INTERCHANGEABLE BACKSTRAP FOR A FIREARM AND FIREARM WITH AN INTERCHANGEABLE BACKSTRAP

Field of the Invention

The present invention relates to an interchangeable backstrap for a firearm and a firearm with an interchangeable backstrap according to the preambles of claims 1 and 13.

The invention also relates to a set containing at least one firearm and at least one backstrap or at least two backstraps.

Positional terminology herein such as “up,” “down,” “front,” “back,” etc. relate to a firearm or self-loading firearm in which the bore axis is horizontal and shots are fired toward the front, away from the shooter.

Prior Art

There are different types of interchangeable backstraps and/or interchangeable side panels for firearms or self-loading firearms, and firearms equipped therewith, e.g. pistols, self-loading pistols, machine pistols, assault weapons, sniper rifles, etc.

These interchangeable backstraps and side panels come in different sizes and shapes for people with different sized hands, to improve the ergonomics. This ensures that the shooter can easily and reliably pull the trigger on a pistol or other firearm.

By the end of the nineteenth century service pistol handles were already equipped with two removable side panels and a backstrap made of hardwood.

These days, the backstraps and side panels are made of plastic or other materials. These can be mass-produced inexpensively and with a high level of precision in die casting or injection molding processes.

By way of example, EP 0 729 004 B1 discloses a pistol with interchangeable backstraps that have different surface qualities.

EP 1866596 B1 by the applicant discloses an interchangeable backstrap and replaceable side panels. The panels and/or backstrap can be slid onto the handle with a tongue-and-groove connection formed on the back of the handle.

AT 518635 B1 discloses backstraps and side panels made of plastic. These side panels can be slid onto the handle.

EP 2 685 202 B1 discloses a backstrap for a firearm that snaps onto the handle.

EP 3 063 493 B1 discloses a backstrap for a firearm that is attached with a cam to the handle.

US Pat. No. 10,041,759 B2 discloses a backstrap for a Makarov pistol that can be bolted onto the handle.

There are also "hammerless" self-loading pistols, in which a hammer is hidden beneath the back of the slide. When loading these pistols, the slide is released and a spring pushes the slide forward. A sear, or trigger sear, holds the striker in the handle, such that it cannot slide forwards with the slide. The slide compresses the striker spring. When the shooter pulls the trigger, it releases the striker.

With a double-action pistol, pulling the trigger not only releases the striker, but also cocks the striker spring.

Object of the Invention

Based on the foregoing, the object of the invention is to create an alternative, structurally simple and reliable interchangeable backstrap for firearms, in particular self-loading firearms.

This is achieved by the subject matter of the independent claims 1, 13, and 15.

These interchangeable backstraps have the following features: they have at least one coupling interface for at least one moving part, in particular a moving part of the trigger mechanism.

The firearm according to the claim is distinguished in that it has such an interchangeable backstrap.

A set according to claim 15 is distinguished in that it contains at least one firearm and at least one interchangeable backstrap, or at least two interchangeable backstraps.

The invention results in a compact design for a firearm, in particular a self-loading pistol, because at least one moving part, preferably part of the trigger mechanism, can be at least partially removed from the handle and moved into the coupling interface on the backstrap.

This moving part, e.g. a trigger component, striker, hammer, etc. can be mounted in or on the coupling interface with various fasteners, e.g. a retaining pin through the coupling interface at a right angle to the direction in which shots are fired. The striker catch and/or sear can also be placed and/or mounted there.

These measures play an important role in optimizing the ergonomics of a concealed carry (CC) pistol, because their ergonomics are normally inferior to those of full-size pistols, due to their small sizes. With concealed carry pistols, recoil control is also often unsatisfactory, and has a negative impact on the firing precision.

This invention is intended in particular for the concealed carry self-loading pistol SFP9CC (VP9CC) by the applicant, but can also be used with any other firearm or self-loading firearm.

Interchangeable backstraps can also be used to optimize the ergonomics of a self-loading firearm. By way of example, the distance from the trigger to the back of the backstrap and/or from the front of the handle to the back of the backstrap can be varied using backstraps of different sizes, shapes, thicknesses, etc. By changing the size of the backstrap, it can be easily adjusted to different sized hands.

The handle on a firearm, particularly a self-loading pistol, can be easily and conveniently adjusted to the size and shape of a shooter's hand, thus improving the ergonomics. This is also the case with service weapons, which are normally of a uniform size.

