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10 Attorneys for Plaintiffs  
 11 Franklin Armory Inc. and  
 Franklin Armory Holdings Inc.  
 12

13 UNITED STATES DISTRICT COURT  
 14 DISTRICT OF NEVADA  
 15

16 FRANKLIN ARMORY INC., a Nevada  
 Corporation; and FRANKLIN ARMORY  
 17 HOLDINGS INC., a Nevada Corporation,

18 *Plaintiffs,*

19 v.

20 NO B.S. ACCESSORIES CO., a Georgia  
 corporation; and RICKY CHESTER  
 21 KIPMILLER d/b/a UNK'S GUNS, a sole  
 proprietorship,  
 22

23 *Defendants.*

CASE NO. 2:24-cv-01395

**COMPLAINT FOR PATENT  
 INFRINGEMENT**

**DEMAND FOR JURY TRIAL**

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1 Plaintiffs Franklin Armory Holdings Inc. and Franklin Armory Inc. (collectively  
2 “Plaintiffs” or “Franklin”), by and through their attorneys of record, hereby file this Complaint  
3 for Patent Infringement against Defendants No B.S. Accessories Co. and Ricky Chester  
4 Kipfmiller d/b/a Unk’s Guns (collectively, “Defendants”):

5 **THE PARTIES**

6 1. Plaintiff Franklin Armory Holdings Inc. (“FAHI”) is a corporation organized and  
7 existing under the laws of the State of Nevada with its principal place of business in Minden,  
8 Nevada.

9 2. Like FAHI, Plaintiff Franklin Armory Inc. (“FAI”) is a corporation organized and  
10 existing under the laws of the State of Nevada with its principal place of business in Minden,  
11 Nevada. FAI is a wholly owned subsidiary of FAHI and specializes in manufacturing firearms  
12 and firearm accessories for sporting, military, and law enforcement applications. FAI also  
13 specializes in selling creative firearms and firearms accessories and parts, including its Binary®  
14 and Binary Firing System® fire control and trigger products.

15 3. Franklin is informed and believes, and on that basis alleges, that Defendant No  
16 B.S. Accessories Co. (“NBSA”) is a Georgia corporation with its principal place of business at 94  
17 Oakwood Drive, Dahlonega, GA 30533. Attached hereto as **Exhibit A** is a true and correct copy  
18 of the annual registration for NBSA filed with the Secretary of State of Georgia on or about  
19 February 18, 2024.

20 4. Franklin is informed and believes, and on that basis alleges, that Defendant Ricky  
21 Chester Kipfmiller is an individual residing in Dahlonega, Georgia, and has done and is doing  
22 business as “Unk’s Guns” (collectively, “Unk’s Guns”) with a principal place of business at 94  
23 Oakwood Drive, Dahlonega, GA 30533.

24 5. Franklin is further informed and believes, and on that basis alleges, that NBSA and  
25 Unk’s Guns have at all relevant times been owned, operated, and controlled by Defendant Ricky  
26 Chester Kipfmiller.

27 ///

28 ///

**ALTER EGO ALLEGATIONS**

1  
2           6.       Franklin is informed and believes, and based thereon alleges, that at all times  
3 herein mentioned there existed a unity of interest and ownership between Defendants NBSA and  
4 Unk's Guns. Any individuality and separateness between NBSA and Unk's Guns ceased and/or  
5 never existed, and NBSA is the alter ego of Unk's Guns, and *vice versa*, in that, among other  
6 reasons, NBSA was conceived, intended, and used by Unk's Guns as a device to avoid liability  
7 and that NBSA is so inadequately capitalized that, compared with the business done by NBSA  
8 and the risk of loss attendant thereon, such capitalization was illusory and/or trifling.

9           7.       On information and belief, NBSA is wholly owned, operated, and controlled by  
10 Unk's Guns in a manner that ignores normal corporate formalities. Franklin is further informed  
11 and believes, and based thereon alleges, that at all times herein mentioned that NBSA is a mere  
12 shell instrumentality maintained by Unk's Guns and carries on its business exactly as Unk's Guns  
13 had done so previous to NBSA's formation, exercises complete control and dominance of the  
14 business done by NBSA to such an extent that any individuality or separateness of Unk's Guns  
15 and NBSA at all times herein mentioned did and do not exist.

16           8.       For example, Unk's Guns and NBSA share the same employees and principal  
17 place of business at 94 Oakwood Drive, Dahlonga, GA 30533. Likewise, they share the same  
18 primary contact information, including the business telephone number 770-634-0635 and email  
19 address rkipfm@gmail.com as evidenced by their respective websites. Attached hereto as  
20 **Exhibit B** is a true and correct copy of a July 9, 2024, screen capture of Unk's Guns' website,  
21 <https://unksguns.com/>. Attached hereto as **Exhibit C** is a true and correct copy of a July 9, 2024,  
22 screen capture of NBSA's website, <https://nobsaccessories.com/>.

23           9.       As demonstrated by their respective webpages, they collectively make, use, sell,  
24 and offer to sell the same three-position "Fires on Pull and Release" ("FOPAR") trigger group for  
25 use in civilian legal AR-15 pattern firearms. *See, e.g.*, Exhibits B–C. Franklin is informed and  
26 believes, and on and that basis alleges, that Unk's Guns has owned and controlled these websites,  
27 and that Unk's Guns authorized NBSA to act on its behalf and NBSA agreed to act as Unk's  
28 Guns' agent in the making, use, selling, and offering to sell the FOPAR trigger group.



1 particular, Jason Kipfmiller, who is listed as the Secretary of NBSA, is also employed by and/or  
2 acts as an agent on behalf of Defendants in Las Vegas, Nevada. *See* Exhibits A–B.

3 16. On information and belief, Madison Kipfmiller and/or Madison Hooey has been  
4 employed by and/or acts as an agent on behalf of Defendants in Las Vegas, Nevada. *See* Exhibit  
5 B. Defendants employ and/or have delegated authority to these individuals to make, use, sell, and  
6 offer to sell the FOPAR trigger group on behalf of Defendants in the State of Nevada.

7 17. Franklin is informed and believes, and based thereon alleges, that orders for the  
8 FOPAR trigger group placed via NBSA’s website are processed, fulfilled and/or shipped by  
9 Defendants’ employees and agents in Las Vegas, Nevada.

10 18. Between August 2022 and the present, Defendants’ employees and agents have  
11 attended and participated in gun shows in Reno, Nevada for the express purpose of offering to sell  
12 and selling “Fires on Pull and Release” products to consumers and the general public. Franklin is  
13 informed and believes, and based thereon alleges, that Defendants employees and agents have  
14 also participated in gun shows in Las Vegas, Nevada for the express purpose of offering to sell  
15 and selling “Fires on Pull and Release” products.

16 **THE PATENT-IN-SUIT**

17 19. The United States, and many jurisdictions within it, regulate the use and  
18 possession of fully automatic firearms, sometimes referred to as machine guns. The National  
19 Firearms Act, 26 U.S.C. § 5845(b), defines a “machinegun” as “any weapon which shoots, is  
20 designed to shoot, or can be readily restored to shoot, automatically more than one shot, without  
21 manual reloading, by a single function of the trigger.” (hereafter, “Machine Gun”).

22 20. The National Firearms Act, as interpreted by the Bureau of Alcohol, Tobacco,  
23 Firearms, and Explosives Technology Branch (“BATFE”), defines the *pull* of a trigger as a  
24 function, and the *release* of the trigger as a second function. As a result, a firearm that fires a shot  
25 upon the pull of a trigger and fires a second shot upon the release of a trigger may, if designed  
26 correctly, fall outside the Act’s definition of Machine Gun. Thus, there exists considerable  
27 consumer demand for firearms equipped with this functionality (known as “pull-release firing”)

28 ///

1 that do not fall under the BATFE’s definition of a Machine Gun, particularly in law enforcement,  
2 military, and sporting applications.

3 21. However, firearms triggers that fired one round with a trigger pull and a second  
4 round with a trigger release (“pull-release” triggers) circa 2014 suffered from serious design  
5 flaws. For example, many early designs required the use of multiple selector switches—one to  
6 alternate between firing modes and a second to provide safe functionality—in order to enable  
7 pull-release firing. U.S. Patent No. 8,667,881 to Hawbacker, discloses one such implementation.  
8 These designs also suffered from the flaw that the lever used to alternate between semi-automatic  
9 and pull-release firing was typically located within the trigger guard, increasing the likelihood of  
10 accidentally discharging the firearm when switching between firing modes. Additionally, early  
11 pull-release triggers suffered from the flaw that once the trigger was pulled in pull-release firing  
12 mode, the user could not place the firearm into safe mode, making it more difficult and dangerous  
13 to avoid firing a second shot upon release of the trigger.

14 22. Recognizing the need for a new and improved trigger group for semi-automatic  
15 firearms with pull-release firing capability, Franklin developed a different and innovative  
16 alternative. Specifically, this novel trigger system incorporates an adjustable disconnecter  
17 assembly operably connected to a single selector outside the trigger guard, allowing the user to  
18 switch between safe, semi-automatic, and pull-release firing modes using that single selector.  
19 Franklin has obtained at least nine (9) patents covering various aspects of this innovative concept,  
20 including United States Patent No. 10,393,461 (“the ’461 Patent”).

21 23. On March 16, 2018, Inventors Jay Jacobson and Ryan Fellows filed U.S. Patent  
22 Application No. 15/923,831 (“the ’831 Application”) claiming certain features of Franklin’s  
23 innovative pull-release trigger design. The ’831 Application claims priority to U.S. Provisional  
24 Patent Application No. 62/026,621 filed on July 19, 2014. On August 27, 2019, the United States  
25 Patent and Trademark Office (“USPTO”) duly and legally issued United States Patent No.  
26 10,393,461, entitled “Trigger Group for Semi-Automatic Firearms.”

27 24. On March 22, 2022, the USPTO duly and legally issued an *Ex Parte*  
28 Reexamination Certificate for the ’461 Patent where independent claims 1, 7-16, and 22-30 were

1 determined to be patentable as amended. The USPTO also determined that dependent claims 2–6  
2 and 17–21 were patentable. A true and correct copy of the '461 Patent and the March 22, 2022,  
3 Ex Parte Reexamination Certificate for the '461 Patent is attached hereto as **Exhibit D**.

4 25. FAHI owns all rights, title, and interest in and to the '461 Patent. FAHI has  
5 entered into a license agreement with FAI, giving FAI the right to make, use, offer to sell, and sell  
6 products that practice the inventions claimed by the '461 Patent in the United States, and the right  
7 to enforce the '461 Patent against infringers and collect damages for all relevant times.

8 26. Franklin has at all applicable times complied with the marking requirements of 35  
9 U.S.C. § 287(a) with respect to the '461 Patent.

10 **FRANKLIN AND THE BINARY® AND BINARY FIRING SYSTEM® MARKS**

11 27. Franklin coined its new invention as a “Binary” trigger, and filed and obtained  
12 several federally registered trademarks to market products embodying its inventions, including  
13 those claimed by the '461 Patent. Specifically, FAHI is the owner of U.S. Trademark  
14 Registration No. 6,272,568 for the word mark “BINARY” covering the following goods and  
15 services in IC 013 for “Firearms; Component parts for guns; Triggers for firearms” (the “Binary®  
16 Mark”). Franklin first used the Binary® Mark in January 2015 and first used that mark in  
17 commerce in December 2015, and has continuously used the Binary® Mark since that time.

18 28. FAHI is also the owner of U.S. Trademark Registration No. 6,293,943 for the  
19 word mark “BINARY FIRING SYSTEM” covering the following goods and services in IC 013  
20 for “Component parts for guns” (the “Binary Firing System® Mark”). Franklin first used the  
21 Binary Firing System® Mark in January 2015 and first used that mark in commerce in September  
22 2015, and has continuously used the Binary Firing System® Mark since that time.

23 29. FAI has an exclusive license from FAHI for the Binary® Mark and Binary Firing  
24 System® Mark (collectively the “Franklin Marks”) to use these marks in the sales, marketing and  
25 promotion of at least eleven (11) different pull-release trigger variants. Two of these variations  
26 are the Franklin Armory® BFSIII® AR-C1 and Franklin Armory® BFSIII® AR-S1 for civilian  
27 legal AR-15 pattern rifles, which directly compete with Defendants’ FOPAR pull-release trigger  
28 group.

1           30. Franklin has spent considerable effort and investment in the Franklin Marks,  
2 which, as a result, have become widely known and are closely identified with Franklin and  
3 represent substantial, valuable goodwill.

