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(54) **MODIFIED TRIGGER ASSEMBLY AND METHOD FOR ACTUATING A REPEATED SHOT**

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(52) **U.S. Cl.**
CPC ***F41A 19/30*** (2013.01); ***F41A 17/72*** (2013.01); ***F41A 19/06*** (2013.01)

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CPC F41A 19/10; F41A 19/16
USPC 42/69.01, 41, 132, 136
See application file for complete search history.

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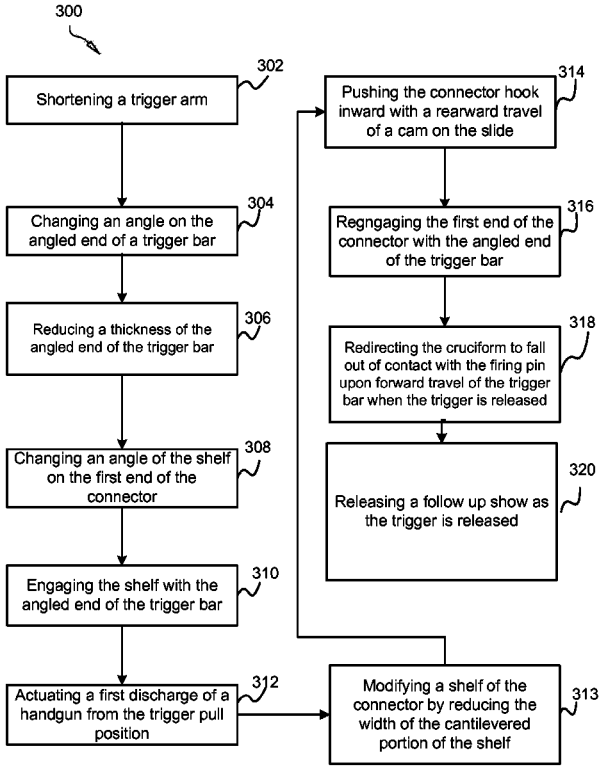
(57) **ABSTRACT**

A modified trigger assembly for a handgun has a shortened trigger bar with an angled end that engages a connector to form a gap that reduces potential energy between the trigger bar and the connector, such that the connector is inhibited from disengaging from the trigger bar when the trigger is pulled or released. A gap forms between an angled end of the trigger bar and a first end of the connector. The gap and the shortened length of the trigger bar reduce potential energy forces that could disengage the connector from the trigger bar. By remaining engaged with the trigger bar, the connector is prevented from resetting to a natural position; and consequently, the handgun can discharge from both a trigger pull position and a trigger release position. Consequently, a repeated shot occurs when releasing the trigger after a natural triggering movement of pulling a trigger.

10 Claims, 5 Drawing Sheets



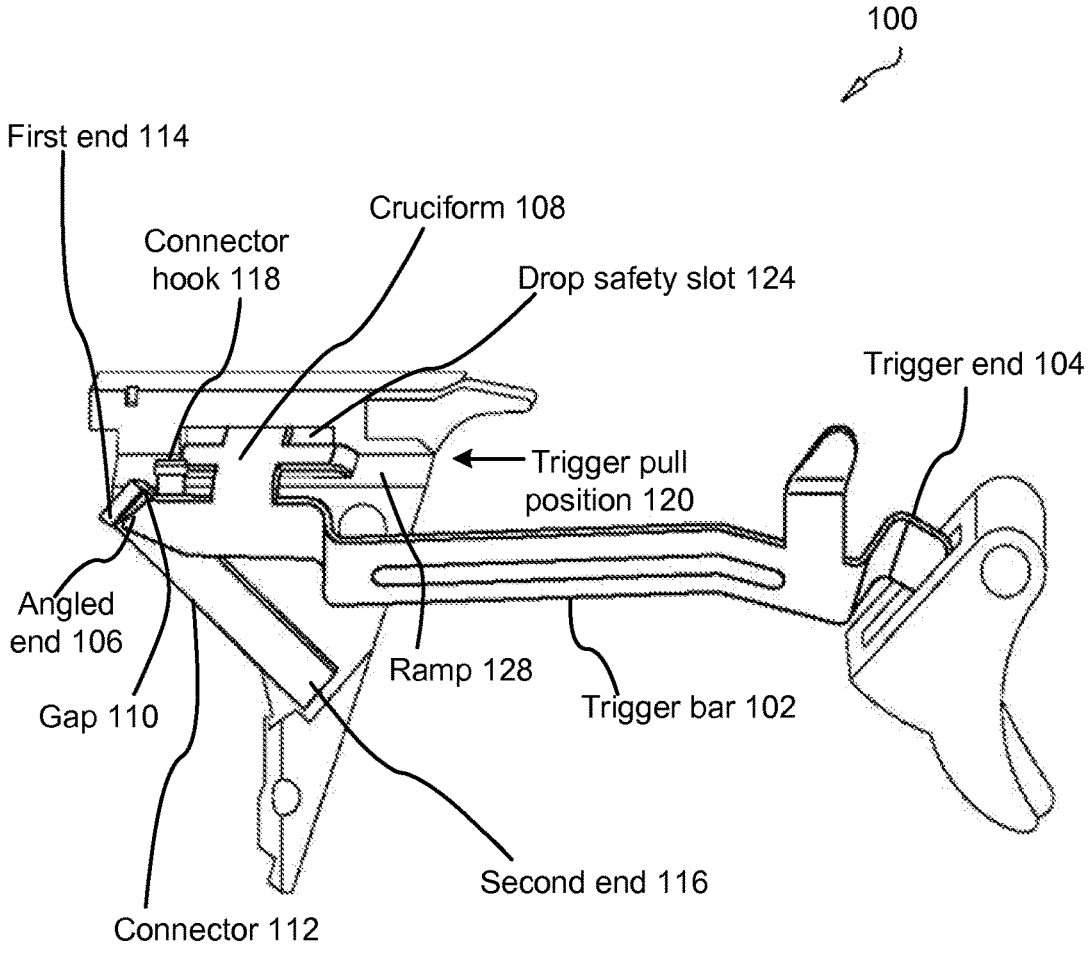

100
First end 114
Cruciform 108
Connector hook 118
Drop safety slot 124
Trigger end 104
Trigger pull position 120
Angled end 106
Ramp 128
Trigger bar 102
Gap 110
Second end 116
Connector 112