By way of example, a shooter with small hands can use a firearm without side panels and a slender backstrap, or with thin side panels and a slender backstrap. A shooter with larger hands will prefer thicker side panels and backstraps.

This also improves recoil control and firing precision, due to the improved handling of the firearm.

The interchangeable backstrap can be made inexpensively of plastic. This material can also exhibit a certain amount of flexibility in order to compensate for small tolerances.

A set or assortment can contain at least one firearm and at least one interchangeable backstrap, or at least two interchangeable backstraps and/or side panels of different sizes and shapes, materials, and/or surface qualities. The set can be made available with the firearm, or sold separately, as a retrofitting set. A set can also be composed of a firearm and an interchangeable backstrap.

The optimal range of use for the weapon can be increased by providing a set or assortment containing at least one firearm and at least one interchangeable backstrap, or a set containing at least two interchangeable backstraps with or without side panels.

This allows a shooter to adjust the firearm to their personal ergonomic preferences and individual hand size.

The coupling interface on interchangeable backstraps is preferably formed by a locking element and/or retaining element.

In a simple design, the coupling interface forms an element, or locking element, which rises from the inside of the backstrap and can be inserted in a complementary recess in the handle or its frame. This retains the backstrap in the handle or frame. The surrounding recess can encompass the element and thus hold it securely in place.

The coupling interface itself can also form a retaining element in that it secures the backstrap on the firearm's handle or its frame in a force and/or form-fitting manner.

An additional securing element can also be formed on the coupling interface, e.g. in the form of a latching, snap-on, or similar connection, which engages with the frame or handle, securing the coupling interface in place.

There can also be an additional securing and/or retaining element, e.g. a pin, retaining cylinder, catch, bolt, etc., which passes entirely or partially through the backstrap, at a right angle to the direction of firing. This securing element can then hold components in place. The securing element can also be released in order to remove the at least one component of the firearm, e.g. by removing the securing element, or by moving it to a releasing setting, e.g. by rotating the cylinder.

The coupling interface on the backstrap is preferably a stop and/or guide for the at least one moving part.

Because at least one moving part fits into the coupling interface, a stop is used to limit its movement, particularly if the moving part is part of the trigger or firing mechanism. The coupling interface can also function as a guide, or supplementary guide for the at least one moving part, e.g. in that the guide is formed by a contact surface in the backstrap, and the moving part moves therein and/or its movement is limited therein, such that when pulling the trigger mechanism, at least one component of the firearm, e.g. a interrupter bar, trigger bar, etc. is moved therein, sliding over or into the coupling interface.

In a structurally simple design, the stop and/or guide can be formed by a recess and/or ridge in the backstrap. The stop and/or guide can also be fit, at least in part, to the shape of the at least one moving part. This improves guidance of the at least one moving part and/or ensures that there is a stop.

Because of the compact size, and the short distance between the barrel and hand rest, the stops (or limit stop), e.g. the trigger bar and/or interrupter, or interrupter bar, can be integrated in the upper part of the backstrap.

This results in a more compact design for the firearm.

The interior of the coupling interface, which can be designed as a locking element, can also form a stop for the firing mechanism, by accommodating the striker catch and/or sear.

The stop is used to stabilize and/or guide the at least one moving part. By way of example, the interrupter catch and/or trigger bar can be guided by this means inside the backstrap when firing a shot. The inside of the backstrap can also form a stop for the movement path of the interrupter catch and/or trigger bar. In a simple design, this can be a recess or ridge on the inside of the backstrap, in or on which the interrupter catch and/or trigger bar can be guided or inserted. This is also the case with striker catches and/or sears. In particular, striker catches and/or sears can be at least partially moved onto or into a ridge or recess in the backstrap. In a simple design, there can be a locking element that can be partially opened to accommodate striker catches and/or sears.

This reduces the space within the self-loading firearm, such that the back of the handle can be more compact.

The coupling interface preferably secures the backstrap to the firearm.

The backstrap preferably has an extension at the top in the form of a beaver tail.

By enlarging the bearing surface at the back of the backstrap, and thus the surface where a shooter's hand comes in contact, tilting of the firearm is reduced when firing shots, in particular with a self-loading firearm.