4                                   **DEFENDANTS INFRINGE THE FRANKLIN MARKS**

5           31. In or about August 2022, Franklin learned that Unk’s Guns was infringing the  
6 Franklin Marks where it was advertising and offering to sell “Binary Triggers” at a large gun  
7 show in Reno, Nevada. Franklin also subsequently learned that Unk’s Guns was infringing the  
8 Franklin Marks via its website by advertising and offering to sell the same on its website. *See,*  
9 *e.g.*, <https://web.archive.org/web/20220908014958/https://unksguns.com/> and  
10 <https://web.archive.org/web/20220908015008/https://unksguns.com/ba-dass-page>. At that time,  
11 the products using that name were two-position trigger groups for AR-15 pattern firearms that  
12 only had a two-position selector consisting of two function modes: “safe” and pull-release fire.

13           32. On August 19, 2022, Franklin contacted Defendant Kipfmiller informing him that  
14 it held federal registrations for the Franklin Mark and objecting to Unk’s Gun’s infringement  
15 thereof. During that call, Defendant Kipfmiller claimed that Unk’s Guns expressed a willingness  
16 to abandon use of “Binary Triggers.”

17           33. Rather than ceasing the infringement and despite being on notice of Franklin’s  
18 federally registered marks for the same class of goods, Unk’s Guns filed a federal trademark  
19 application for “BINARY TRIGGER” on or about August 19, 2022. In doing so, Defendant  
20 Kipfmiller made a false statement to the USPTO by swearing in a declaration for that application,  
21 under penalty of perjury, that

22                           [t]o the best of the signatory's knowledge and belief, no other persons, except,  
23 if applicable, concurrent users, have the right to use the mark in commerce,  
24 either in the identical form or in such near resemblance as to be likely, when  
used on or in connection with the goods/services of such other persons, to  
cause confusion or mistake, or to deceive.

25           34. On or about August 22, 2022, Defendant Kipfmiller formed NBSA. Franklin is  
26 informed and believes, and based thereon alleges, that NBSA was conceived and formed by  
27 Defendant Kipfmiller as a device to avoid person liability for infringement of Franklin’s  
28 intellectual property.





1 40. On information and belief, Defendant began making and using the three-position  
 2 FOPAR trigger group at some point months or years prior to November 2, 2023, and has  
 3 continued doing so to the present.

4 41. Defendants have offered and sold their three-position FOPAR trigger group  
 5 preinstalled in an AR-15 pattern lower receiver or as a kit for customers to install in their own  
 6 AR-15 pattern firearms through their <https://unksguns.com/> and <https://nobsaccessories.com/>  
 7 websites, and continue to do so through the present. *See, e.g.*, Exhibits B–C.

8 42. Defendants’ websites provide the following instructions to customers on how to  
 9 install the three-position FOPAR trigger group kit:

## Installation Instructions (Mil Spec Weapon-Disconnect/Safety kit)

1) Improper installation of firearm component parts may result in death or serious personal injury. Only install the component parts on the specific make/model of firearm they are designed for. If you are not properly trained in the installation of these parts, have them installed by a gunsmith or armorer.

2) MAKE SURE THE WEAPON IS UNLOADED.

3) Installation of this FOPAR trigger requires the removal of the stock disconnect and the stock safety switch. To do so you must remove the pistol grip and the safety switch. TAKE CARE not to loose the safety detent or spring! Then push the pivot pin for the trigger 3/4 OF THE WAY OUT do not push it all the way out! The disconnect will spring free. Replace it with the stainless steel disconnect included in this kit. Push the trigger pivot pin back into position. NOTE: The hole in the new disconnect has tighter specifications than the stock disconnect, it must be lined up exactly and usually requires the pivot pin being tapped through the disconnect.

4) Install the new safety switch. They may look the same but they are different... **THE FOPAR WILL NOT WORK WITH THE ORIGINAL SAFETY SWITCH!!** and re-install with the hammer in the rear (cocked) position.

5) Attach the Caution label to the side of the magazine housing.



To Website INCLUDING  
 The INSTALL VIDEO!  
[www.unksguns.com](http://www.unksguns.com)

**NO B.S. ACCESSORIES CO.**



### A word about “Mil Spec”



**Mil Spec** (metal NOT plastic)      **Not Mil Spec...**

If your weapon is equipped with a “not Mil Spec” trigger assembly it can be replaced with a Mil Spec fire control group and then you can install the FOPAR Trigger kit!

25 *See Exhibits B–C.*

26 43. In addition, Defendants’ websites provide videos instructing customers on how to  
 27 install the three-position FOPAR trigger group kits in AR-15 pattern firearms. Defendants also  
 28 make these instruction videos publicly available at [www.vimeo.com](http://www.vimeo.com).



1 position to retain the hammer in the cocked position in response to  
2 release of the trigger element to the rest position subsequent to  
3 discharge of the firearm by pulling the trigger element, by  
4 engagement of the second hammer hook with one of the plurality of  
5 disconnecter hooks;

6 the disconnecter assembly operable when the selector is in the  
7 second position to release the hammer to the striking position in  
8 response to release of the trigger element to the rest position  
9 subsequent to discharge of the firearm by pulling the trigger  
10 element, by release of the second hammer hook by another one of  
11 the plurality of disconnecter hooks, such that the firearm discharges  
12 once per cycle of the trigger element when the selector is in the first  
13 position, and twice for each rearward-forward motion sequence of  
14 the trigger element when the selector is in the second position;

15 the selector operating when in the third position to prevent  
16 discharge of the firearm in response to an application of force on  
17 the trigger element; and

18 wherein the selector is rotatable about a single axis.

19 Exhibit D, at claim 1.

20 47. By making, using, selling, and/or offering to sell the three-position FOPAR trigger  
21 group, Defendants directly infringe each and every element of claim 1, either directly or by  
22 equivalence, in violation of 35 U.S.C. § 271(a).

23 48. Franklin is informed and believes, and on that basis alleges, that the Defendants  
24 have wrongfully gained profits by virtue of their infringement of the '461 Patent.

25 49. Franklin has sustained damages as a direct and proximate result of the Defendants'  
26 direct infringement of the '461 Patent. The Defendants are, thus, liable to Franklin in an amount  
27 that adequately compensates Franklin for the Defendants' infringement, which, by law, cannot be  
28 less than a reasonable royalty, together with interest and costs as fixed by this Court under 35  
U.S.C. § 284.

50. Defendants' infringement of the '461 Patent has been and continues to be  
intentional, willful, and without regard to Franklin's rights. Defendants have gained actual  
knowledge of the '461 Patent and their infringement thereof through the filing of this Complaint.

51. Defendants' infringement of the '461 Patent has caused, and continues to cause,  
irreparable harm to Franklin for which there is no adequate remedy at law. For example, if  
Defendants' infringement is allowed to continue, Franklin will—on information and belief—be

1 forced to compete in the pull-release fire trigger market against a cheaper, and in some states an  
2 illegal product, which could harm Franklin's business and reputation to an extent that is not  
3 possible to fully quantify. Further, on information and belief, licensing the Defendants to practice  
4 the '461 Patent in exchange for a royalty would exacerbate this harm by associating Franklin's  
5 brand with the potentially illegal three-position FOPAR trigger group.

6 52. On information and belief, Defendants will continue their infringing conduct and  
7 will continue to cause irreparable harm to Franklin unless and until they are enjoined from doing  
8 so by this Court.

9 53. On information and belief, Defendants' direct infringement of the '461 Patent was  
10 and is willful and deliberate, entitling Franklin to enhanced damages under 35 U.S.C. § 284 and  
11 attorneys' fees and non-taxable costs under 35 U.S.C. § 285.

## 12 **SECOND CLAIM FOR RELIEF**

### 13 **(Indirect Infringement of U.S. Patent No. 10,393,461)**

14 54. The allegations of paragraphs 1 through 53 are incorporated by reference herein  
15 and realleged.

16 55. Defendants have actively induced others to infringe the '461 Patent in violation of  
17 35 U.S.C. § 271(b), and continue to do so. As explained above, Defendants offer to sell and sell  
18 the three-position FOPAR trigger group in kit form. In doing so, Defendants advertise the  
19 trigger's pull-release firing capabilities. The Defendants induce their customers to directly  
20 infringe at least claims 1, 3, 5, 7 and 8 of the '461 Patent by, for example, providing written and  
21 video instructions directing customers on how to install the three-position FOPAR trigger group  
22 into a firearm. *See, e.g.*, Exhibits B–C.

23 56. Upon information and belief, Defendants knew or should have known that these  
24 activities would cause its customers to directly infringe the '461 Patent.

25 57. The Defendants' acts also constitute contributory infringement of at least claims 1,  
26 3, 5, 7 and 8 of the '461 Patent in violation of 35 U.S.C. § 271(c). Specifically, upon information  
27 and belief, the three-position FOPAR trigger group: (a) constitutes a material component of the  
28 trigger group covered by the claims of the '461 Patent; (b) is specially adapted for use in the

1 infringing system, as known by Defendants; and (c) is not a staple article or commodity of  
2 commerce suitable for substantial non-infringing uses. Further, upon information and belief,  
3 Defendants' actual and potential customers would not purchase the three-position FOPAR trigger  
4 group, which costs many times more than a standard semi-automatic trigger, unless they intended  
5 to take advantage of its advertised infringing pull-release firing functionality.

6 58. Upon information and belief, most if not all of Defendants' customers install the  
7 three-position FOPAR trigger group as directed by Defendants and use it within firearms in the  
8 United States, thereby directly infringing the asserted claims of the '461 Patent. Defendants  
9 knew or should have known that their offer to sell and sale of the three-position FOPAR trigger  
10 group would constitute an act of indirect infringement.

11 59. Franklin is informed and believes, and on that basis alleges, that Defendants have  
12 wrongfully gained profits by virtue of their indirect infringement of the '461 Patent.

13 60. The aforementioned acts of infringement by Defendants and their customers have  
14 caused damages to Franklin. Defendants are therefore liable to Franklin in an amount that  
15 adequately compensates Franklin for Defendants' infringement, which, by law, cannot be less  
16 than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. §  
17 284.

18 61. Defendants' indirect infringement of the '461 Patent has caused, and continues to  
19 cause, irreparable harm to Franklin for which there is no adequate remedy at law. For example, if  
20 the Defendants' infringement is allowed to continue, Franklin will—on information and belief—  
21 be forced to compete in the pull-release fire trigger market against a cheaper, and in some states  
22 an illegal product, which could harm Franklin's business and reputation to an extent that is not  
23 possible to fully quantify. Further, on information and belief, licensing the Defendants to practice  
24 the '461 Patent in exchange for a royalty would exacerbate this harm by associating Franklin's  
25 brand with the potentially illegal and infringing pull-release triggers.

26 62. On information and belief, Defendants will continue their infringing conduct and  
27 will continue to cause irreparable harm to Franklin unless and until they are enjoined from doing  
28 so by this Court.



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Dated: July 30, 2024

SPENCER FANE LLP

By: /s/ Mary E. Bacon

Jeffrey M. Ratinoff (*has complied with LR IA 11-2*)

Jing H. Cherng (*has complied with LR IA 11-2*)

Mary E. Bacon, NV Bar No. 12686

Attorneys for Plaintiffs,

FRANKLIN ARMORY INC. and

FRANKLIN ARMORY HOLDINGS INC.



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**DEMAND FOR JURY TRIAL**

Plaintiffs Franklin Armory Holdings Inc. and Franklin Armory Inc. demands a trial by jury on all issues triable by a jury.

Dated: July 30, 2024

SPENCER FANE LLP

By: /s/ Mary E. Bacon  
Jeffrey M. Ratinoff (*has complied with LR IA 11-2*)  
Jing H. Cherng (*has complied with LR IA 11-2*)  
Mary E. Bacon, NV Bar No. 12686  
Attorneys for Plaintiffs  
FRANKLIN ARMORY INC. and  
FRANKLIN ARMORY HOLDINGS INC.

# **EXHIBIT A**

# STATE OF GEORGIA

Secretary of State  
Corporations Division  
313 West Tower  
2 Martin Luther King, Jr. Dr.  
Atlanta, Georgia 30334-1530

## ANNUAL REGISTRATION

\*Electronically Filed\*  
Secretary of State  
Filing Date: 2/18/2024 2:39:46 PM

### BUSINESS INFORMATION

**CONTROL NUMBER** 22183080  
**BUSINESS NAME** No B.S. Accessories Co.  
**BUSINESS TYPE** Domestic Profit Corporation  
**EFFECTIVE DATE** 02/18/2024  
**ANNUAL REGISTRATION PERIOD** 2024

### PRINCIPAL OFFICE ADDRESS

**ADDRESS** 94 Oakwood Dr., Dahlonega, GA, 30533, USA

### REGISTERED AGENT

NAME	ADDRESS	COUNTY
Rick Kipfmiller	94 Oakwood Dr., Dahlonega, GA, 30533, USA	Lumpkin

### OFFICERS INFORMATION

NAME	TITLE	ADDRESS
Jason Kipfmiller	SECRETARY	94 Oakwood Dr, Dahlonega, GA, 30533, USA
Ricky Kipfmiller	CEO	94 Oakwood Dr, Dahlonega, GA, 30533, USA
Ricky Kipfmiller	CFO	94 Oakwood Dr, Dahlonega, GA, 30533, USA

### AUTHORIZER INFORMATION

**AUTHORIZER SIGNATURE** Ricky C Kipfmiller  
**AUTHORIZER TITLE** Officer

# **EXHIBIT B**

**770-634-0635**



**WELCOME TO  
UNK'S GUNS!  
LICENSED F.F.L.  
MANUFACTURER CUSTOM  
AR15 & AR10**

**NEW AND COOL STUFF AT UNK'S**

770-634-0635



**BABY DEUCE Like the M2 or "MA DEUCE"**

AR10 20" barrel, SIDE CHARGE UPPER WITH A HAMMER FORGED BARREL, BARRETT STYLE TANKER FLASH GUARD, SPADE TRIGGER WITH FOPAR "FIRE ON PULL AND RELEASE" (WEST COAST CALL 'EM BINARY THE CORRECT NAME IS FOPAR) AS CLOSE TO FULL AUTO WE CAN LEGALLY MAKE!! DEATHGRIP TRIPOD

COST: **\$2995.00**

770-634-0635

**OUR STAFF**

We have added staff to the Las Vegas area!

