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SAFETY DEVICE FOR FIREARMS HAVING A LONGITUDINALLY MOVABLE CLOSURE ELEMENT

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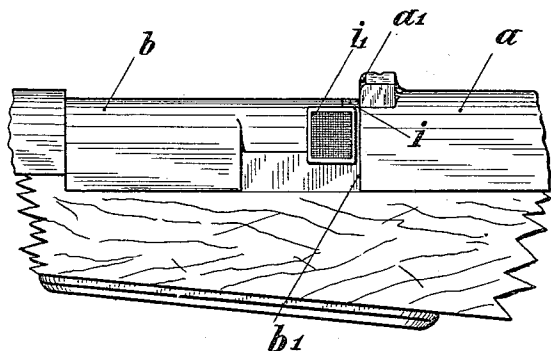
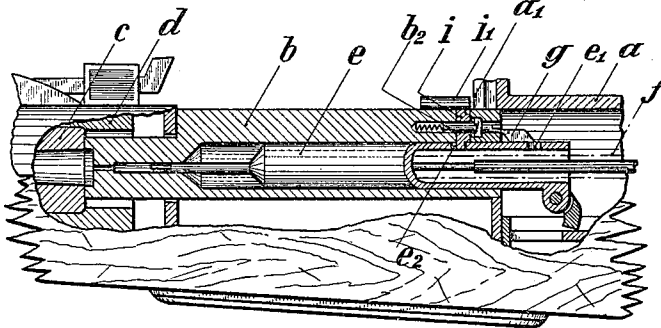
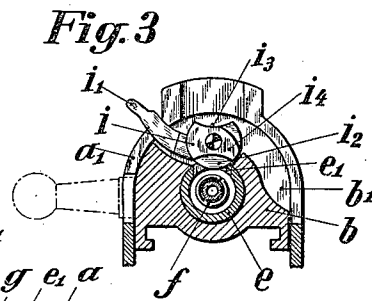
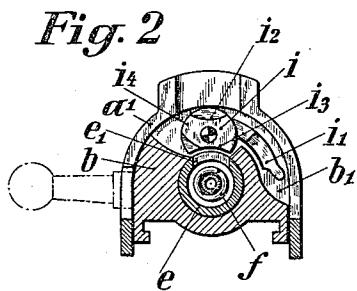
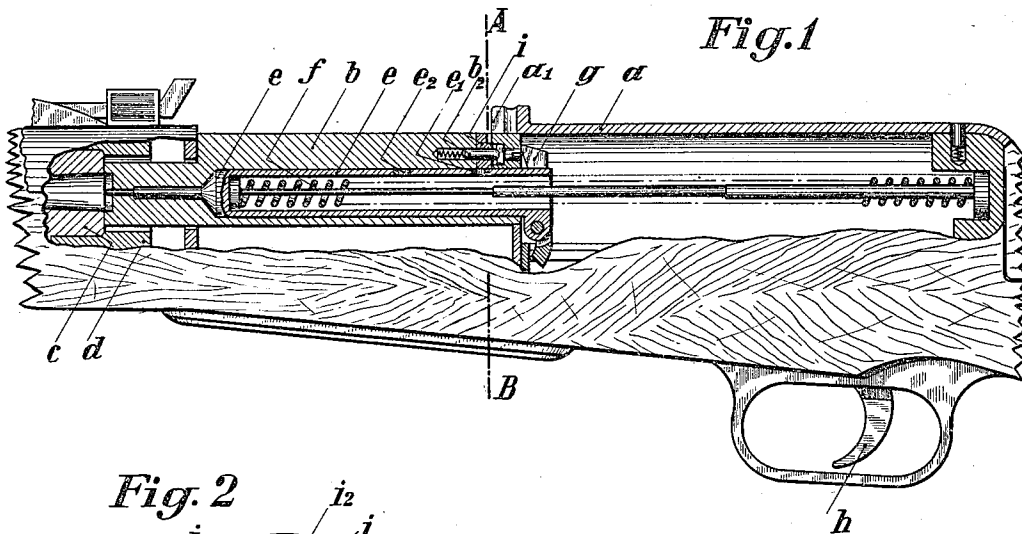


Fig. 5

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SAFETY DEVICE FOR FIREARMS HAVING A LONGITUDINALLY MOVABLE CLOSURE
ELEMENT

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The invention relates to a safety device for firearms having a longitudinally movable closure element which is particularly suitable for automatic hand weapons (guns and pistols). By means thereof a multiple safety effect is secured with simple expedients, reliably preventing an unintentional firing and even procedures in connection with the weapon, which would lead to such firing or might produce any other disturbing effect.

In developing the known feature of locating the safety element in the closure element itself, the device in accordance with the invention in particular is so constructed that the safety element in its safety position, by engaging in a notch of the closure element guide (the housing of the weapon) will prevent an opening movement of the closure element, which is in the firing position, and that also, by entering into the notch of the hammer, either cocked or not, will make the same itself immovable with respect to the closure element. Thus thereby the weapon which is cocked and ready for firing may be made safe, just as this is possible, on the other hand, with unloaded and uncocked weapons, in order to prevent an unintentional cocking and loading. In both cases thereby the hammer and the closure are simultaneously freed from an unintentional operation.

It is further advantageous, particularly in automatic firearms, to arrange the safety element, having a handle part for setting the same, in such manner in the closure element that in its safety position it is completely retracted into a cavity of said closure element, without having any parts projecting beyond the outer surface thereof. This feature, which is moreover applicable to all safety devices having a safety element located in the closure element, affords the possibility of constructing the rear portion of the housing of the weapon, serving as a closure guide after the firing of the shot, in a closed form and fitted to the contours of the usually roll-shaped closure element, which facilitates the manufacture as well as the subsequent operation of the gun and decreases misfires upon using the firearm.