By combining the size of the backstrap with the additional integration of the beaver tail extension, the weapon can be adjusted even more effectively to the size of the hand, such that the firearm can be controlled more effectively when firing shots.

The backstrap can preferably be secured on the firearm with at least one other retaining element.

In a simple design, the securing element is a retaining pin or rod. This element can pass entirely or partially through the backstrap, at a right angle to the direction of firing, securing it to the handle of the firearm.

The backstrap preferably has at least one second coupling interface for attaching it to the firearm.

This coupling interface can be used to retain the backstrap. This allows a side edge, as well as upper and/or lower edge, or a rail, fin, or rail guide, of the backstrap to be slid onto the handle. There can be a rail on the edge of the backstrap, or on the inside, spaced apart from the edge.

The second coupling interface on the backstrap forms at least one receiving interface, in particular in the form of a profile on or in the inner surface of the backstrap.

The second coupling interface is also used to attach the backstrap to the handle of the firearm. There are ideal shapes for this coupling, which engage with complementary shapes on the handle to form a connection.

The outer shape of the backstrap can be complementary to shapes on the handle, such that it engages therewith, e.g. a hammer head, swallow tail, guide rail, etc.

The backstrap can also be coupled to the handle by a tongue-and-groove connection, and/or with a form and/or force-fitting connection.

The backstrap can be secured in place by a snap-on connection. This has the disadvantage that it makes it more difficult to remove the backstrap.

For this reason, the backstrap is attached with a cross-pin, specifically a retaining pin, a coil spring pin, a bolt, etc. The pin can preferably be snapped in place, but an annular groove can also engage with a spring-loaded element to hold it in place.

The backstrap can also be reinforced structurally with various elements such as fins, inserts, fiber reinforcement, chopped strand mats, etc. Webs can also be used to reinforce the backstrap.

The outer surface of the backstrap preferably has an anti-slip texture.

By way of example, there can be bumps, grooves, corrugations, etc. on the surface, making it easier to hold securely when wearing gloves.

In particular, this surface structure on the backstrap allows the firearm to be held securely in the hand.

The backstrap can have an ergonomic structure, or have ergonomic elements on it.

The backstrap can be of different sizes and shapes.

The firearm can have at least one coupling interface that is complementary to the backstrap.

In a simple design, there is a recess in the frame, the size and shape of which corresponds to the size and shape of the coupling interface on the backstrap.

Assembly simply involves coupling the two interfaces by placing or inserting the coupling interface on the backstrap in the complementary coupling interface on the firearm, e.g. the recess in the firearm, e.g. in the frame. The recess could also be formed in the backstrap, into which a ridge on the handle can be inserted.

The backstrap can extend entirely or partially over the sides of the handle. In this case, the backstrap also forms at least one side panel. These side panels can be an integral part of the backstrap.

The at least one side panel can also be a separate component, which can be attached to the handle of the firearm in the conventional manner.

The backstrap preferably has at least one separate side panel. If there are one or two separate side panels, the backstrap can also be used to secure or attach the side panels in that the backstrap is slid over the side panels, thus coupling it thereto, e.g. with a suitable connection, or a retaining or securing element, e.g. a retaining pin, coil spring pin, bolt etc. passing through both components.

If the side panels have no supporting function, they can be flexible, as long as they still remain on the handle. If necessary, they can also have a rigid substrate, with a soft outer surface.

Side panels further improve the ergonomics. By this means, the thickness of the plastic handle, both laterally and longitudinally, can be corrected or adjusted.

There can also be other formations on the sides of the handle, or the side panels, such as a thumb rest for right or left-handed shooters, or ridges etc. that make it easier for people with smaller hands to hold the firearm. This also makes it easier to maintain the curvature the fingers on the side panels, regardless of the size of the shooter's hand.