Accessories and non-regulated parts out west!

770-634-0635



Western Staff with me!

**Jason Kipfmiller, Madison Kipfmiller, and me** Rick Kipfmiller



Head of security!

Buddy the Beagle

770-634-0635



**NOTE!!! CALL BEFORE YOU COME TO OUR**

## **LOCATION...**

WE OPERATE OUT OF OUR HOME...

**YOU MUST CALL PRIOR TO COMING TO OUR LOCATION. WE SEE CUSTOMERS IN PERSON BY APPOINTMENT ONLY. THAT WAY WE CAN MAKE SURE WE ARE THERE!!!**

**THE ADDRESS IS:**

**94 OAKWOOD DRIVE**

**DAHLONEGA, GA 30533**

**WE ARE ONE OF THE ONLY ADDRESSES LEFT IN THE WORLD THAT THE GPS IS SOMETIMES WRONG!! CALL WHEN YOU GET CLOSE!**

**WE NOW OFFER COMPUTER ENGRAVING ON YOU FAVORITE FIREARM! AND WE CAN POLISH YOUR GLOCK SLIDE TOO!!**





770-634-0635



**NO B.S. FIRE ON PULL AND RELEASE**

**TRIGGER 2 POSITION TRIGGER \$149.00!**



say Good-Bye to Narry,  
guy named Larry...  
dn't know anyone  
ed Narry so...

**Less Than "THOSE GUYS".**  
**ing and Good-Bye to Narry!**  
**nk I would like him anyway!**



I was told to :  
I know a  
But I did  
nam

**For A Whole Lot**  
**So I said So-Long**  
**It's OK I don't thin**

**WHOA! A NEW 3 POSITION SAFE-SEMI-  
FOPAR \$249.00!**

CHECK OUT THE NEW VIDEO BELOW!

VERY LIMITED PRODUCTION!! IF NOT IN STOCK WE WILL DO OUR BEST TO FILL  
ORDERS.

**770-634-0635**

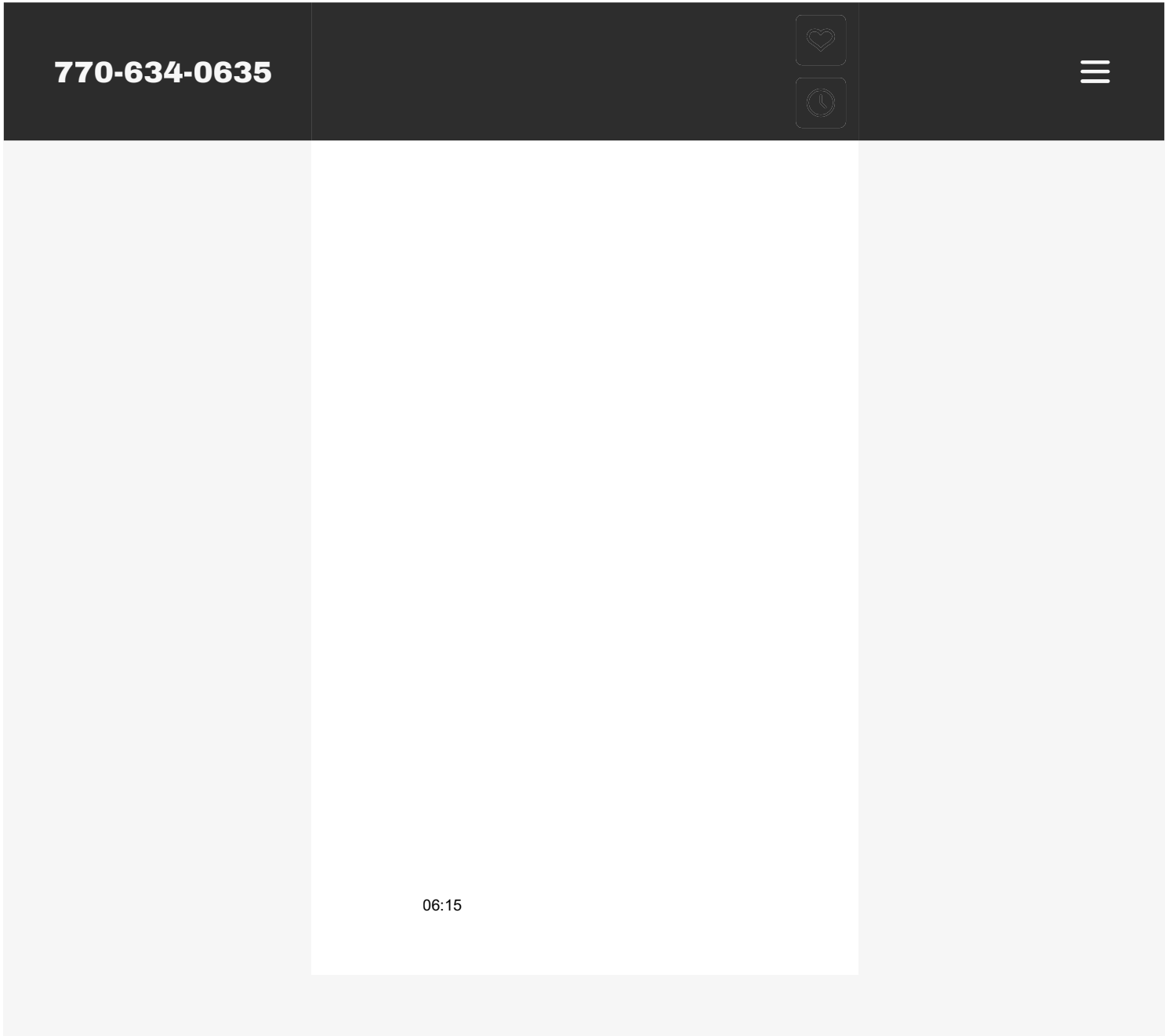


07:30

# **3 POSITION FOPAR FUN!**

---

**3 POSITION FOPAR INSTALL**



## **2 POSITION TRIGGER INSTALL VIDEO - SAFE AND FOPAR ONLY \$149.**

Even the video is less than 5 minutes long! It really shows the simplicity of installation of my FIRE ON PULL AND FIRE ON RELEASE TRIGGER.

**770-634-0635**



04:39

## **A FOPAR IN ACTION!**

Check out this great video. Pay attention to the trigger finger action!

**770-634-0635**

FOPAR COMBINATION VID



## FREQUENTLY ASKED QUESTIONS

Please reach us at [rkipfm@gmail.com](mailto:rkipfm@gmail.com) if you cannot find an answer to your question.

Does your pull-release trigger have a regular semiautomatic function? ▼

Do you have one to fit the AK platform? ▼

Can I buy a Lower from you with a FOPAR already installed? ▼

770-634-0635

# TROUBLESHOOTING



Yup! They are made by man not by God so...

It doesn't fire the second round on release... ▼

I am getting light primer strikes ▼

## **NO B.S. FIRE ON PULL AND FIRE ON RELEASE TRIGGER**

100% LEGAL... AT LEAST FOR NOW!!



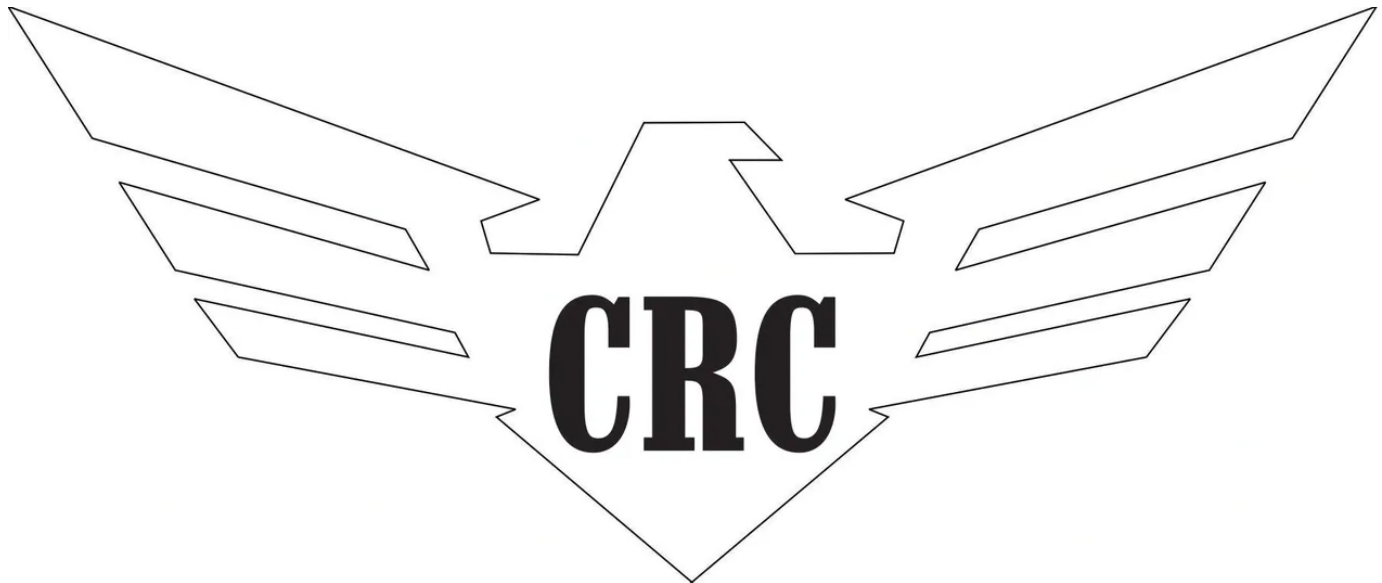
## **NO B.S. FIRE ON PULL AND FIRE ON RELEASE TRIGGERS!**

**770-634-0635**



\*\*\*\*\*

**CHECK ALL LOCAL, STATE, AND FEDERAL  
LAWS PRIOR TO INSTALLING THESE PARTS!**



**COMBAT READY COMPONENTS  
UNKS GUNS DAHLONEGA GA**

COMBAT READY COMPONENTS ARE HERE!

**BIG NEWS!!**

**NEWS FLASH!! THEY ARE HERE!**

High end mil spec or BETTER. As good if not better than Spikes

770-634-0635 Daniel D. and in DAHLONEGA GA!



Stripped lower- \$99.00 Complete lower- \$329.00

## PARTS PRICE LIST

### MIL SPEC AR15 Internal Parts

The things that go ping across the room!!!

Takedown spring each

2.00

one under the buffer plate and  
one under the front takedown pin

Takedown detent each

2.00

one under the buffer plate and  
one under the front takedown pin

Safety switch spring each

2.00

under the pistol grip



## Safety switch detent each

**770-634-0635**

4.00

under the pistol grip

## Buffer cap pin detent each

5.00

inside the lower in front of  
the buffer (holds buffer in place)

## Buffer retainer spring each

2.00

inside the lower in front of  
the buffer (holds buffer in place)

## Trigger disconnect spring each

4.00

the wide end stays in the trigger  
under the disconnect

## Trigger spring each

5.00

under the trigger  
returns the trigger to the forward position

## Trigger each

20.00

smooth operation with minimum wear  
can be polished for reduced trigger pull



## 770-634-0635 Trigger/Hammer pivot pin each

2.00

through the hammer & trigger  
holds fire control group in place

## Hammer spring each

5.00

over the hammer **CAUTION!**  
if installed backwards will give you light primer strikes

## Hammer each

25.00

smooth operation with minimum wear  
can be polished for reduced trigger pull

## Disconnecter Mil Spec each

10.00

mounts on top of the trigger  
is the final piece of the fire control group

## Lower Parts Kit (LPK) per set

65.00

all the "guts" inside the lower  
does not include the buffer assembly

## Complete buffer assembly each

55.00

includes buffer tube, spring, buffer, castle nut and  
receiver plate (teardrop shape)

770-634-0635

Specialty AR15/AR10 Parts



the rest of the stuff you will need!