FIG. 1A

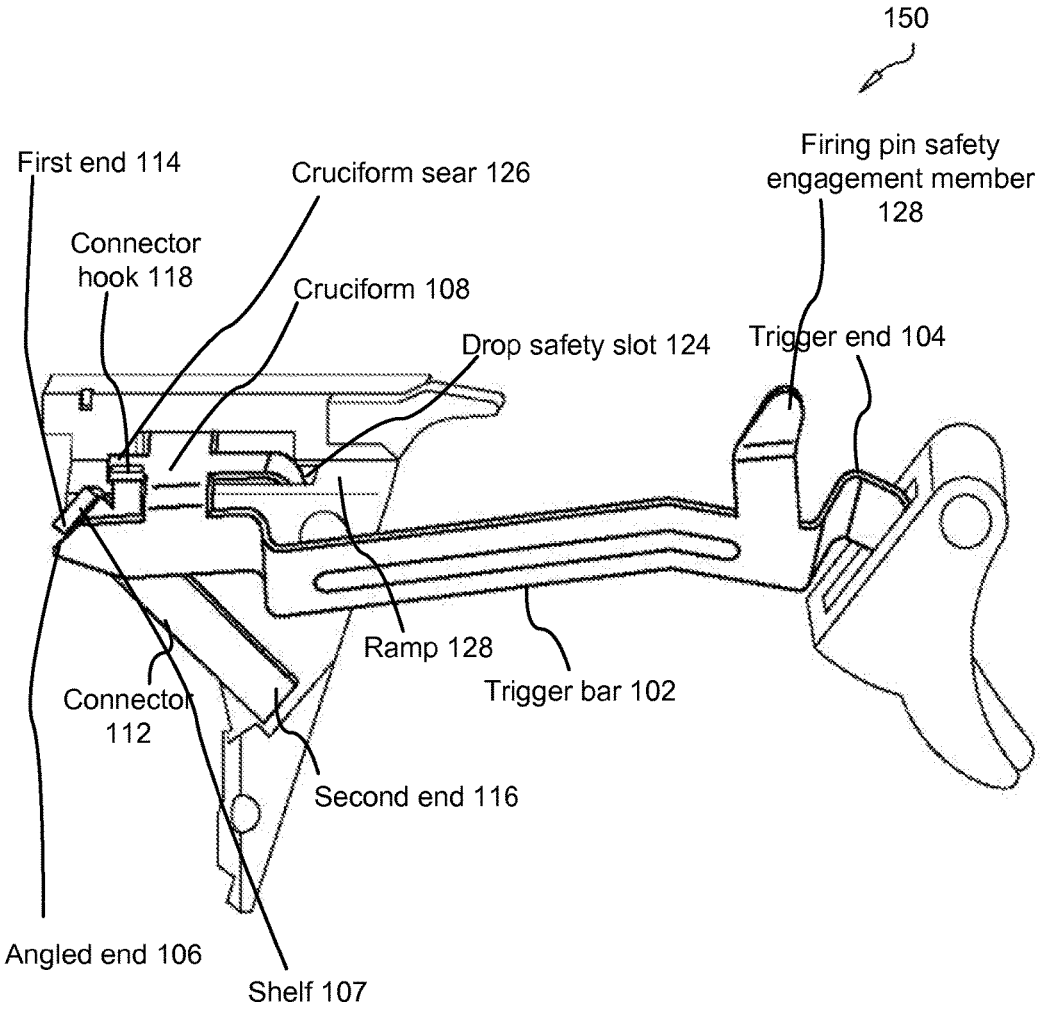

150
First end 114
Cruciform sear 126
Firing pin safety engagement member 128
Connector hook 118
Cruciform 108
Drop safety slot 124
Trigger end 104
Ramp 128
Trigger bar 102
Connector 112
Second end 116
Angled end 106
Shelf 107

