel by means now to be described. The head 10 is drilled transversely to form chamber 14 and aperture 15 of less diameter than the chamber, a spring seat 16 occuring as the result of the difference in diameter of chamber and aperture.

There is a key member 17 comprising a bar 18 of length substantially equal to the diameter of the barrel, and button elements at each end of bar 18 designated respectively as 19 interiorly and 20 exteriorly positioned in relation to the barrel in Fig. 3, the button 20 constituting a knob. The key member 17 operates in the slot and in co-operation with the head 10. The bar 18 extends through the slot 6, and traverses the diameter of the barrel at the same time being transversely movably engaged with the head 10 through positioning in axially mutual openings, namely, the chamber 14 and aperture 15, of said head 10. Button 19 of key 17, snugly movable in chamber 14, is tensioned outwardly against the wall of the barrel by the expansion coil spring 21 based against the shoulder 16. The key member 17 so positioned and tensioned constitutes a latch for purposes to be described.

The point element having its head 10 slidably mounted in the channel 3 of barrel 1, is movably projected beyond the taper end of the barrel, and retracted, by the movement of the key 17 along the barrel 1 and slot 6. Means are provided for anchoring the point element in projected position by a latch as follows: The knob 20 of key member 17 is provided with a portion 22 constituting a shoulder of smaller diameter than the body of knob 20, but still of sufficient area to serve as the exterior adjacent element of the knob 20 in its path along the barrel while guiding the key 17, shoulder 22 being adapted to seat within enlarged portion or socket 7 of slot 6. When the key member 17, projecting the point element 11, has reached the socket 7, the shoulder 22 slips into said socket, the admission being permitted by the transverse extension of the key member 17 under the influence of spring 21 through the aperture 8. The resulting engagement of button 19 in aperture 8 and of shoulder 22 in socket 7, secures the point element 11 in functional position.

Spring clip 23 is provided having plug 24 adapted to loosely engage in aperture 8 and close the same, key member 17 pressing the spring clip outward as the button 19 is projected under the influence of the spring. When it is desired to release the point element from functional position, pressure on the spring clip 23 carries the plug 24 to force the protruding portions of said key member into the chamber 21, and the shoulder 22 to the

exterior of the barrel, thus disengaging the latching mechanism and permitting the key member to travel through the barrel and in the slot, carrying with it the point element to retracted and non-use position. An expansion spring 25 is provided, assembled interiorly of the barrel and annularly of point element 11, seated on shoulders 9 of the interior of the body wall near the taper point, and directed against the head 10 of the point element. The manipulation of key member 17 projecting the point element compresses the spring 25, the operation of the latching factors holding the point element in projected position, which is the functioning position, and the spring being locked in compression. When the point element is to be restored to the barrel, the unlatching of key member 17 from engagement with the sockets of the barrel wall by the pressure on clip plug 24, permits the compressed spring to function, which thereupon retracts the point element along the interior of the barrel to non-use or rest position.

What I claim and desire to secure by Letters Patent is:

1. In an ice pick, a tube-like handle having a longitudinal slot, a point element having a cylindrical and enlarged head portion slidably mounted within the handle, a key member engaging the cylindrical head and traveling in the slot and having a knob positioned on the exterior of the handle, means for locking the key member with the handle to detain the point element in projected position, and means for releasing the point element from detention including an element fixed to the handle having a key-engaging member.

2. An ice pick comprising a hollow handle and a detachable point element having a head mounted within the handle and movable longitudinally thereof, the handle having a slot and a plurality of sockets, a key member engaging the head and having a button exterior of the handle and traveling in the slot, a spring retracting the point element into the handle, the key manipulatable to project the point element against the influence of the spring, latch means carried by the key member to engage a socket in the handle, and resilient means secured to the handle adapted to move the key member from such engagement.

3. In a retractile tool device, a hollow handle having a longitudinal slot and an opening opposite the slot, a tool slidable in the handle, a spring bearing against the handle for retracting the tool, a bar moving in the slot and tranversely movable in the tool for moving the tool, a spring in the tool urging the bar to enter the opening to latch the tool in extended position, and a clip fixed on the handle having a lug adapted to enter said opening to move the bar out of latching position to permit the spring to retract the tool.

In testimony whereof I affix my signature.

JACK DI STEFANO.