### FOPAR TRIGGER

149.00

Making AR's fun again!

### Unks Guns Gen 2 stripped lower

90.00

Naked! but still requires to ship to an FFL!

### Unks Guns Gen 2 lower with LPK and buffer assembly

250.00

not Naked... but still requires to ship to an FFL...

### Unks Guns Gen 2 lower with LPK/buffer Assy WITH FOPAR TRIGGER INSTALLED!!!!

340.00

**FOPAR PEW-PEW FUN!** and still requires to ship to an FFL...

### Complete AR15 Rifle uppers start at

385.00

Includes Bolt carrier group and charging handle.

### Complete AR15 Pistol uppers start at

375.00

Includes Bolt carrier group and charging handle.

Metal Pop up sights  
**770-634-0635**



30.00

Pop up Peep sight attaches to picatinny rail with fiber optic inserts

6 position Rifle stock

30.00

fit any mil spec carbine buffer tube

Hogue Pistol grip

30.00

Rubber overcoated very comfortable!

Extended Charging Handle

30.00

Great for right or left handed shooters and anyone with a scope!

not all items are in stock at all times please call to check stock and place orders!

Welcome to the home of NO B.S.FIRE ON PULL AND FIRE ON  
RELEASE TRIGGER

At this time we only have them to fit the AR platform.

You can order by calling **770-634-0635** M-F 10AM to 3PM If I don't answer leave a  
message!

**Currently all orders must be paid by credit/debit card by phone. OR CASH IN  
PERSON.**

**770-634-0635**



## **ABOUT US**

---

New Guns...

**New guns are priced at Level 2 Wholesale. I would rather sell a lot of guns at a little profit than none at a lot of profit!**

Unique Accessories you can't get ANYWHERE ELSE!

Can Launchers that can throw a 12oz can up to 100 yards... Even **FIRE ON PULL AND FIRE ON RELEASE TRIGGER** equipped Lowers!

770-634-0635



# FOPAR TRIGGER OWNERS MANUAL

**THIS KIT ONLY FITS MIL SPEC AR15**

**A FOPAR TRIGGER fires 1 round when pulled & 1 round when released. KEEP THE WEAPON POINTED IN A SAFE DIRECTION UNTIL THE 2nd ROUND IS RELEASED.**

**If you are not familiar with a FIRE ON PULL AND RELEASE Trigger,**

**GET FAMILIAR BEFORE USE!**



To Website INCLUDING ACTION & INSTALL VIDEOS!  
[www.unksguns.com](http://www.unksguns.com)

## THE FOUR RULES OF FOPAR TRIGGER HAPPINESS

- I ALWAYS TREAT IT LIKE ITS LOADED... DON'T DO STUPID CRAP!**
- II LIKE I JUST SAID ITS LOADED, SO DON'T POINT IT AT ANYTHING YOU DON'T WANT DESTROYED.**
- III KEEP YOUR DAD GUM FINGER OFF THE TRIGGER UNTIL ITS TIME TO GO PEW PEW!**
- IV DON'T PULL OR RELEASE THE @\$#@ TRIGGER UNLESS YOU KNOW WHERE THE DAMN IMPACTS ARE GOING TO HIT.**

### IMPORTANT!!!

**If you have pulled the trigger to the rear & set the trigger for fire on release but do not want to release the round and want to render the weapon safe without firing the fire on release round you must:**

- 1) KEEP FIRM REARWARD PRESSURE ON THE TRIGGER**
- 2) USING YOUR OFF HAND PULL THE CHARGING HANDLE TO THE REAR**
- 3) WITH THE CHARGING HANDLE PULLED FULLY TO THE REAR THEN & ONLY THEN- RELEASE THE TRIGGER**
- 4) RELEASE THE CHARGING HANDLE**
- 5) MOVE THE SAFETY SWITCH TO THE SAFE POSITION**

## CHECK ALL LOCAL, STATE, AND FEDERAL LAWS PRIOR TO INSTALLING THESE PARTS!

### Warranties

The FOPAR TRIGGER IS AS IS NO WARRANTY EXPRESSED OR IMPLIED. No representation or warranty whatsoever regarding the completeness, quality, or adequacy of the suitability, functionality, or operation of these parts. By using these parts, you assume the risk that the content of this package may cause death or great bodily injury. FOPAR TRIGGERS SPECIFICALLY DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND NONINFRINGEMENT. IN NO EVENT WILL WE BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES EVEN IF COMPANY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

**NO B.S. ACCESSORIES CO.**

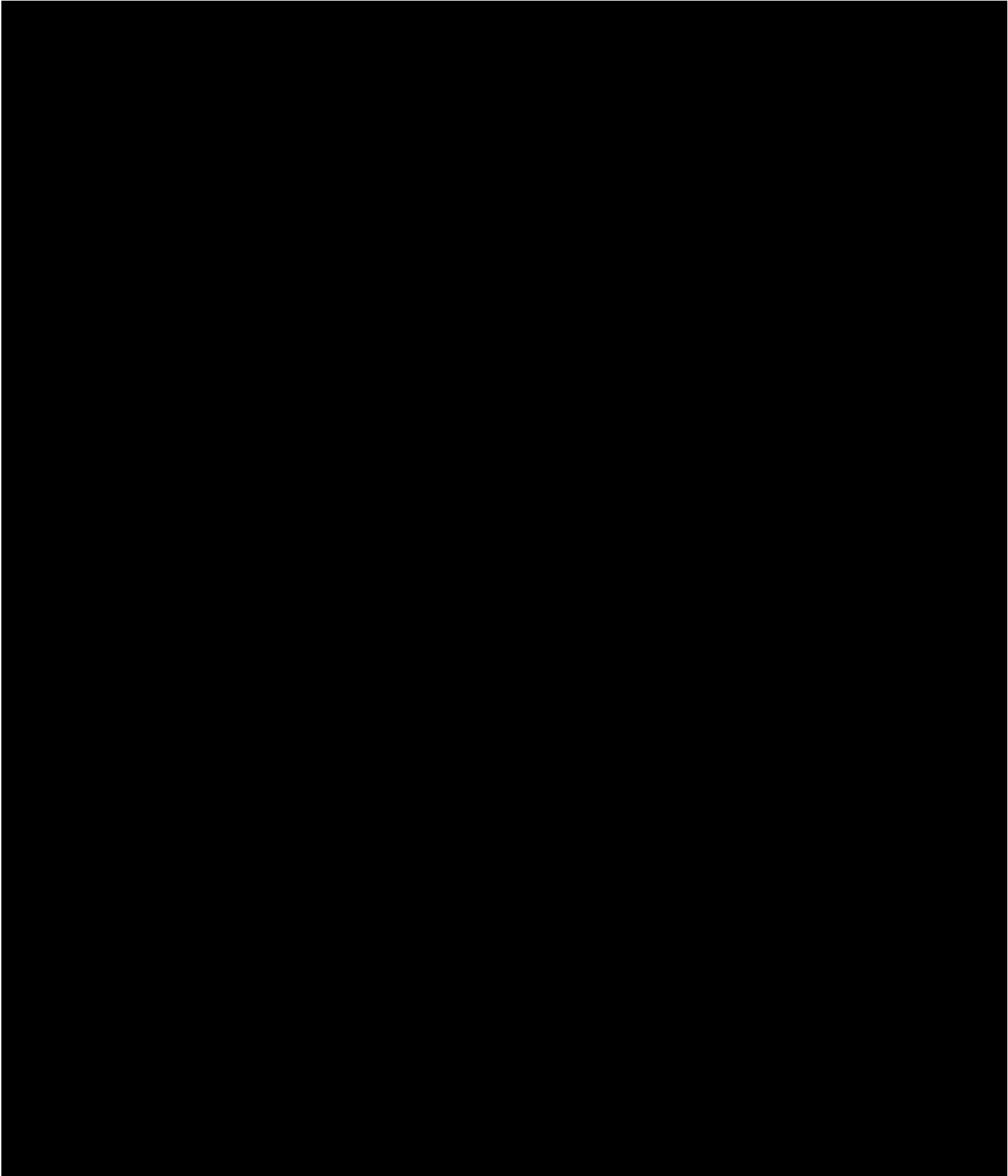
ALL OF THE FUN AND NONE OF THE B.S.  
HOME OF THE FOPAR TRIGGER



NO B.S. ACCESSORIES CO. IS A GEORGIA CORPORATION

**770-634-0635**

OUR OWNERS MANUAL



**770-634-0635**





770-634-0635

# Installation Instructions (Mil Spec Weapon-Disconnect/Safety kit)



1) Improper installation of firearm component parts may result in death or serious personal injury. only install the component parts on the specific make/model of firearm they are designed for. If you are not properly trained in the installation of these parts have them installed by a gunsmith or armorer.

2) MAKE SURE THE WEAPON IS UNLOADED.

3) Installation of this FOPAR trigger requires the removal of the stock disconnect and the stock safety switch. To do so you must remove the pistol grip and the safety switch. TAKE CARE not to loose the safety detent or spring! Then push the pivot pin for the trigger 3/4 OF THE WAY OUT do not push it all the way out! The disconnecter will spring free. Replace it with the stainless steel disconnecter included in this kit. Push the trigger pivot pin back into position. NOTE: The hole in the new disconnect has tighter specifications than the stock disconnect, it must be lined up exactly and usually requires the pivot pin being tapped through the disconnect.

4) Install **the new safety switch** They may look the same but they are different... **THE FOPAR WILL NOT WORK WITH THE ORIGINAL SAFETY SWITCH!!** and re-install the pistol grip. Side note... the safety can only be removed with the hammer in the rear (cocked) position.

5) Attach the Caution label to the side of the magazine housing.



To Website INCLUDING  
The INSTALL VIDEO!  
[www.unksguns.com](http://www.unksguns.com)

## NO B.S. ACCESSORIES CO.



NO B.S.ACCESSORIES CO. IS A GEORGIA CORPORATION!

## A word about "Mil Spec"



**Mil Spec** (metal NOT plastic)

**Not Mil Spec...**

If your weapon is equipped with a "not Mil Spec" trigger assembly it can be replaced with a Mil Spec fire control group and then you can install the FOPAR Trigger kit!

**770-634-0635**



THE INSTALLATION SHEET

## ABOUT US

---

OUR EMAIL ADDRESS IS:

[rkipfm@gmail.com](mailto:rkipfm@gmail.com).

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# **EXHIBIT C**



We are a **WHOLESALE ONLY** company  
 If you are looking for retail sales contact us at Unk's Guns  
 ([www.unksguns.com](http://www.unksguns.com))

**Discounts in Bulk**  
**FEEL FREE TO CALL US AT 770-**  
**634-0635**



**Contact Us**



# Drop us a line!

Name

---

Email\*

---

Message

---



SEND

This site is protected by reCAPTCHA and the Google [Privacy Policy](#) and [Terms of Service](#) apply.

## CALL BEFORE YOU SHOW UP!

WE ARE A WHOLESALE COMPANY, AND DO NOT KEEP RETAIL HOURS

## No B.S. Accessories

94 Oakwood Drive, Dahlonega, Georgia 30533, United States

[rkipfm@gmail.com](mailto:rkipfm@gmail.com)



# NO B.S. ACCESSORIES

**ALL OF THE FUN AND NONE OF THE B.S.**

**HOME OF THE**



**TRIGGER**

**Fires On Pull And Release  
(FOPAR)**

**FITS ALL CALIBERS AR15/AR10 WITH A MIL SPEC  
TRIGGER GROUP**

**THIS IS THE ORIGINAL 2 POSITION FOPAR.**

\$149.00 (\$1.00 shipping)



**WE OFFER 2 SEPARATE STYLES OF FIRE ON PULL AND RELEASE TRIGGERS. THE 2**

***POSITION TRIGGER: POSITION1=SAFE***

***POSITION 2=FIRE ON PULL AND RELEASE.***

**AND THE NEWEST IS THE 3 POSITION TRIGGER: POSITION 1=SAFE, POSITION 2=  
STANDARD SEMI AUTOMATIC FIRE, POSITION 3= FIRE ON PULL AND RELEASE.**



# NO B.S. ACCESSORIES

**ALL OF THE FUN AND NONE OF THE B.S.**

**HOME OF THE**



**TRIGGER**

**Fires On Pull And Release  
(FOPAR)**

**FITS ALL CALIBERS AR15/AR10 WITH A MIL SPEC TRIGGER  
GROUP**

**\$250.00**



**THIS IS THE NEW 3 POSITION FOPAR.**

**NEW 3 POSITION & PREMIUM 2 POSITION  
FOPAR TRIGGER INSTALL**

**EASY PEASY INSTALLS IN MINUTES**





06:15

## 3 POSITION FIRE ON PULL AND RELEASE

Check out this great video



07:30

# ORIGINAL 2 POSITION FOPAR TRIGGER INSTALL

INSTALLED AND WORKING IN LESS THAN 5 MINUTES



04:39

# FOPAR TRIGGER IN ACTION!

FUN, FUN, FUN!