Description of the Drawings

Exemplary embodiments of the invention are explained in greater detail below in reference to the schematic drawings. Therein:

Fig. 1 shows a perspective illustration of a self-loading pistol that has a first embodiment of an interchangeable backstrap obtained with the invention thereon, seen at an angle from behind and to the left;

Fig. 2 shows a perspective illustration of a self-loading pistol with a second embodiment of an interchangeable backstrap obtained with the invention thereon, seen at an angle from behind and to the left;

Fig. 3 shows a perspective illustration of the self-loading pistol in Figs. 1 and 2, without the backstrap, seen at an angle from behind and to the right;

Figs. 4a, 4b show perspective illustrations of the interchangeable backstrap in Fig. 1, seen from the front and to the right;

Fig. 5 shows a perspective illustration of the self-loading pistol in Fig. 1 with the interchangeable backstrap obtained with the invention removed, seen at an angle from the back and to the left;

Fig. 6 shows a perspective illustration of the handle of the self-loading pistol in Figs. 1 and 5, with the interchangeable backstrap obtained with the invention thereon and the magazine removed, seen at an angle from the back and to the right;

Fig. 7 shows a perspective illustration of a frame for the handle on the self-loading pistol in Figs. 1 and 6, seen at an angle from the back and to the right;

Fig. 8 shows a perspective illustration of the frame for the handle in Fig. 7, seen at an angle from below and two the right;

Fig. 9 shows a longitudinal cut through the handle in Fig. 6, with the interchangeable backstrap obtained with the invention thereon and the magazine removed;

Fig. 10 shows an enlarged detail of the longitudinal cut through the handle in Fig. 6, in which the catches are in their inactive positions;

Figs. 11a, 11b show perspective illustrations of the detail from Fig. 10, seen from behind and to the left and right;

Fig. 12 shows an enlarged detail of the longitudinal cut through the handle in Fig. 6, in which the catches are at their end stops in the interchangeable backstrap;

Figs. 13a, 13b show perspective illustrations of the detail in Fig. 12, seen from behind and to the left and right;

Figs. 14a, 14b show perspective illustrations of Figs. 13a, 13b, supplemented with trigger bars and interrupter catches in their inactive positions;

Fig. 15 shows a perspective detail, in which the trigger bar and interrupter catch are in their end positions in the interchangeable backstrap, seen from the front and to the left; and

Fig. 16 shows a detail sectional view of the trigger bar and interrupter catch in Fig. 15, at their end positions in the interchangeable backstrap.

The design and function of the interchangeable backstrap obtained with the invention shall first be explained in reference to Figures 1 to 6.

The SFP9CC by the applicant is shown as an example of a self-loading firearm 1. Other elements of the SFP9 and how they work are explained in DE 10 2013 008 091 (loading element), DE 10 2013 022 082 (leash), DE 10 2013 010 969 (disassembly safety device), and DE 10 2013 022 080 (device for preventing tensioning of a striker spring during disassembly of a hammerless self-loading pistol with a slide), and shall not be explained herein.

The shooting and self-loading reloading sequence in a self-loading firearm can be explained simply as follows:

There is a breechblock assembly that moves longitudinally when firing a round, extracting a spent cartridge, and reloading. This breechblock assembly is a slide on the top of the handle in the drawings. When firing a round, the breechblock assembly retrieves a cartridge from the magazine in the conventional manner, and guides it into the chamber. When the trigger is pulled, a firing pin strikes the base of the cartridge, igniting the propellent, such that a projectile is fired out of the shell casing through the barrel.

The shot results in a rearward movement of the breechblock. An extractor grips the edge of the shell casing at the base and removes it from the chamber as the breechblock moves rearward. An ejector then ejects the shell casing through an opening in the receiver. As the breechblock returns, it slides over the magazine toward the back.

To reload, the tops of the front and back sides of the magazine are lowered somewhat. The side walls of the magazine extend upward and have lips that prevent cartridges from falling out of the top of the magazine. A spring in the magazine pushes the cartridge loader inside

the magazine upward, thus pushing the cartridge upward. The breechblock can then remove it from the magazine and chamber the round.

As the breechblock subsequently slides forward, it pushes the uppermost cartridge out of the magazine and into the chamber, at which point the cycle is repeated when firing another round in the single-shot mode after pulling the trigger again, or automatically in the continuous firing mode.

After the last cartridge has been shot, the magazine is removed or allowed to fall out of the weapon, and a new magazine is inserted.

Figure 1 shows a perspective illustration of a self-loading pistol 1. The self-loading pistol 1 has a handle 3 and slide 5 that encompasses a barrel, not shown. The handle 3 has an interchangeable backstrap 7 obtained with the invention on the back, which extends rearwards with a beaver tail 9. At the front of the bottom of the backstrap 7, it is secured on the handle 3 by a retaining pin 10, in particular a spiral retaining pin, inserted at a right angle to the direction in which a shot is fired.