FIG. 1B

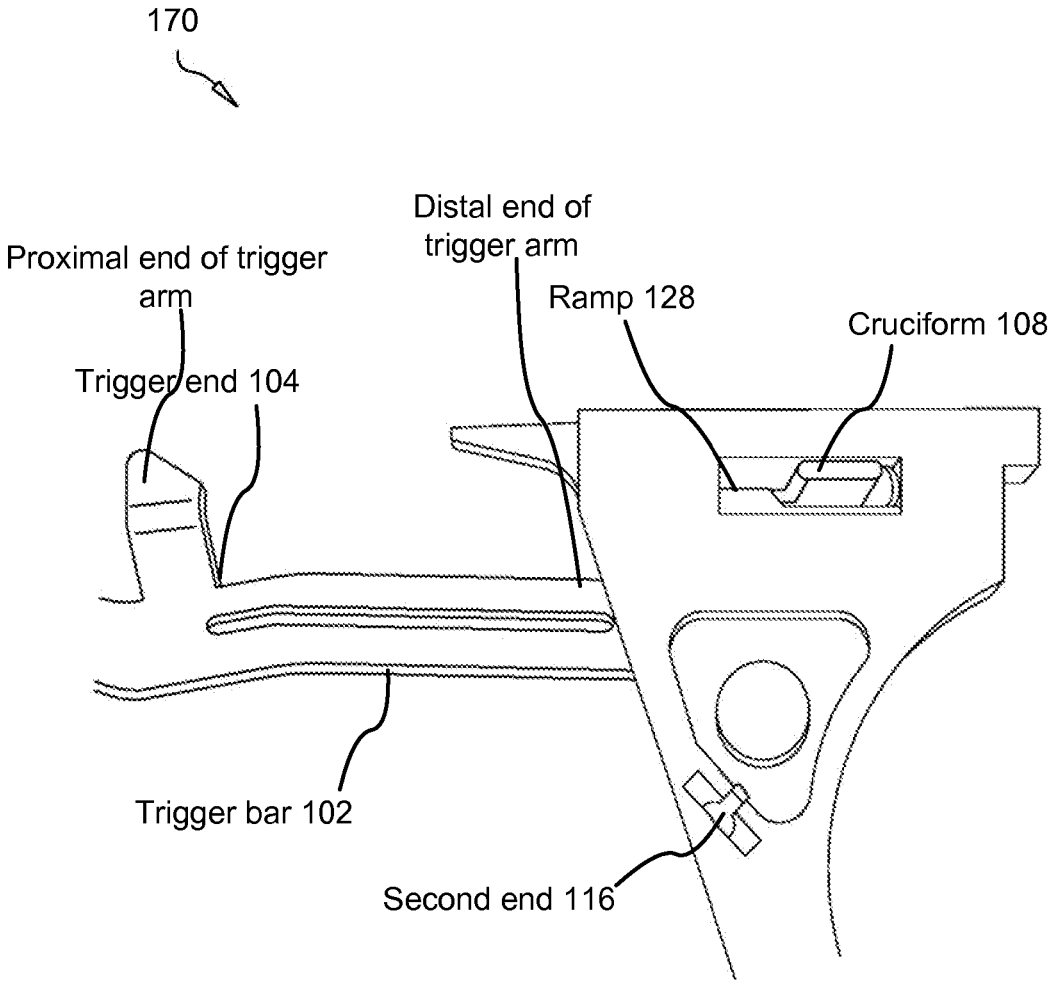

170
Distal end of trigger arm
Proximal end of trigger arm
Ramp 128
Cruciform 108
Trigger end 104
Trigger bar 102
Second end 116

FIG. 1C

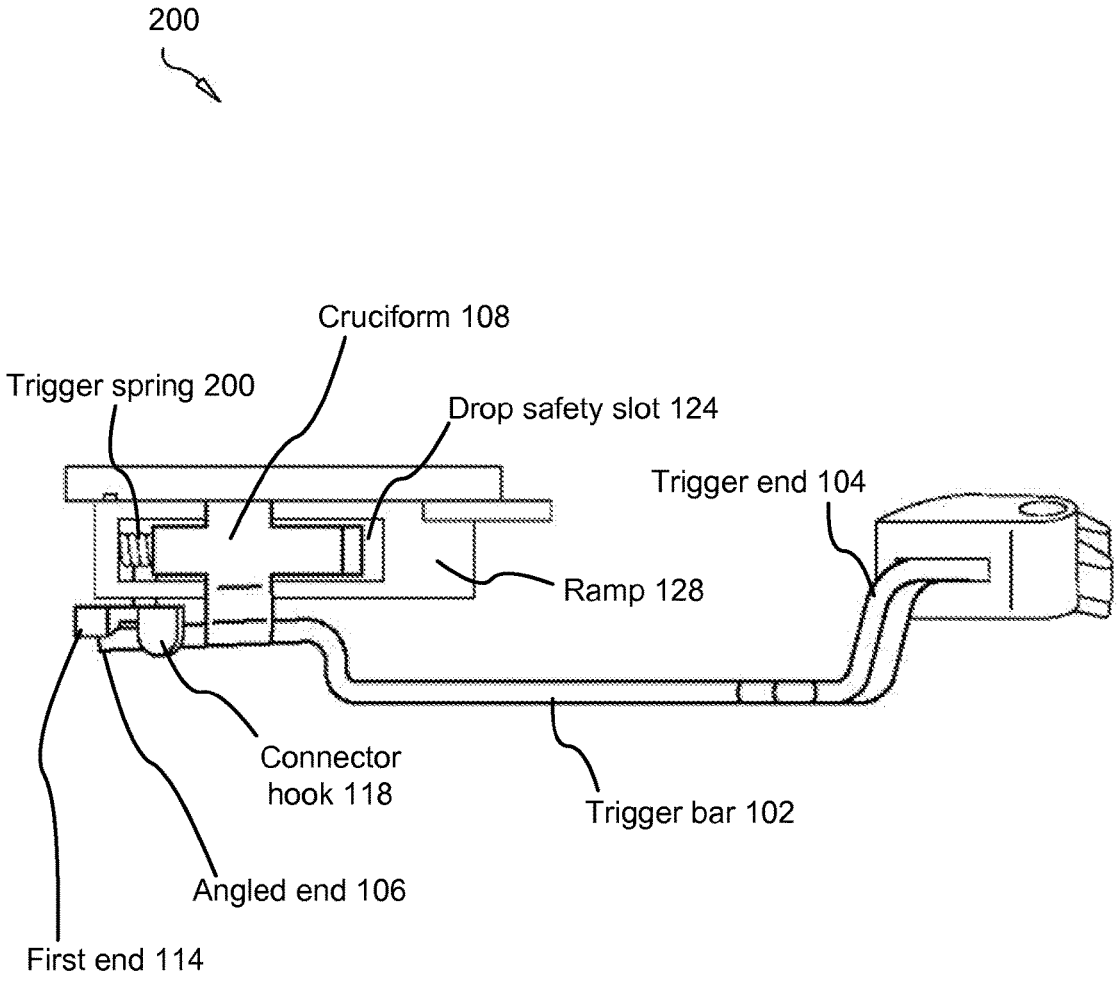

200
Cruciform 108
Trigger spring 200
Drop safety slot 124
Trigger end 104
Ramp 128
Connector hook 118
Trigger bar 102
Angled end 106
First end 114