FOPAR COMBINATION VID



## 2 POSITION OWNERS MANUAL & INSTALL INSTRUCTIONS



# FOPAR TRIGGER OWNERS MANUAL

## THIS KIT ONLY FITS MIL SPEC AR15

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If you have pulled the trigger to the rear & set the trigger for fire on release but do not want to release the round and want to render the weapon safe without firing the fire on release round you must:

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### CHECK ALL LOCAL, STATE, AND FEDERAL LAWS PRIOR TO INSTALLING THESE PARTS!

#### Warranties

The FOPAR TRIGGER IS AS IS NO WARRANTY EXPRESSED OR IMPLIED. No representation or warranty whatsoever regarding the completeness, quality, or adequacy of the suitability, functionality, or operation of these parts. By using these parts, you assume the risk that the content of this package may cause death or great bodily injury. FOPAR TRIGGERS SPECIFICALLY DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND NON-INFRINGEMENT. IN NO EVENT WILL WE BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES EVEN IF COMPANY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

**NO B.S. ACCESSORIES CO.**

ALL OF THE FUN AND NONE OF THE B.S.  
HOME OF THE **FOPAR** TRIGGER  
Fires On Pull And Release (FOPAR)

NO B.S. ACCESSORIES CO. IS A GEORGIA CORPORATION



# Installation Instructions

## (Mil Spec Weapon-Disconnect/Safety kit)

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5) Attach the Caution label to the side of the magazine housing.

### A word about "Mil Spec"



**Mil Spec** (metal NOT plastic)

**Not Mil Spec...**

If your weapon is equipped with a "not Mil Spec" trigger assembly it can be replaced with a Mil Spec fire control group and then you can install the FOPAR Trigger kit!

# COMING SOON!

OOOH!... WE ARE WORKING ON THE GLOCK FOPAR AGAIN!!

We will be updating the website soon!

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POWERED BY GODADDY



# **EXHIBIT D**





US010393461B2

(12) **United States Patent**  
**Fellows et al.**

(10) **Patent No.:** **US 10,393,461 B2**  
(45) **Date of Patent:** **\*Aug. 27, 2019**

(54) **TRIGGER GROUP FOR SEMI-AUTOMATIC FIREARMS**

(71) Applicant: **Franklin Armory Holdings, Inc.**,  
Minden, NV (US)

(72) Inventors: **Ryan Paul Fellows**, San Jose, CA  
(US); **Jay Leonard Jacobson**, Minden,  
NV (US)

(73) Assignee: **FRANKLIN ARMORY HOLDINGS,  
INC.**, Minden, NV (US)

(\*) Notice: Subject to any disclaimer, the term of this  
patent is extended or adjusted under 35  
U.S.C. 154(b) by 0 days.

This patent is subject to a terminal dis-  
claimer.

(21) Appl. No.: **15/923,831**

(22) Filed: **Mar. 16, 2018**

(65) **Prior Publication Data**

US 2018/0209755 A1 Jul. 26, 2018

**Related U.S. Application Data**

(63) Continuation of application No. 14/724,548, filed on  
May 28, 2015, now Pat. No. 9,952,012.

(60) Provisional application No. 62/026,621, filed on Jul.  
19, 2014.

(51) **Int. Cl.**

**F41A 19/14** (2006.01)  
**F41A 19/10** (2006.01)  
**F41A 19/12** (2006.01)  
**F41A 19/02** (2006.01)  
**F41A 19/24** (2006.01)

(52) **U.S. Cl.**

CPC ..... **F41A 19/14** (2013.01); **F41A 19/02**  
(2013.01); **F41A 19/10** (2013.01); **F41A 19/12**  
(2013.01); **F41A 19/24** (2013.01)

(58) **Field of Classification Search**

CPC ..... F41A 19/24; F41A 19/06; F41A 19/10;  
F41A 17/74; F41A 19/12; F41A 19/45;  
F41A 19/46; F41A 19/44; F41A 19/02;  
F41A 19/14

USPC ..... 89/139, 129.01, 129.02, 132, 136, 140  
See application file for complete search history.

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42/69.03

(Continued)

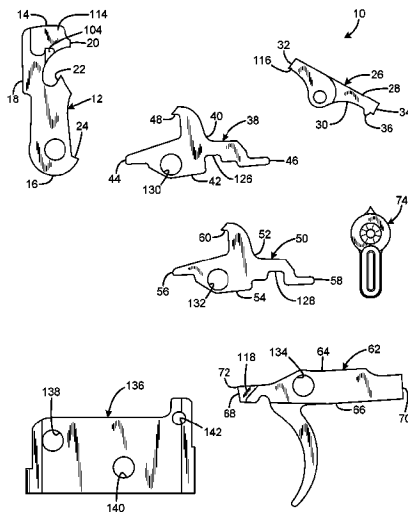
*Primary Examiner* — John Cooper

(74) *Attorney, Agent, or Firm* — Bennett K. Langlotz;  
Langlotz Patent & Trademark Works, LLC

(57) **ABSTRACT**

Trigger groups for semi-automatic firearms have a hammer, a trigger element, a sear, a selector, and a disconnecter assembly, the disconnecter assembly operable when the selector is in a first position to retain the hammer in the cocked position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, and the disconnecter assembly operable when the selector is in a second position to release the hammer to the striking position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, such that the firearm discharges once per cycle of the trigger element when the selector is in the first position, and fires once for each forward or rearward motion of the trigger element when the selector is in the second position.

**30 Claims, 24 Drawing Sheets**



**US 10,393,461 B2**

Page 2

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(56)

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					42/69.01
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\* cited by examiner