At the front of the bottom of the handle 3, there is a trigger guard 11 for a trigger or trigger blade 13. When a safety 14 is released, a trigger mechanism (not shown) is actuated by the trigger 13, at which point one or more shots are fired. The bottom of a magazine 15 is shown at the bottom of the handle 3. The magazine 15 is retained in the handle 3 by a magazine retainer 15, which can be released to remove the magazine from the handle.

The design and functioning of other weapon elements, e.g. the breechblock catch lever 17, disassembly lever 19, cartridge ejector 21, sight notch 23, front sight 25, loading element 27, etc. are known *per se*, described in the aforementioned documents, or above, and shall not be explained in greater detail herein.

Figure 2 shows another design for the interchangeable backstrap 7 obtained with the invention, which differs from that in Figure 1 in that it does not have a beaver tail at the top, and is therefore shorter.

Figure 3 shows the handle 3 in Figures 1 and 2, without the backstrap or slide, in a perspective view from the back and to the right. In the middle of the back there is a projection at the bottom, or a lug 30, slanted slightly downward at the top. There is a hole 29 in the projection 30 at a right angle to the bore, for a retaining pin 10 (see Figs. 1, 2, 5 and 6). There are two pairs of rail guides or receivers 31a, b above the projection 30, that extend over the back of the handle 3 to its top. There are two recesses 33a, b between lower rail guides or receivers 31a, b and the upper guides or receivers 31a, b.

There is a groove 37 between the rail guides or receivers 31a, b, extending over the length of the back of the handle. There is another hole 35 above the groove 37 for another retaining pin for the interchangeable backstrap 7.

There is a frame 39 encompassing the top of the handle 3. The breechblock catch lever 17 is on the right side of the frame 39, as well as a release cylinder 20 at a right angle to the bore, for disassembling the pistole 1. A sear 55, striker catch 57, trigger bar 59, and interrupter bar 61, which are basically parallel to the bore, are contained in the frame 39.

The sear 55 holds the bolt (not shown) in place when the slide 5 moves forward on the hammerless self-loading pistol, and when the slide 5 continues forward, the striker spring (not shown) is compressed. When the sear is released by pulling the trigger to remove the slide, a shot is fired inadvertently when disassembling the weapon.

The striker catch 57 releases the striker when pulling the trigger.

The trigger bar 59 is coupled to the trigger 13 and is designed to transfer force to the striker catch 57 when pulling the trigger 13.

The slide 7 pushes against the interrupter bar 61 when it moves rearward, pivoting it downward to interrupt firing in the semi-automatic mode.

The interaction of these elements is known *per se*, and described in detail in the aforementioned DE 10 2013 022 080.

Figures 4a and 4b show two perspective illustrations of the interchangeable backstrap 7 in Fig. 2, at an angle from the front. Figure 5 shows how the interchangeable backstrap 7 is placed on the self-loading pistol. The size and shape of the backstrap 7 may differ, such that it can be selected on the basis of the shooter's hand size for an optimal fit.

The backstrap has mounting elements 46a, b on the inside, facing the handle 3 (see Fig. 5) on both sides at the bottom, each of which has a hole running through it. Figures 4a, b only show the hole 44 in the mounting element 46b, which then continues through the mounting element 46b. The holes 44 are at a right angle to the direction of firing, and accommodate the retaining pin 10 (see Figs. 1 and 2) for securing the backstrap 7 in place. The mounting elements 46a, b are tapered at the top, thus forming a recess between them. Opposing lower rails 43a, b are formed on both sides thereof. There is a recess 42 next to the lower rails 43a, b, which is basically as long as the lower rails 43a, b. There are opposing upper rails 41a, b on both sides of the recess 42. There is another recess 40 adjacent thereto, extending upward toward the upper back end of the backstrap 7.

The upper back end of the backstrap 7 extends at basically 90° to the rear, and is complementary to the lower surface of the handle 3. There is a locking element 45 on the upper side of the upper back end of the backstrap 7. This extends upward and is partially open toward the right. The locking element 45 encompasses a hollow space 48, the inner back and side walls of which form a stop 47 for the sear 55, a stop 49 for the striker catch 47, a stop 51 for the trigger bar 59, and a stop 53 for the interrupter bar 61. The stops 51 and 53 are formed by recesses next to the locking element 54.