FIG. 2

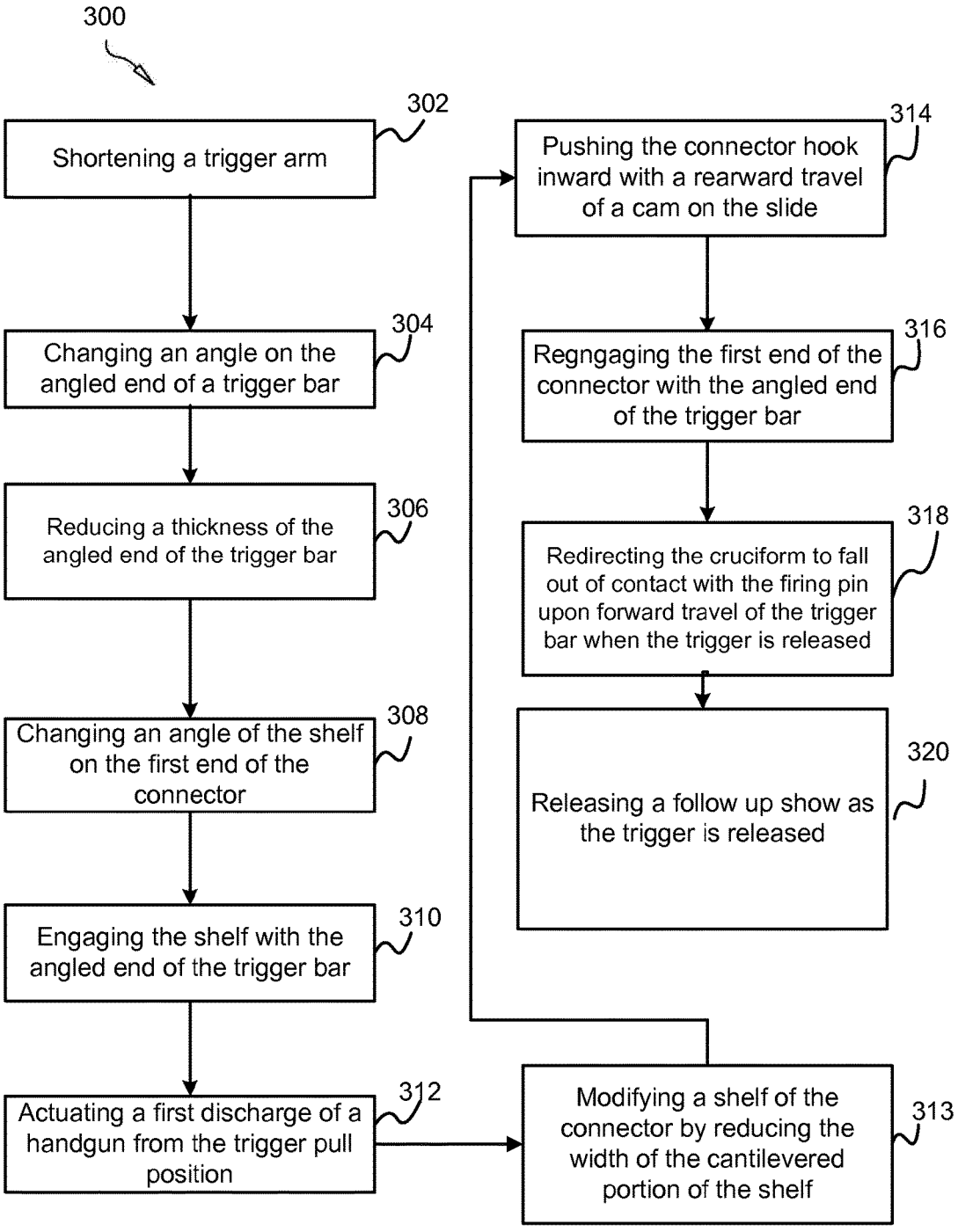

300
302
Shortening a trigger arm
304
Changing an angle on the angled end of a trigger bar
306
Reducing a thickness of the angled end of the trigger bar
308
Changing an angle of the shelf on the first end of the connector
310
Engaging the shelf with the angled end of the trigger bar
312
Actuating a first discharge of a handgun from the trigger pull position
313
Modifying a shelf of the connector by reducing the width of the cantilevered portion of the shelf
314
Pushing the connector hook inward with a rearward travel of a cam on the slide
316
Regngaging the first end of the connector with the angled end of the trigger bar
318
Redirecting the cruciform to fall out of contact with the firing pin upon forward travel of the trigger bar when the trigger is released
320
Releasing a follow up show as the trigger is released

FIG. 3

MODIFIED TRIGGER ASSEMBLY AND METHOD FOR ACTUATING A REPEATED SHOT

FIELD OF THE INVENTION

This invention relates to a modified trigger assembly that actuates faster follow up shot when a trigger is pulled and released, and more particularly relates to a modified trigger assembly for a handgun that has a shortened trigger bar with an angled end that engages a connector to form a gap that reduces potential energy between the trigger bar and the connector.

BACKGROUND

Description of the Related Art

The following background information may present examples of specific aspects of the prior art (e.g., without limitation, approaches, facts, or common wisdom) that, while expected to be helpful to further educate the reader as to additional aspects of the prior art, is not to be construed as limiting the present invention, or any embodiments thereof, to anything stated or implied therein or inferred thereupon.

A handgun is a firearm designed to be handheld, in either one or both hands. Major handgun subtypes are the revolver and pistol; other subtypes include derringers, single-shot pistols, semi-automatic pistols, pepperboxes, and machine pistols. Typically, a semi-automatic handgun discharges repetitively by using the energy of one shot to reload the chamber for the next. Typically recoil energy from a fired round is mechanically harnessed; however, pistols chambered for more powerful cartridges may be gas operated. After a round is fired, the pistol will cycle, ejecting the spent casing and chambering a new round from the magazine, allowing another shot to take place.

It is well known that a Glock® handgun utilizes a safe action mechanism that is neither a single nor double action. The Glock® is never cocked in terms of a hammer being cocked. The partly tensioned firing pin lock is released by pressing the trigger. Typically, the Glock® incorporates a design with three levels of integrated safety, known as safe action. First, an integrated trigger latch prevents the trigger body from moving unless the trigger is depressed (e.g. positively squeezed). Second, the handgun's striker-firing mechanism is locked in place by a trigger bar linked to the trigger; the striker cannot move unless the trigger is depressed. Third, as with most handguns, a firing pin block actuated by the same trigger bar prevents the pin coming into contact with the primer unless the trigger is pulled to clear the block.

In the known art, one end of the trigger bar that engages a connector at a predetermined surface and angle off vertical. This flat surface generates a strong potential energy when pressed against the connector, which causes the connector to disengage from the trigger bar at a certain point of engagement, such as when the trigger is depressed. The disengagement of the connector results in the inability of the trigger to release the sear where further discharge is not possible until the connector resets and the trigger is depressed again. Consequently, the connector prevents the handgun from firing until the handgun has not only been fully and completely cycled, but the trigger is released and depressed again, allowing the connector to reset with the trigger bar.

In view of the foregoing, it is clear that these traditional trigger assemblies are not perfect and leave room for more optimal approaches to a modified trigger assembly for a handgun that has a shortened trigger bar with an angled end that slidably engages a connector at a reduced potential energy, such that the connector maintains contact with the trigger bar to operatively release a striker for discharging one round from the handgun when the trigger is pulled or released.