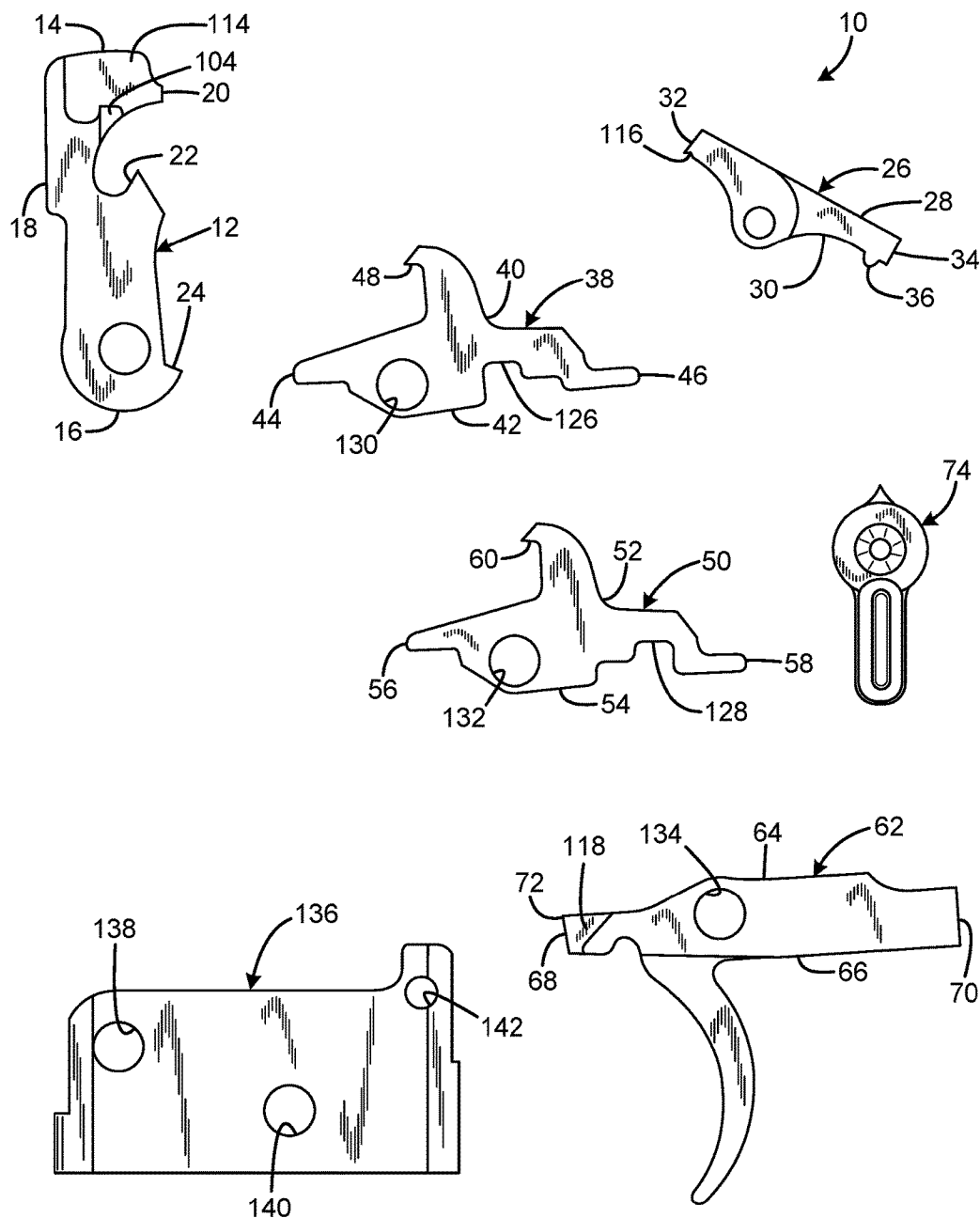


FIG. 1

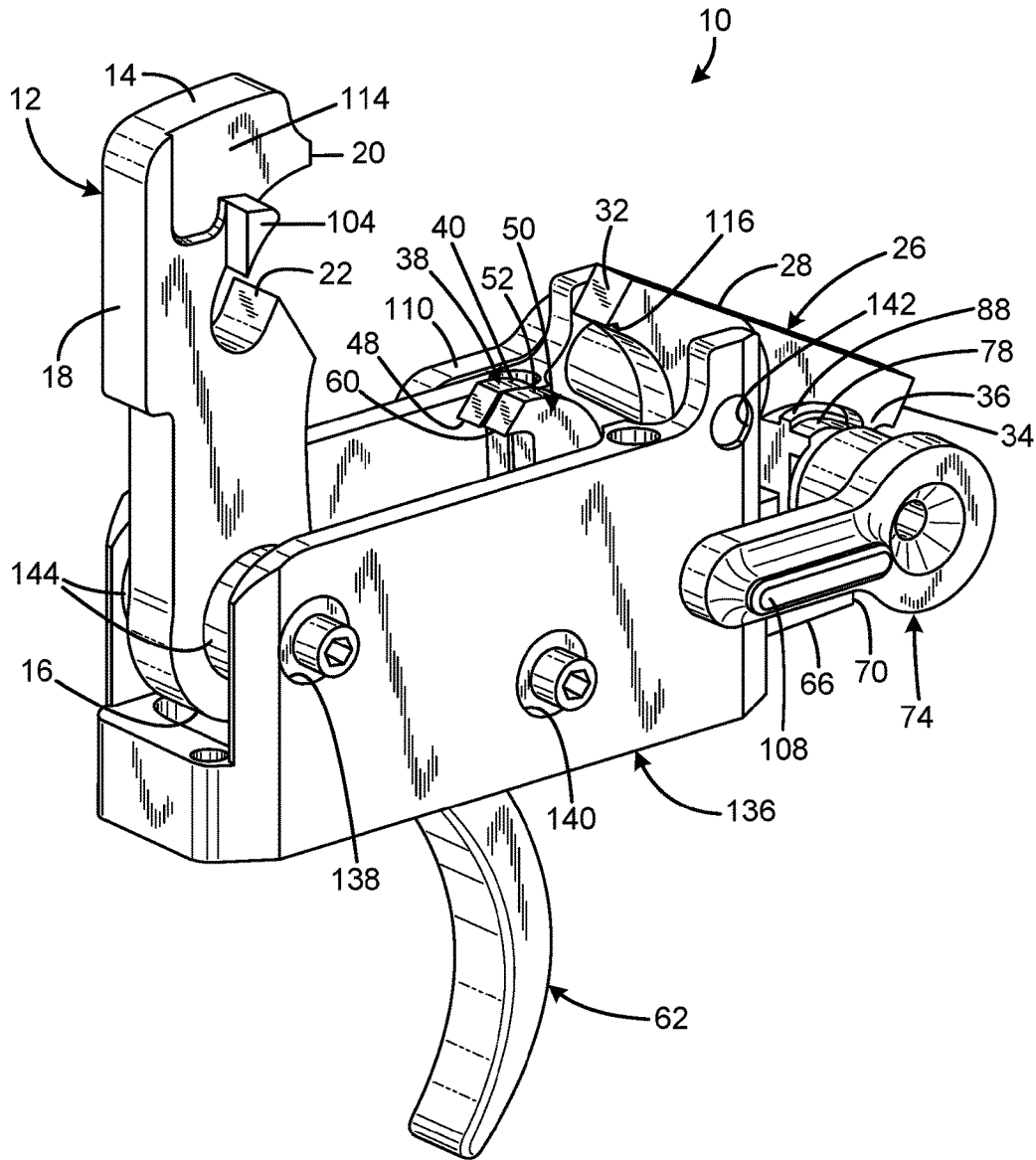


FIG. 2

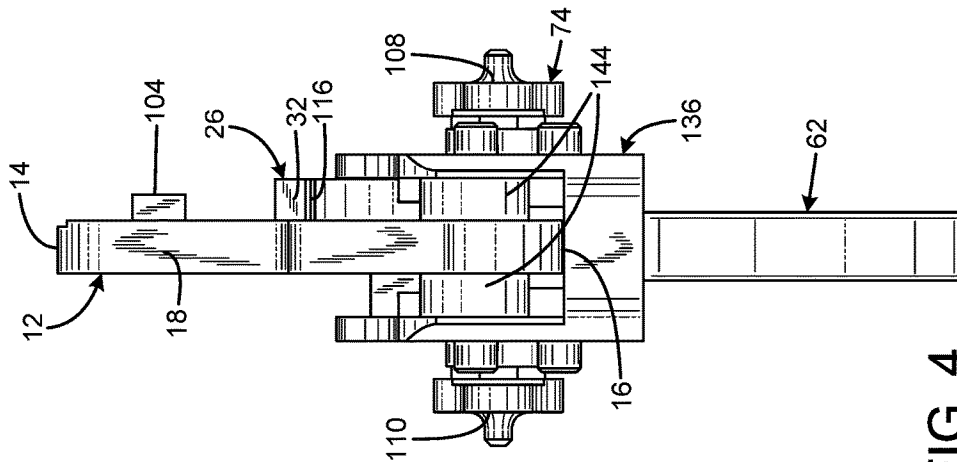


FIG. 4

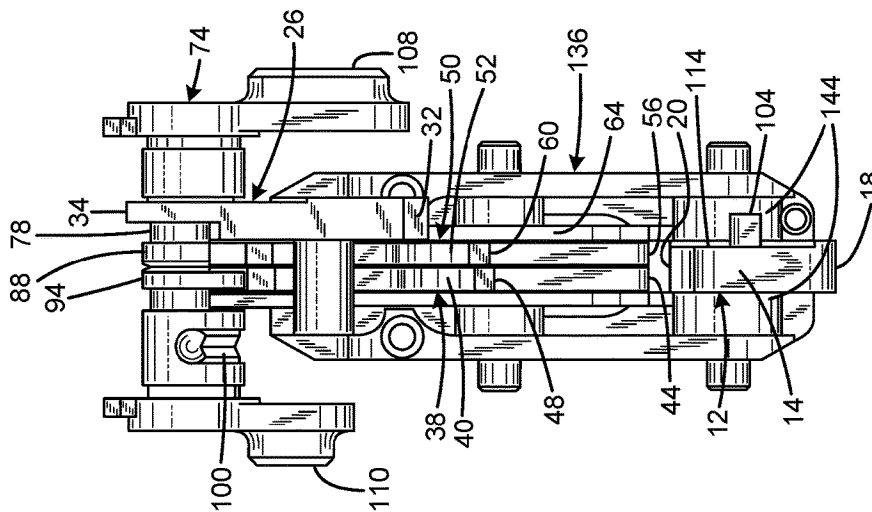


FIG. 3

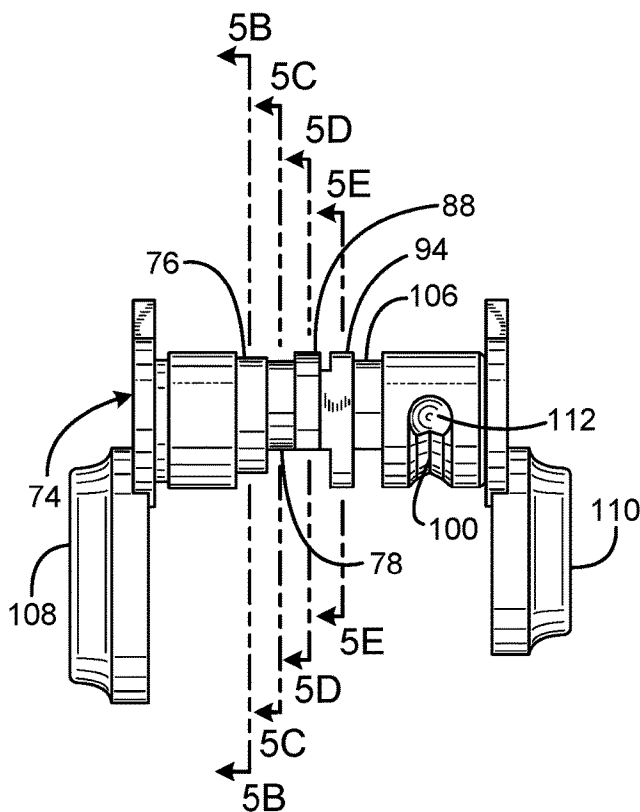


FIG. 5A

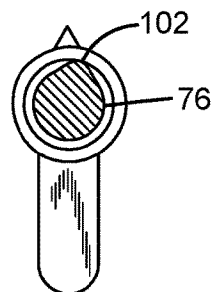


FIG. 5B

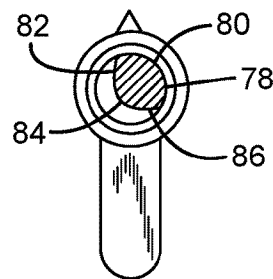


FIG. 5C

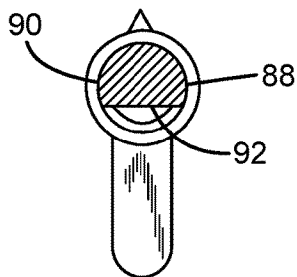


FIG. 5D

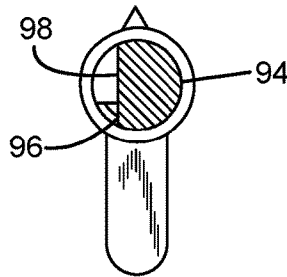