To attach the backstrap 7, it is placed on the handle 3 from the back (see Fig. 5). The shooter places the backstrap 7 such that the upper rails 41a, b are opposite the recesses 33a, b, and the lower rails 43a, b are opposite the projection 39. The lower rails 43a, b can then be slid under the lower guides 31a, b, and the upper rails 41a, b can be slid under the upper guides 31a, b, such that the lower rails engage with the lower guides 31a, b, and the upper rails 41a, b engage with the upper guides 31a, b.

The backstrap 7 can be slid onto the back of the handle 3 until it reaches the upper back end of the handle 3. At this point, the locking element 46 engages with a complementary recess

67 therein (see Figs. 8 and 9) where it is entirely within the recess 67, and the inner surface of the backstrap 7 bears entirely on the frame and handle 3 (see Figs. 6, 8, and 9).

Fig. 6 shows the backstrap 7 on the handle 3, without the slide 6, at an angle from the back and to the right from above. The elements described in reference to Figure 3 are inside the frame. The lower retaining pin 10 is shown, while the retaining pin in the upper hole 35 (see Fig. 3) is hidden by the sides of the backstrap 7.

Figures 7 and 8 show two perspective illustrations of the frame 39 for the handle 3 on the self-loading pistol 1 in Figures 1 and 2, at an angle from the back and to the right (Fig. 7), and at an angle from below and to the right (Fig. 8). The trigger bar is coupled to the trigger 13 at its lower front end by a trigger bar pivot pin 60. When the shooter pulls the trigger 13 after releasing the safety 14, the trigger bar 59 is pushed back and up.

The magazine slot 65 is also shown in Figure 8, into which the magazine 15 can be placed from below. The hole 35 for securing the backstrap 7 at its upper end is formed in a projection 36 extending rearward at the back of the magazine slot 65. A coil spring 63 bears on the top of the projection 36, which pushes the sear 55 upward, where it holds the striker (not shown) in place.

Figure 9 shows a longitudinal cut through the handle 3 in Figure 6, with the interchangeable backstrap 7 obtained with the invention attached thereto, without a magazine or slide. This shows how the backstrap 7 bears on the frame 39. The frame 39 therefore acts as a reinforcement.

Figure 10 shows an enlarged detail of the longitudinal cut through the handle 3 in Figure 6, in which the sear 55 and striker catch 67 are in their inactive positions. In this position, the back of the sear 55 extends upward, over the frame 39. A lug 75 holds the striker (not shown) in place, such that the striker spring (not show) is compressed when the slide 3 is moved forward.

The following elements are involved in firing a round: trigger 13, trigger safety 14, trigger bar 59 coupled to the trigger 13, sear 55, striker, and slide 5. The design of these components and how they interact shall be explained below in reference to Figures 7 and 9 through 16.

The trigger 13 can pivot about its pivot pin, and held in its inactive position, as shown in Figure 7, by a spring (not shown).

The trigger bar 59 is coupled at its front end to the trigger 13 by a pivot pin 60, that passes through the trigger 5 at a right angle to the direction of firing. This trigger bar 59 is spring-loaded in the handle 3, such that it can move vertically therein. There is a lower tab 81 at the back end of the trigger bar 59, that is bent toward the right, and an upper tab 83 on the upper end, bent toward the left.

The striker catch 57 is on the left side of the back end of the trigger bar 59, and can pivot about a pivot pin 73 in the handle 3 that is at a right angle to the direction of firing. This pivot pin 73 can be placed in a supplementary wall element in the handle 3 in the conventional manner, and is not shown herein. The striker catch 57 is bent to the left at its lower back end, such that it can engage with the sear 55, and has a lug 85 on its upper back end that extends toward the upper tab 83 on the trigger bar 59.

The sear 55 can pivot about a pivot pin 71 in the handle 3 at the back end of the trigger bar 59, parallel thereto, on the left side of the upper lug 85 on the striker catch 57, below the striker (not shown). A lug 75 extends rearward on the back end of the sear 55. A basically rectangular recess 79 is formed below this lug 75, which is bordered at the bottom by a hook-like end of the sear 55. The striker catch 57 engages with its lug 77 in the recess 79. There is also a spring acting as a return spring 63 on the bottom of the sear 19, near the middle (see Figs 8 to 14), which supports the sear 55 from below in the handle 32. The sear 55 can pivot about a pivot pin 71 at the front end that is at a right angle to the bore of the pistol 1.