SUMMARY

From the foregoing discussion, it should be apparent that a need exists for a modified trigger assembly for a handgun for actuating a faster follow up shot. The present invention has been developed in response to the present state of the art; and, in particular, in response to the problems and needs in the art that have not yet been fully solved by currently available methods and apparati, and that overcomes many or all of the above-discussed shortcomings in the art. Accordingly, the present invention has been developed to provide a modified trigger assembly for actuating a faster follow up shot.

A modified trigger assembly for actuating a repeated shot with a firearm is provided, the assembly comprising: a connector modified to reset faster, the connector comprising: a first end and a second end, the first end comprising a connector hook and a shelf **107**, wherein a height of the shelf **107** is reduced, wherein the shelf **107** is angled to more quickly position the trigger bar for reengagement with the connector; a trigger bar configured to slide into engagement with the first end of the connector, the trigger bar comprising: an angled end and a trigger end, wherein a thickness of the angled end is reduced; wherein a curvature of the angled end which engages the connector is reduced; wherein the modified trigger assembly is configured to actuate a repeated shot of the firearm when a trigger is released.

The assembly may further comprise a cruciform comprising: angled a portion of the cruciform which engages a firing pin, and bending upward the portion of the cruciform which engages the firing pin.

The trigger bar may be configured to reciprocate axially between the trigger pull position and the trigger release position. The assembly may further comprise a trigger spring configured to generate a spring tension for biasing the trigger bar rearward. The angled end may comprise an angle of between 0 and 90 degrees.

The connector hook may be configured to press inward on the connector for disengaging the connector from the trigger bar changing the release time. The releasing of the striker may free a firing pin to drive forward into a primer for discharge of the handgun.

A method for modifying trigger assembly to actuate repeated shots is provided, the method comprising: modifying a trigger bar by changing an angle of an angled end of the trigger bar to engage a connector to reduce a force required to drop a cruciform out of contact with a firing pin lobe; reducing a thickness of the angled end of the trigger bar; engaging a first end of the connector with the angled end of the trigger bar; actuating a first discharge of a handgun with a rearward depression of the trigger to complete interaction of the trigger bar with the connector such that the cruciform disengages a firing pin lobe such that a striker strikes a primer of a bullet.

The method may further comprise modifying a shelf **107** of the connector by reducing a width of a cantilevered portion of the shelf **107**. The method may further comprise

modifying a shelf **107** of the connector by reducing a height of a cantilevered portion of the shelf **107**.

The method may further comprise bending upward a portion of the cruciform which engages the firing pin lobe.

The method, in some embodiments, further comprises angling the portion of the cruciform which engages the firing pin lobe to facilitate more rapid disengagement of the cruciform and the firing pin lobe. The modified trigger assembly may be configured to actuate a faster follow up shot of the handgun. The angled end may comprise an angle of about 40 degrees above horizontal.

Reference throughout this specification to features, advantages, or similar language does not imply that all of the features and advantages that may be realized with the present invention should be or are in any single embodiment of the invention. Rather, language referring to the features and advantages is understood to mean that a specific feature, advantage, or characteristic described in connection with an embodiment is included in at least one embodiment of the present invention. Thus, discussion of the features and advantages, and similar language, throughout this specification may, but do not necessarily, refer to the same embodiment.

Furthermore, the described features, advantages, and characteristics of the invention may be combined in any suitable manner in one or more embodiments. One skilled in the relevant art will recognize that the invention may be practiced without one or more of the specific features or advantages of a particular embodiment. In other instances, additional features and advantages may be recognized in certain embodiments that may not be present in all embodiments of the invention.

These features and advantages of the present invention will become more fully apparent from the following description and appended claims, or may be learned by the practice of the invention as set forth hereinafter.

BRIEF DESCRIPTION OF THE DRAWINGS

In order that the advantages of the invention will be readily understood, a more particular description of the invention briefly described above will be rendered by reference to specific embodiments that are illustrated in the appended drawings. Understanding that these drawings depict only typical embodiments of the invention and are not therefore to be considered to be limiting of its scope, the invention will be described and explained with additional specificity and detail through the use of the accompanying drawings, in which:

FIGS. **1**A, **1**B, and **1**C are perspective side views illustrating an exemplary modified trigger assembly, where FIG. **1**A shows a trigger pull position from a right side, and FIG. **1**B shows a trigger release position from a right side, and FIG. **1**C shows the modified trigger assembly from a left side, in accordance with the present invention;

FIG. **2** is a top perspective view of the modified trigger assembly, in accordance with the present invention; and

FIG. **3** is a flowchart diagram of an exemplary method for discharging a modified trigger assembly, in accordance with the present invention.

DETAILED DESCRIPTION

Reference throughout this specification to "one embodiment," "an embodiment," or similar language means that a particular feature, structure, or characteristic described in connection with the embodiment is included in at least one embodiment of the present invention. Thus, appearances of the phrases "in one embodiment," "in an embodiment," and similar language throughout this specification may, but do not necessarily, all refer to the same embodiment.

Furthermore, the described features, structures, or characteristics of the invention may be combined in any suitable manner in one or more embodiments. One skilled in the relevant art will recognize that the invention may be practiced without one or more of the specific details, or with other methods, components, materials, and so forth. In other instances, well-known structures, materials, or operations are not shown or described in detail to avoid obscuring aspects of the invention.

It is the object of the present invention to provide a weapon which comports with present governmental requirements that a firearm discharge only one round with "a single function of the trigger." 26 U.S.C. § 5845(b). The present invention provides for a firearm which discharges one round when the trigger is depressed with movement of the finger, and another round when the trigger is released with a subsequent movement of the finger.

FIGS. **1**A and **1**B show a right upper perspective views of a modified trigger assembly. FIG. **1**C show a left lower perspective view of an exemplary modified trigger assembly **100** with components. The modified trigger assembly **100** comprises a trigger bar **102** having an angled end **106**, a trigger end **104**, a cruciform **108**, a connector **112** having a first end **114** and a second end **116** and a connector hook **118**.

Semiautomatic pistols comprise a slide which travels rearward when a shot is actuated or discharged. This slide comprises a slide cam hump, which pushed the connector hook **118** inward as the slide travels.