FIG. 5E

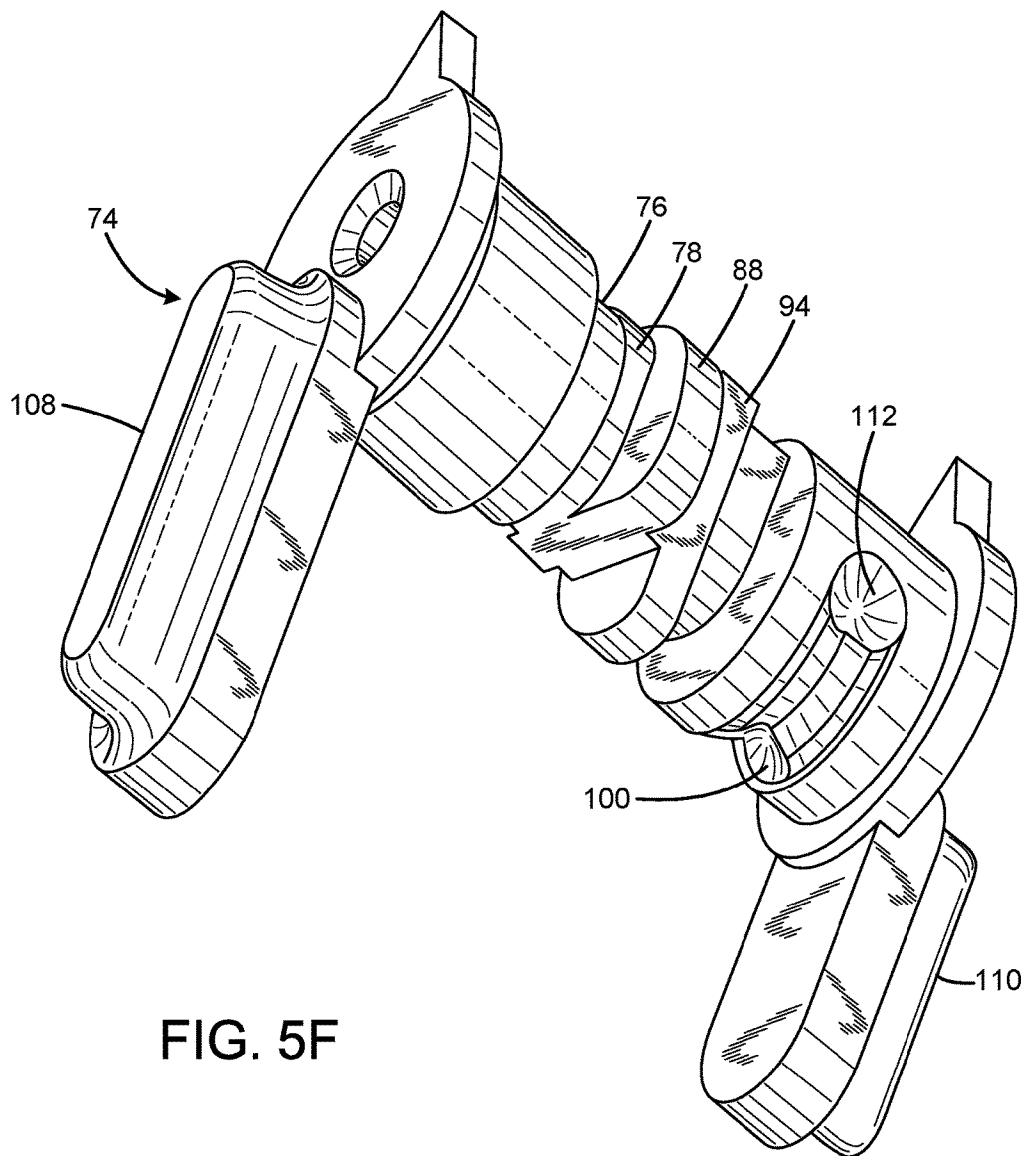


FIG. 5F

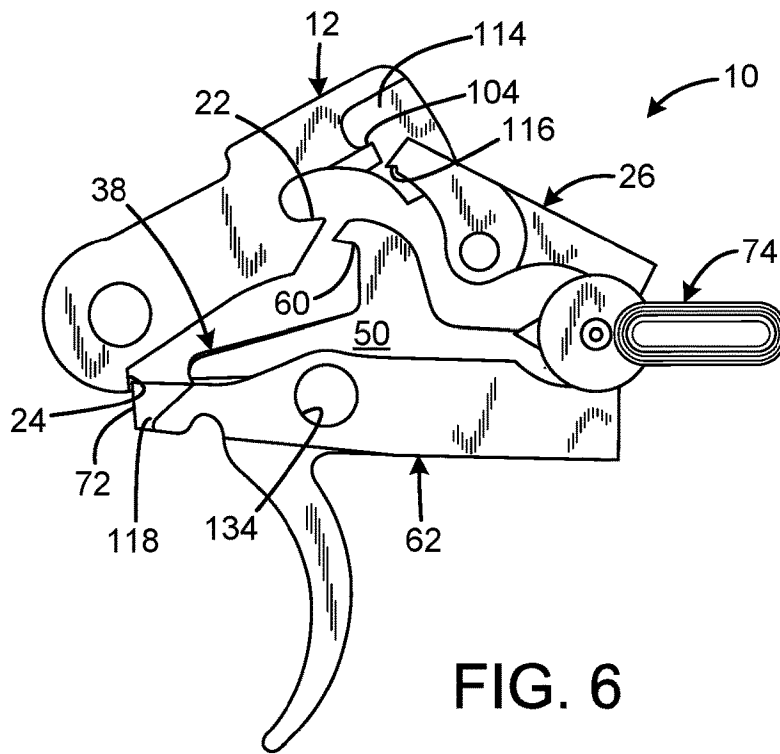


FIG. 6

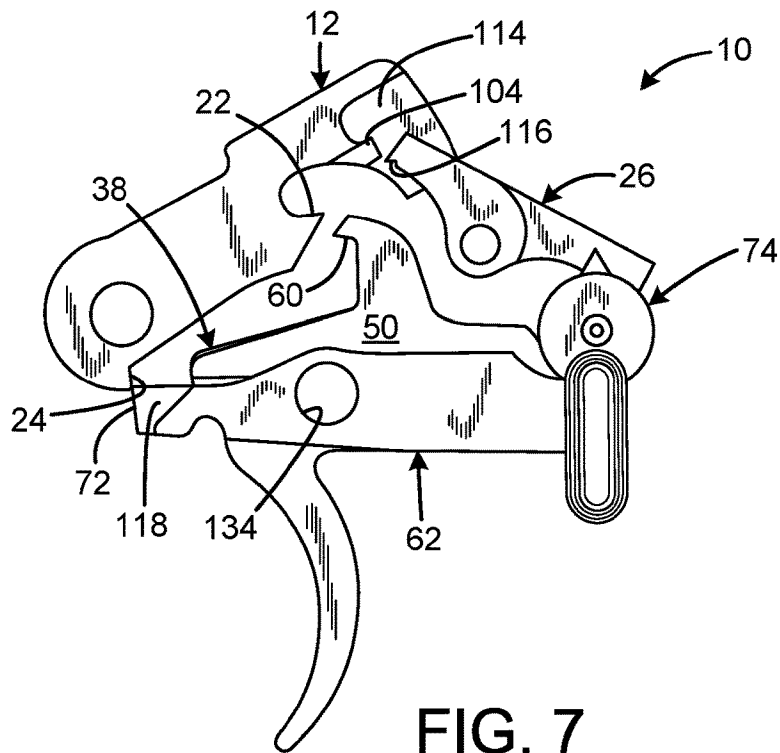


FIG. 7



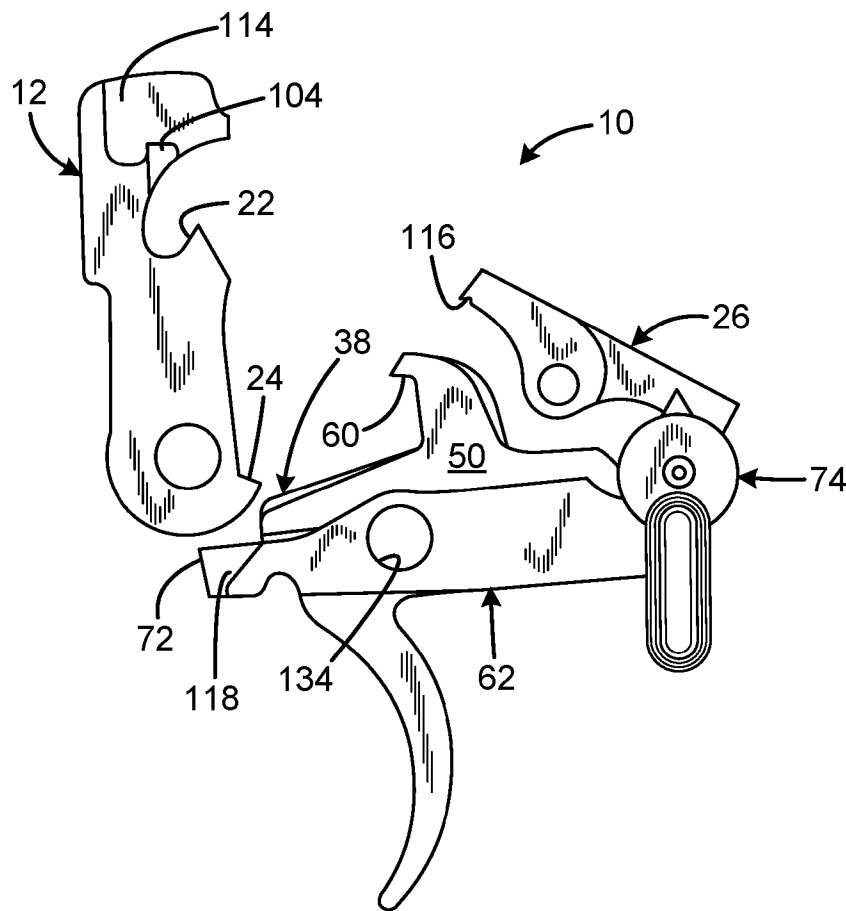
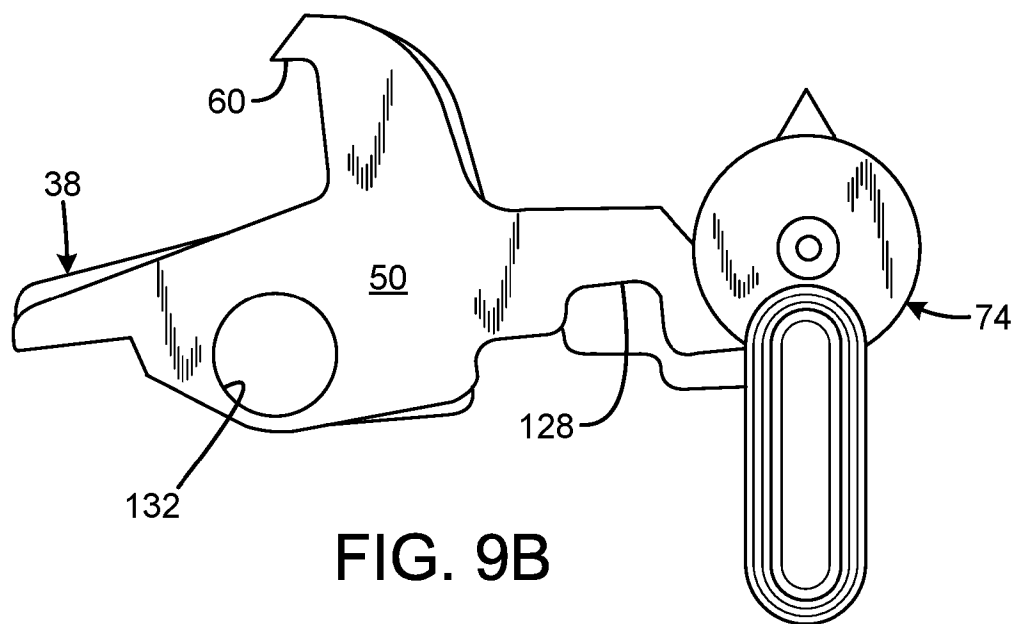
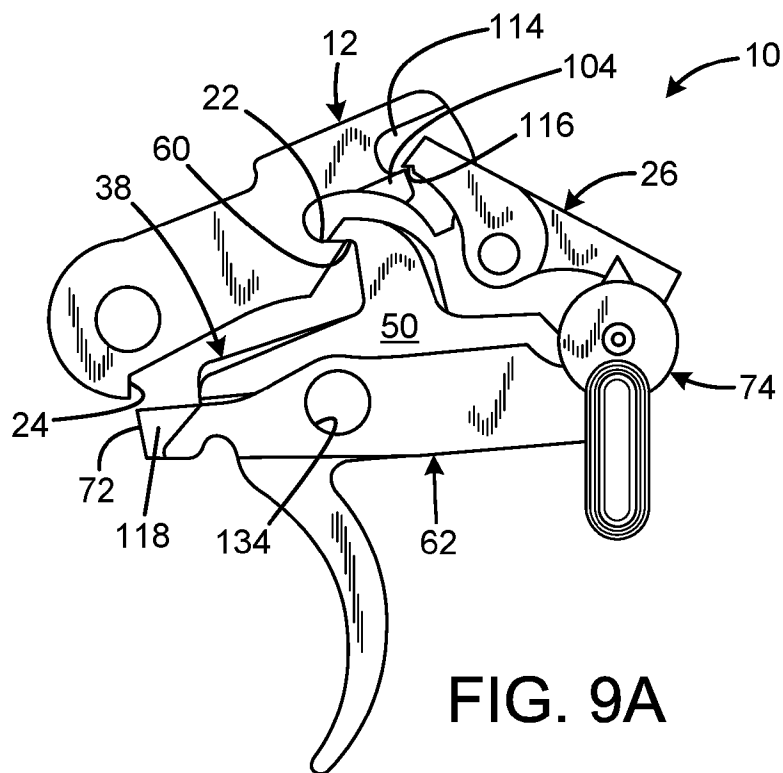


FIG. 8



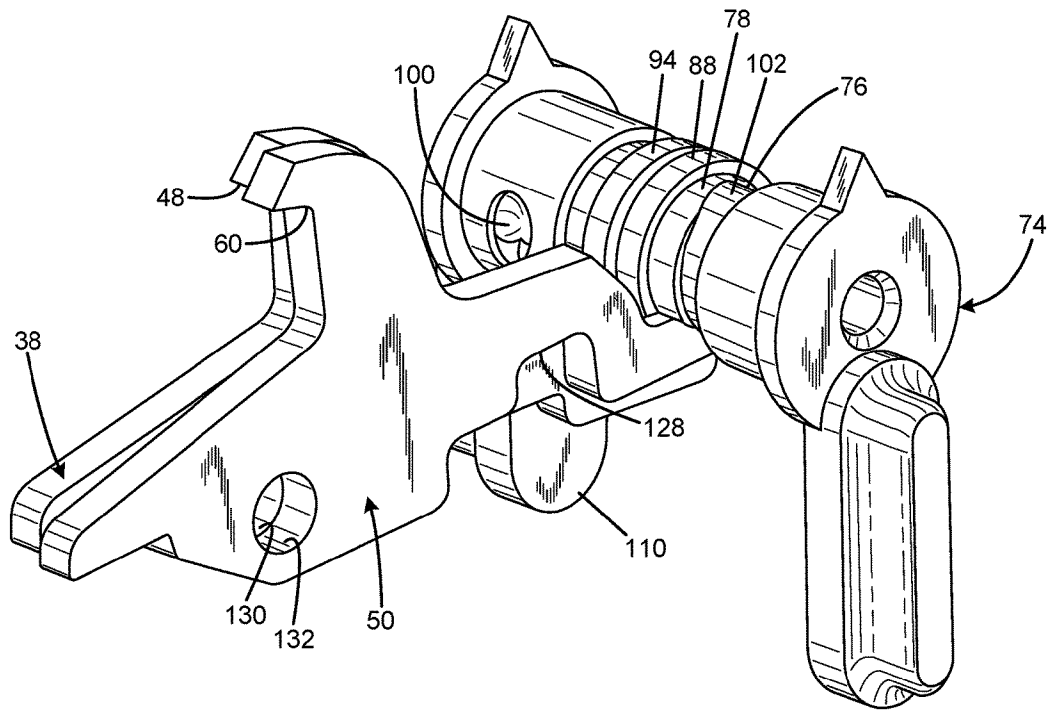


FIG. 9C

FIG. 10A

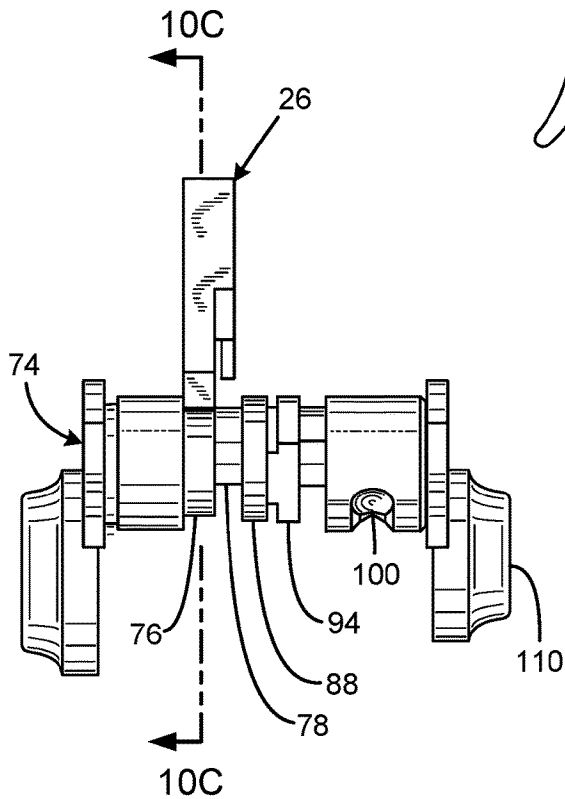
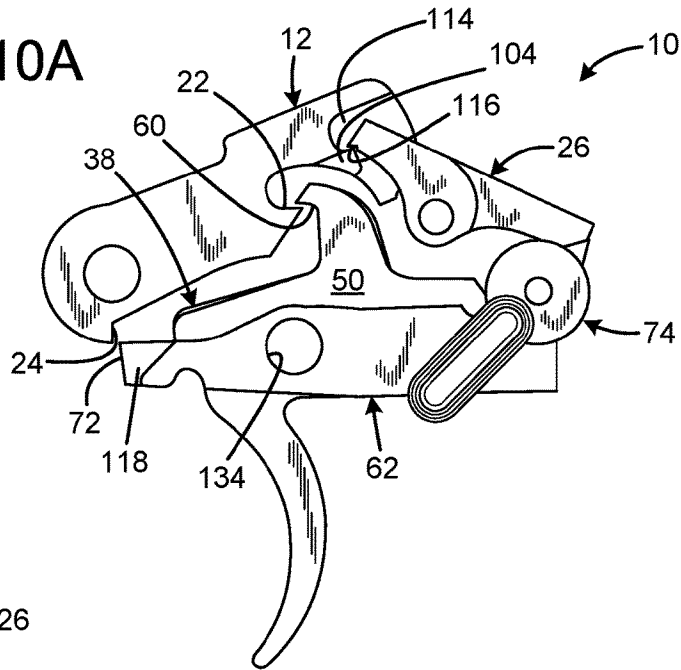