As described above, the lug 75 on the sear 55 extends into the movement path of the striker in the inactive position, and holds it in place when loading the pistol 1, such that the pistol is loaded when the slide is pushed forward.

When firing, a shooter pulls the trigger 13 counter to the spring force of the trigger spring 12 (see Fig. 9) toward the rear. The trigger 13 draws the trigger bar 59 coupled thereto by the trigger bar pivot pin 60 rearward. This moves the front end of the trigger bar 59 upward toward the rear along a circular path about the pivot pin 60.

In Figures 15 and 16, the back end of the trigger bar 59 has been pushed back and down in comparison to Figures 14a, b. This moves the lower tab 81 on the trigger bar 59 out of a recess 24 in the interrupter bar 21, thus moving the back end of the trigger bar 59 downward. At this point, the end of the trigger bar 59 engages with the stop 51 next to the locking element 45. The same occurs with the end of the interrupter bar 61, which is engaged with the stop 53 next to the locking element 45.

The stops 51 and 53 form depressions next to the locking element in which the ends of the trigger bar 59 and interrupter bar 61 are moved rearward when the trigger mechanism moves, thus having a dual function, as a both a guide and a stop.

The back of the upper tab 83 on the trigger bar 59 acts on the lug 85 on the striker catch 57, such that it pivots along a circular path about its bearing pin 73 toward the rear and downward. The striker catch 57 pivots the sear 55 about the bearing pin 71 toward the rear and downward, against the force of the return spring 63. The striker catch 57 is then at its end position, and bears on the stop 49 on the inner wall of the locking element 45. The sear 55 is also at its end position, bearing on the stop 47 on the inner wall of the locking element 45.

The lug 75 releases the striker at this point, allowing it to move forward to fire a shot. At the end of its movement path, the striker hits the base of a cartridge, not shown, in the chamber, and ignites the propellant in the conventional manner.

Other designs of the invention can be derived by the person skilled in the art from the dependent claims and the drawings.

Claims

1. An interchangeable backstrap (7) for a firearm (1), characterized in that the backstrap (7) has at least one coupling interface (45) for a moving part (55, 57, 59, 61) of the weapon, specifically the trigger mechanism.

2. The interchangeable backstrap (7) according to claim 1, wherein the coupling interface (45) forms a locking element and/or securing element.

3. The interchangeable backstrap (7) according to claim 1 or 2, wherein the coupling interface (3) forms a stop (47, 49, 51, 53) and/or guide (47, 49, 51, 53) for the at least one moving part (55, 57, 59, 61) of the weapon.

4. The interchangeable backstrap (7) according to any of the preceding claims, wherein the coupling interface (45) is used to attach the backstrap (1) to the firearm (1).

5. The interchangeable backstrap (7) according to any of the preceding claims, wherein the backstrap (7) has an extension in the form of a beaver tail (9).

6. The interchangeable backstrap (7) according to any of the preceding claims, wherein the backstrap (7) can be secured to the firearm (1) by at least one additional element (10).

7. The interchangeable backstrap (7) according to any of the preceding claims, wherein the backstrap (7) has at least one second coupling interface for attaching the backstrap (7) to the firearm (1).

8. The interchangeable backstrap (7) according to claim 7, wherein the second coupling interface forms at least one receiving interface, in particular a profile on/in the inside surface of the backstrap (7).

9. The interchangeable backstrap (7) according to any of the preceding claims, wherein the backstrap (7) has an anti-slip surface on the outside.

10. The interchangeable backstrap (7) according to any of the preceding claims, wherein the outer surface of the backstrap (7) is ergonomic and/or has ergonomic elements.

11. The interchangeable backstrap (7) according to any of the preceding claims, wherein the backstrap (7) can be of different sizes.

12. The interchangeable backstrap (7) according to any of the preceding claims, wherein the backstrap (7) also has at least one side panel.

13. A firearm (1) that has at least one interchangeable backstrap (7) according to any of the preceding claims.

14. The firearm (1) according to claim 13, which has at least one coupling interface (67) that is complementary to the interchangeable backstrap (7).

15. A set comprising at least one firearm (1) according to claim 13 or 14, and at least one interchangeable backstrap (7) according to any of the claims 1 to 12, or at least two backstraps (7) according to any of the claims 1 to 12.