The modified trigger assembly **100** comprises a trigger bar **102** (also called a "trigger arm") with an angled end **106** (also called a "first end") that engages a connector **112**. A gap **110** forms between the angled end **106** of the trigger bar **102** and a first end **114** of the connector **112**.

The cruciform **108** is affixed to the trigger bar **102**. When the trigger is pulled (or depressed rearward), the trigger bar **102** engages the connector **112** and the cruciform **108** slides the striker/firing pin rearward before dropping away and allowing the firing pin to strike and detonate the primer of a bullet, resulting in firing of the weapon.

The trigger bar **102** further comprises an angled end **106** that is responsive to the action on the trigger end **104**. The angled end **106** is beveled at a predetermined slope and polished to slidably engage a first end **114** of a connector **112**. The angled end **106** slides down the first end **114**, which forms a gap (i.e. clearance) **110**. The clearance **110** forms between the angled end **106** and the first end **114** due to the angle formed at the angled end **106**, and the shortened length of the trigger bar **102**. In one embodiment, the angled end **106** may have an angle of about 40°. In other embodiments, the angled end **106** form an angle of 0 to 90 degrees off horizontal. The trigger bar **102** may have a length of about 2.286 inches until the angled end. In other embodiments, the length may vary from 0.1 inches to six inches or more off horizontal. However in other embodiments, other angles and lengths that form a sufficient gap **110** may be used.

The angled end **106** slidably engages the first end **114** at a downward angle, laterally and downwardly displacing the trigger bar and cruciform. This lateral displacement of the connector **112**.

The drop safety slot **124** is configured to prevent the cruciform **108** from dropping out of engagement with the firing pin lobe unless the trigger has been depressed sufficiently rearward. The cruciform **108** slopes up along a ramp

to conform to the shape of the drop safety slot **124**, securing the connection of the cruciform and the firing pin lobe.

In some embodiments, the ramp **128** can be modified to extend further so that the cruciform **108** can slide in and out of the drop safety slot **124** more efficiently. However in other embodiments, the cruciform **108** could be extended to better engage the drop safety slot **124**. It is significant to note that the cruciform **108** can be wider than the ramp **128** in some embodiments. This wider formation enables the cruciform **108** to remain engaged with the ramp **128** for a longer duration before falling into the drop safety slot **124**.

In some embodiments, the connector **112** comprises a generally flat bar that orients at an angle relative to the trigger bar **102**. The connector **112** comprises a first end **114** and a second end **116**. The first end **114** comprises a cantilevered flange or shelf **107** that extends perpendicularly from the connector **112**. It is the shelf **107** that directly engages the angled end **106** at a predetermined angle. In various embodiments, the outer surface of the shelf **107** may be angled inward. The angled end **106** of the trigger bar **102** may be angled inward. These angled ends of the trigger bar **102** and the shelf **107** change the degree of friction between the trigger bar **102** and the shelf **107** necessary to force the trigger bar **102** downward when the trigger is depressed.

The first end **114** engages the angled end **106** from both the trigger pull position **120** and the trigger release position **122**. Due partially to the determined length of the trigger bar **102** (and/or reformed angles of the angled end of the trigger bar **102**); the connector **112** is from disengaging from the angled end **106** of the trigger bar **102**. A faster follow up shot of a handgun is possible through one natural discharge movement by pulling the trigger bar **102**; and, at the operator's discretion, releasing the trigger bar **102** allowing a follow up shot.

The follow up shot is allowed when a reset of the connector and trigger bar is effectuated due to the redesign of the connector **112** and the trigger bar's **102** interaction along with the assistance of the trigger spring, thus discharging the next round sitting in the chamber.

The trigger assembly **100** comprises modified trigger assembly components modified in such a way that the firearm fires a round both when the trigger is depressed and when the trigger is released.

The portion of the cruciform **108** which engages the striker or firing pin, in some embodiments, is modified by being bent upward and the thickness of this engaging portion of the cruciform **108** is increased or decreased. In some embodiments, the thickness is reduced by grinding, inclining or angling the upper or topmost surface of the engaging portion of the cruciform upward. In some embodiments, the cruciform is manufactured with these modifications. In other embodiments, a cruciform of the prior art is modified.

The cruciform sear **126** engages the firing pin. The cruciform sear **126** comprises the rearward tab of the cruciform **108** which directly engages the firing pin above the cruciform **108**.

The thickness of the angled end **106** of the trigger bar **102** may be reduced, narrowed, ground down, sharpened or angled inward. In the prior art, the angled end of the trigger bar **102** is rounded. The portion of the triggered bar **102** which engages the first end **114** of the connector **112** has a curvatured engaging surface. The angled end **106** of the modified trigger bar **102** comprises an engaging surface in which the curvature is reduced or eliminated. The engaging surface may be more linear or flat, causing the angled end **106** of the trigger bar **102** to drop downward more quickly, thus releasing the cruciform **108** from engagement with the striker or firing pin.

The first end **114** comprises a cantilevered shelf **107** protruding outwardly from the connector **112**, the shelf **107** has an outer surface and an engaging surface which engages the angled end **106** of the trigger bar **102**. The first end **114** of the connector **112** comprises the shelf In some embodiments, the thickness of the shelf **107** is reduced, narrowed, ground down or otherwise reangled or reshaped. The outwardly protruding width of the shelf **107** may be reduced. The shelf **107** may be manufactured in this manner or modified in this manner. The shelf **107** may be reshaped such that the lower, cantilevered surface of the shelf **107** is inclined or declined at a greater or lesser degree off horizontal from the stock configuration of the shelf **107**.

When the cruciform **108** drops, and the first bullet is fired, the slide of the gun is forced rearward by the recoil and the firing pin lobe comes to rest again on the cruciform **108**. With the modified components of the trigger assembly **100** forming the modified trigger assembly **100**, the firearm discharges a second, or repeated, shot upon release of the trigger, unless the operator chooses not to discharge the second shot.

The present invention enables faster follow up shots of a handgun through a natural triggering movement of pulling a trigger and, at the operator's discretion, releasing the trigger to release the follow up shot.