The drawings show an exemplary embodiment

of the safety device in accordance with the invention as applied to a self-loading gun.

Figure 1 is a side elevation of the weapon partly in section with a closed closure and uncocked hammer, not in the safety position,

Fig. 2 is a cross section on the line A—B of Fig. 1, in the direction shown by the arrow, likewise with the same not in the safety position,

Fig. 3 with the weapon in the safety position,

Fig. 4 shows the closed closure with a cocked hammer, inside view, in section, in safety position, and

Fig. 5 is a side elevation of the closed closure not in safety position.

The closure element *b*, guided so as to be longitudinally shiftable in the housing *a* of the firearm, is latchable in known manner to the barrel *c* which slides to and fro on firing, by means of a shell *d* rotatably mounted on said barrel. The hammer *e* is shiftable mounted in the closure element *b* and the closing spring for the closure element as well as the return braking and forward-feeding spring for the barrel, namely the hammer spring *f*, act simultaneously upon said hammer *e* to tend to drive the same forward. A double-armed lever *g*, swingably mounted at the rear end of the hammer *e*, when the weapon is cocked will lie, as shown in Fig. 4, with its lower lever arm retained by the cocking device, not shown in detail, and with its upper arm in wedge fashion between the hammer and the rear end surface of the closure element and thus when the trigger *h* is not drawn back, holds the hammer tight with respect to the closure element, in its cocked position (Fig. 4).

The disc-shaped safety element *i* is pivotally mounted about the stud *b*₂, in a slot *b*₁ of the closure element *b*, and in cooperation with the actuating device *i*₁ for shifting the same produces a safety setting of the closure element *b*, out of its firing position, in cooperation with the shoulder *a*₁ of the housing *a* of the firearm and simultaneously by the entering of a casing portion *i*₂ into the slots *e*₁, *e*₂ of the hammer *e*, locks the same against movement with respect to the clo-

sure element. The slots e_1, e_2 , instead of consisting of notches in the body of the hammer, as illustrated, could also be formed of the rear or forward end surface of an upper strip of the hammer, which could also at the same time serve for guiding the latter straightly.

With the gun in the non-safety position, the slot e_1 and/or e_2 of the hammer which is located either uncocked (Fig. 1) in its forward end position or cocked (Fig. 4) in a somewhat drawn back position, will lie opposite a sickle-shaped notch i_3 of the safety element i , and the hammer can then either be returned to the cocked position or can spring forward from this position in order to fire the cartridge. At the same time the safety flap i_1 has swung to such extent into the suitably deep and wide cavity b_1 of the closure element so that it has become retracted completely within the outer confines of the closure element (Fig. 2). The closure element can, therefore, without being obstructed by projecting parts of the safety device, run back in the rear portion of the housing a of the firearm, which suitably encloses the same.

A safety setting of the firearm with the closure closed is possible as well in the uncocked as in the cocked position of the hammer. In both cases thereby the safety flap i_1 , folded over into the position shown in Fig. 3, will become positioned in front of the rear limit a_1 of the cavity a_2 of the housing a of the weapon, which serves for introducing cartridges into the magazine as well as for ejecting the fired cartridge shells. Thereby the closure element is secured against opening. Simultaneously the safety element i has engaged in the slot e_1 or e_2 of the hammer e , and locks the latter with respect to the closure element b .

In order to retain the safety element i in both its working positions, thus in the non-safety position in accordance with Fig. 2 and in the safety position in accordance with Fig. 3, the hammer spring f is used in a particularly effective manner. In the intermediate positions of the safety element i , which occur upon its passage from one working position into the other, a central projection i_4 will be caused to lie against its rear end surface in the safety notches e_1 and/or e_2 of the hammer, and will thereby force the same back somewhat in opposition to the forward driving action of the hammer spring f . The resistance thereafter still to be overcome in turning the safety element out of one or other of its working positions retains the same stationary in both positions mentioned and an unintentional shifting of the safety device is prevented.

I claim as my invention:—

1. Safety device for firearms having a longitudinally movable closure element, par-

ticularly for automatic hand firearms, comprising a closure element, a guide for said element, a hammer, a safety element mounted in the said closure element which prevents a movement of the said hammer, either cocked or uncocked, with respect to the closure element, when said safety element is in its safety position, by engaging in notches in said hammer, and also prevents an opening movement of the closure element when it is in the firing position, by engaging behind a shoulder of the closure element guide.

2. Safety device in accordance with claim 1, wherein a hammer spring is provided and the safety element is provided with a projection and both in its safety position and non-safety position, as a result of the backward-pushing action of said projection, upon entering into the safety notches is retained by the hammer spring which acts simultaneously also as the closing spring for the closure element.

3. Safety device for firearms having a longitudinally movable closure element, a casing for the element and a safety element mounted therein, in accordance with claim 1, wherein the safety element, provided with a handle portion, serving for shifting the safety element, is completely withdrawn within the casing of the closure element, when in the non-safety position.

4. A safety device for firearms, comprising a longitudinally movable closure element, a casing for said element, a safety element mounted in said casing, and a handle portion for shifting said safety element and being completely withdrawn within the casing of the closure element when the safety element is in the non-safety position.

In testimony whereof, I affix my signature.
LOUIS STANGE.