The connector hook **118** (also called the "upper lobe **118**" or "extension" or "connector palm") is a cantilevered lip protruding outwardly from the connector, which engages the slide cam of the handgun (or "slide cam hump"). The point at which the connector hook **118** engages a slide cam hump is the connection junction.

As referenced in FIGS. **1**A and **1**B, the trigger assembly **100** is configured to operate with a handgun. The handgun may include, without limitation, a Glock® handgun, a semi-automatic handgun, and a pistol. However, in one alternative embodiment, the trigger assembly **100** may be modified for a semi-automatic rifle that discharges through the use of a trigger bar **102**.

The trigger bar **102** may include a planar bar that is sized and dimensioned to reciprocate axially between a trigger pull position **120** (wherein the trigger bar **102** is displaced towards a grip on the handgun); and a trigger release position **122** (wherein the trigger bar **102** is displaced towards a barrel of the handgun).

Turning now to FIG. **1**C, which is a left side view of the trigger assembly **100**, the trigger bar **102** comprises a trigger end **104** that forms a surface for enabling the pulling and releasing of the trigger assembly **100**. The trigger end **104** may include a curved member that is sized and dimensioned to receive a finger. The trigger bar **102** reciprocates axially in response to a predetermined force applied on the trigger end **104**. In one embodiment, the finger applies pressure to the trigger end **104** to move the trigger bar **102** to the trigger pull position **120**; and releases the trigger end **104** to enable the trigger bar **102** to move to the trigger release position **122**.

As shown in FIG. **2**, a trigger spring **200** is configured to generate a spring tension for biasing the trigger bar **102** rearward such that the trigger bar's **102** reshaped angled end engages the connector **112**'s reshaped shelf **107** in such a fashion so as to. The connector **112** moves laterally against a spring tension, which biases the connector **112** inwardly against the handgun. The spring tension is what enables the

connector **112** to disengage from the trigger bar **102**, and thus reset to the default position.

The connector **112** is displaced from either of two extreme positions of the trigger bar **102**. In one embodiment, a trigger pull position **120** is created by applying a predetermined force on the trigger end **104**. The force is sufficient to press the angled end **106** of the trigger bar **102** down and against the shelf **107** of the first end **114**, thereby displacing the connector **112** outwardly from the handgun, against the spring tension. This outward displacement forces the cruciform **108** to release the striker, which subsequently releases a cocked firing pin to drive forward and strike a primer. Those skilled in the art, in light of the present teachings, will recognize that the angled end **106** is substantially flat and not angled. This flat surface enables the connector **112** to disengage from the trigger bar **102**, returning to the default positon where a second discharge is not possible.

It is also significant to note that in the present invention, the shortened length of the trigger bar **102** and the beveled surface slope on the angled end **106** cause the connector **112** to be displaced when the trigger bar **102** resets to a trigger release position **122**.

The shortened length of the trigger bar **102** does not extend sufficiently to engage the connector **112**, and thus the connector **112** is inhibited from generating sufficient potential energy to forcefully disengage from the trigger bar **102**. Rather than fully resetting at the trigger release position **122**, the force of the trigger bar **102**, at the specific angle and length, displaces the connector **112** to release the striker for a second time. This double displacement of the connector **112** is what enables the handgun to be discharged upon pulling and releasing of the trigger end **104**.

In operation, the angled end **106** which is designed to a predetermined shape, angle and form remains in contact with the connector **112** throughout all phases of the operation. When the trigger is depressed rearward, the trigger bar **102**'s angled end **106** which is beveled to a predetermined angle, remains engaged with the first end **114** of the connector **112** throughout all phases of the discharge. When the trigger bar **102** moves to the trigger pull position **120**, the angled end **106** creates sufficient force against a shelf **107** on the first end **114** to force an inward lateral displacement of the connector **112**.

After the first discharge, when the trigger bar **102** moves from the trigger pull position **120** to the trigger release position **122**, the connector **112** does not disengage from the angled end **106** to reset to the default position after discharge. The trigger bar **102** rides the shelf **107** at a downward angle. This downward sliding movement serves to laterally displace the connector **112** inwardly. This inward lateral displacement of the connector **112** releases the striker for the second discharge of the handgun. In this manner, the connector **112** is displaced to operatively release the striker from either of two extreme positions of the trigger bar **102**.

Faster lock times produce enhanced accuracy because it diminishes the time for barrel movement.

In exigent combat situation, shooters tend to pull, depress or grip the trigger is overly aggressive fashion, without fine motor skills or dexterity, throwing the firearm off target. In accordance with the present invention, the firearm stays on target for follow up shots because the release of the trigger requires less muscle movement than depression.

FIG. **3** shows a flowchart diagram of an exemplary method **300** for modifying a trigger assembly **100** to actuate a repeated shot of a firearm. The method **300** includes a Step **302** of shortening a trigger bar **102** with an angled end **106** that engages a connector **112**. In some embodiments, the method **300** may further comprise a Step **304** of changing an angle on the angled end of the trigger bar **102**. The angle may be flattened, beveled, ground down, sharpened, reduced or otherwise modified in Step **306**. The angled end **106** may be flattened at a predetermined slope and polished to slidably engage a first end **114** of a connector **112**. In some embodiments, the angled end **106** is narrowed, bent inward or outward, or ground down.

A Step **308** includes changing an angle of the shelf **107** on the first end of the connector **112**. The angle at which the shelf **107** engages the angled **106** of the trigger bar **102** is changed to reduce or extend the time of engagement between the trigger bar **102** and the shelf **107**.

In one embodiment, the finger applies pressure to the trigger end **104** when the trigger bar **102** is in the trigger pull position **120**; and releases the trigger end **104** when the trigger bar **102** is in the trigger release position **122**.

In some embodiments, a Step **310** comprises engaging the first end **114** of the connector **112** with the angled end **106** of the trigger bar **102**. The engaging surface of the angled end **106** slides across a lower surface of the shelf **107**.

A Step **312** may include dropping the cruciform **108** to release the striker when the trigger is depressed. When the trigger bar **102** travels rearward to the trigger pull position **120**, the angled end **106** creates sufficient force against the shelf **107** on the first end **114** to force the trigger bar **102** downward out of contact with the shelf **107**. The cruciform **108** moves downward with the trigger bar **102** which in turn, releases the striker, actuating a shot.

In some embodiments, the Step **312** may include actuating a first discharge of a handgun from the trigger pull position **120**. Release of the striker as described above subsequently releases a cocked firing pin to drive forward and strike a primer for the first discharge of the handgun.

The method **300** may further comprise a Step **313** of modifying the shelf **107** by reducing a width, height or thickness of the cantilevered portion of the shelf **107**. This reduction may take place using any means known to those of skill in the art, including grinding the shelf **107** down, bending the shelf, and the like.

In a Step **314**, the connector hook **118** in some firearms is pushed inward by a rearward travel of a slide having a cam hump. In some variations of handguns, the slide (not shown) interacts with the connector **112** in some fashion as known to those of skill in the art.

Continue Revisions Here

A Step **316** includes engaging the first end **114** of the connector **112** with the angled end **106** of the trigger bar **102**. A Step **318** comprises forming a gap **110** between the angled end **106** and a first end **114** of a connector **112**. The gap **110** formed between the angled end **106** and the flange on the connector **112** may create sufficient spacing, such that the angled end **106** can maintain contact with the shelf at a downward angle.

In some embodiments, a Step **320** may include maintaining contact between the first end **114** and the angled end **106**. A Step **322** comprises displacing the connector **112** from the cruciform **108** to release the striker. After the first discharge, when the trigger bar **102** moves from the trigger pull position **120** to the trigger release position **122**, the connector **112** does not disengage from the angled end **106** to reset to the default position after discharge. Rather, the gap **110** formed between the angled end **106** and the flange on the connector **112** creates sufficient spacing, such that the angled end **106** can maintain contact with and ride the flange at a downward angle. This downward sliding movement serves to laterally displace the connector **112** inwardly towards the

handgun, and against a spring tension created by a trigger spring **200**. This inward lateral displacement of the connector **112** forces the connector hook **118** member down onto the cruciform **108**, which in turn, releases the striker for the second discharge of the handgun. A final Step **324** includes actuating a second discharge of the handgun from the trigger release position **122**.

In operation, the firearm performs a first discharge and a follow up shot. The trigger end **104** is initially pulled. This action causes the trigger bar **102**, which is connected to the angled end **106**, to slide down the first end **114**. The cruciform **108** consequently slides along the ramp **128** to release the striker and perform a first discharge. The trigger end **104** is still held rearward, so that the cruciform **108** and the angled end **106** remain dropped into the drop safety slot **124**. The trigger bar **102** moves back to a highpoint, which causes the trigger bar **102** to engage the connector **112**, pushing the connector **112** towards the firearm. This allows the first end **114** to move towards the firearm, which breaks the connection between the angled end **106** and the first end **114**. Since the angled end **106** and the first end **114** are not sliding against each other at this point, the first end **114** and the cruciform **108** are pushed inwardly, towards the firearm. This causes the angled end **106** to pop up and ride a face of the first end **114**. The connector **112** is disconnected from the trigger bar **102** at this point, and a first discharge is complete.

The firearm may then reset for a repeat shot. The angled end **106** pops up and over the first end **114** resting on the ramp **128**. Because of the gap **110**, the angled end **106** rides up on the first end **114** of the connector **112**. The angled end **106** remains there with the trigger bar **102** pulled rearward. The angled end **106** slides on the first end **114** and drops away. Consequently, the angled end **106** restricts the first end **114** from moving outwardly from the firearm. It is significant to note that the first end **114** may be spring steel, which has sufficient resiliency for this action. Once the first end **114** slides rearward, the cruciform **108** drops down into the drop safety slot **124** and disengages from the striker to actuate the follow up shot.

The present invention has been developed in response to the present state of the art, and in particular, in response to the problems and needs in the art that have not yet been fully solved by currently available apparatus. In one embodiment of the present invention, the modified trigger assembly **100** discharges the handgun when the trigger end **104** of the trigger bar **102** is pulled and released.

The present invention may be embodied in other specific forms without departing from its spirit or essential characteristics. The described embodiments are to be considered in all respects only as illustrative and not restrictive. The scope of the invention is, therefore, indicated by the appended claims rather than by the foregoing description. All changes which come within the meaning and range of equivalency of the claims are to be embraced within their scope.

What is claimed is:

1. A method for modifying a trigger assembly to actuate a faster follow up shot, the method comprising:

modifying a trigger bar by changing an angle of an angled end of the trigger bar to engage a shelf of a connector to reduce a force required to drop a cruciform out of contact with a firing pin lobe;

reducing a thickness of the angled end of the trigger bar;

changing an angle of the shelf on the first end of the connector;

engaging the shelf on the first end of the connector with the angled end of the trigger bar;

actuating a first discharge of the firearm with a rearward depression of the trigger to complete interaction of the trigger bar with the connector such that the cruciform disengages a firing pin lobe such that a striker strikes a primer of a bullet; and

actuating a second discharge of the handgun when the trigger is released.

2. The method of **1**, wherein the second discharge is actuated after the connector hook is pushed inward by a rearward travel of a slide cam hump, such that the angled end of the connector reengages the trigger bar at a different angle such that subsequent forward travel of the trigger bar upon trigger release redirects the cruciform to fall out of contact with the firing pin, actuating a follow up shot.

3. The method of claim **1**, further comprising modifying the shelf of the connector by reducing a width of a cantilevered portion of the shelf.

4. The method of claim **1**, further comprising modifying the shelf of the connector by reducing a height of a cantilevered portion of the shelf.

5. The method of claim **1**, further comprising angling upward an edge of a cruciform sear which engages the firing pin lobe.

6. The method of claim **1**, further comprising angling downward an edge of a cruciform sear which engages the firing pin lobe.

7. The method of claim **1**, further comprising altering an angle of an edge of a cruciform sear which engages the firing pin lobe.

8. The method of claim **1**, further comprising angling the cruciform sear which engages the firing pin lobe to guide the cruciform downward facilitating accelerated disengagement of the cruciform from the firing pin lobe.

9. The method of claim **4**, further comprising angling a portion of the cruciform which engages a sloped surface defining a drop safety slot to the increase a surface area of contact between the portion of the cruciform and the sloped surface.

10. The method of claim **1**, wherein the modified trigger assembly is configured to reduce the time between shots of the firearm by actuating a follow up shot of the firearm on trigger release.

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