FIG. 10B

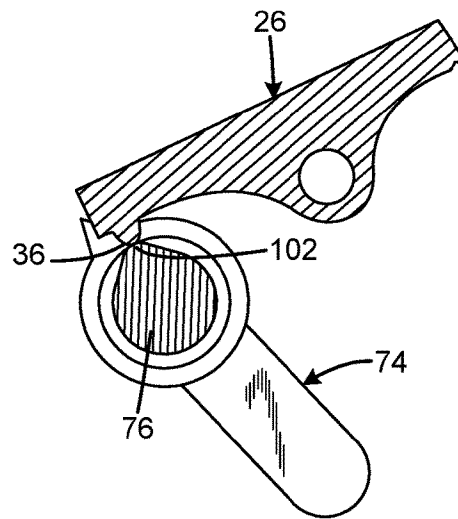


FIG. 10C

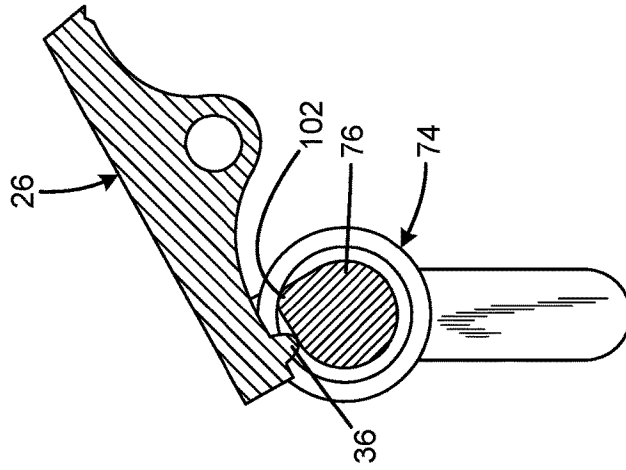


FIG. 10E

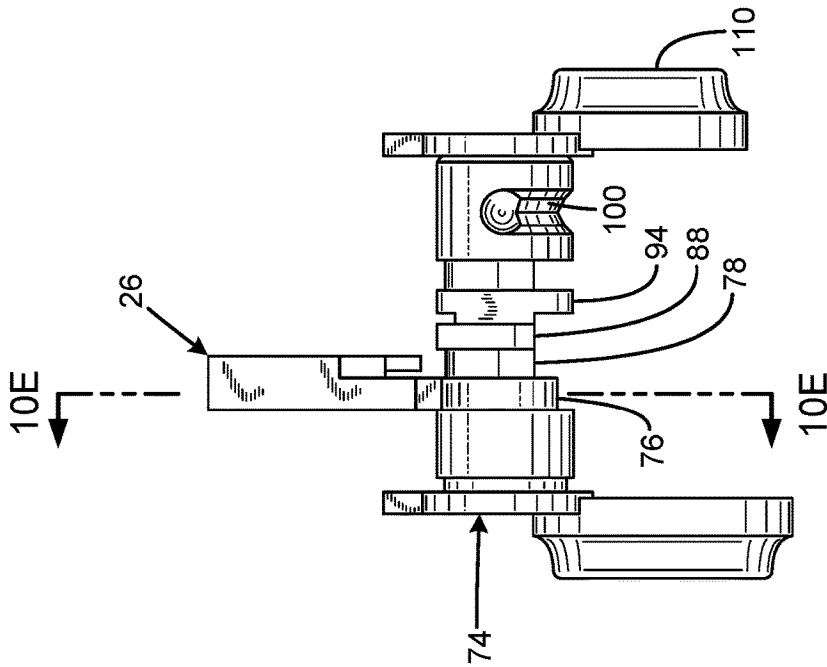
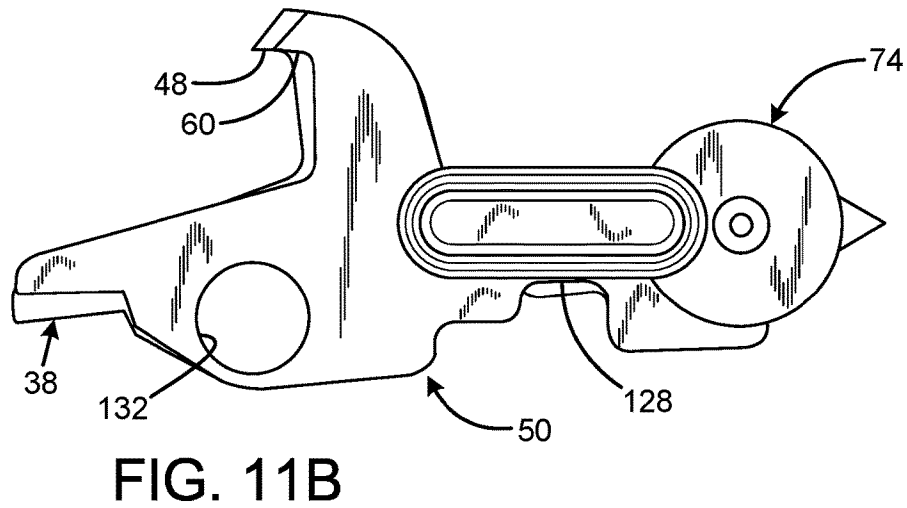
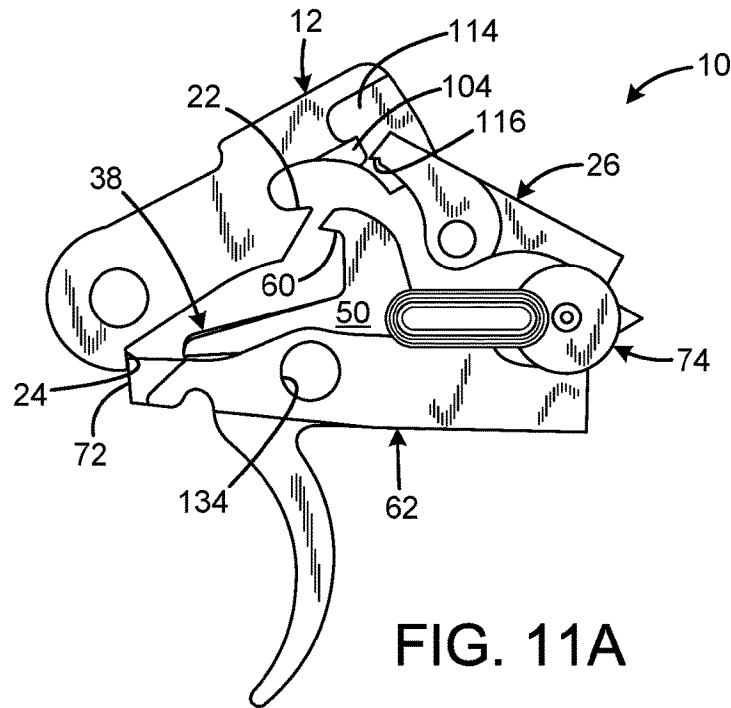
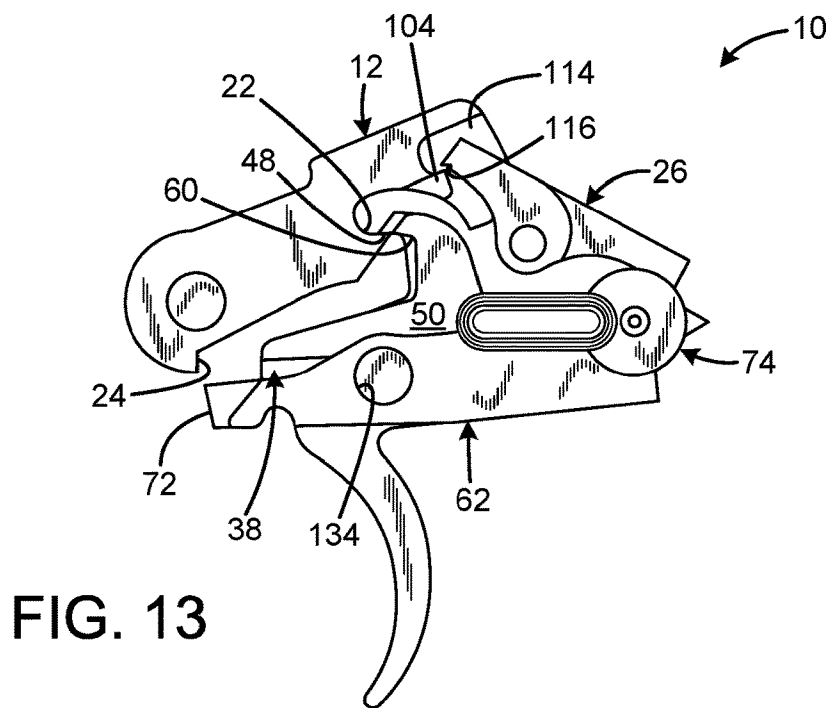
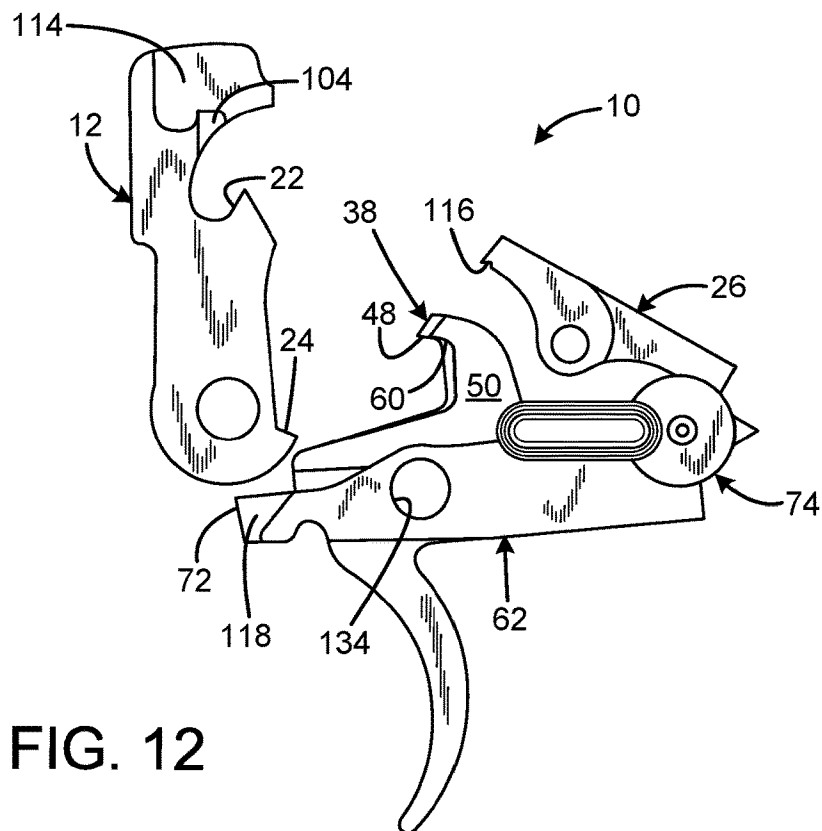
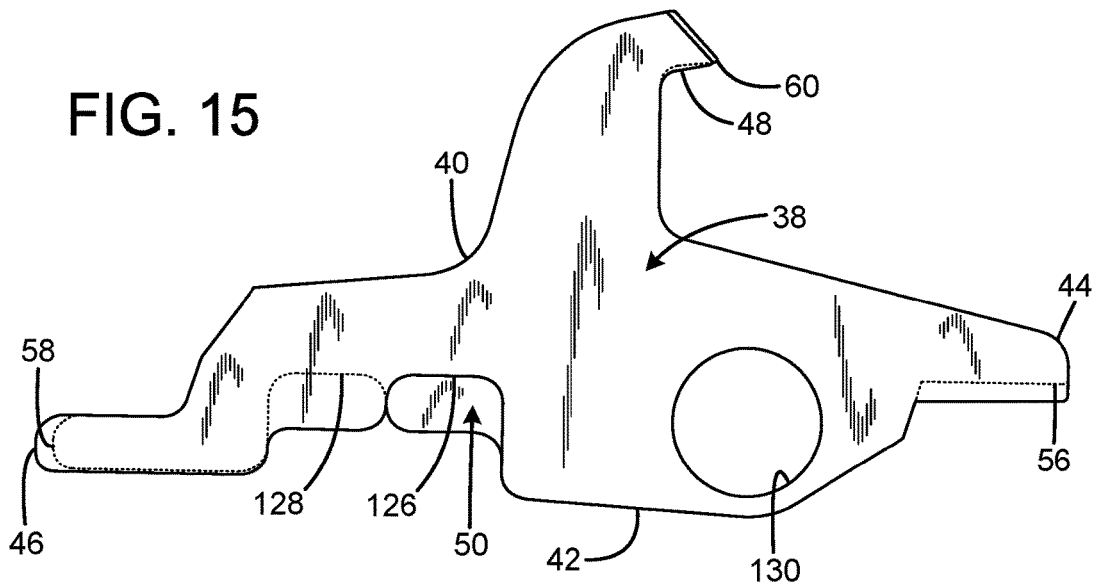
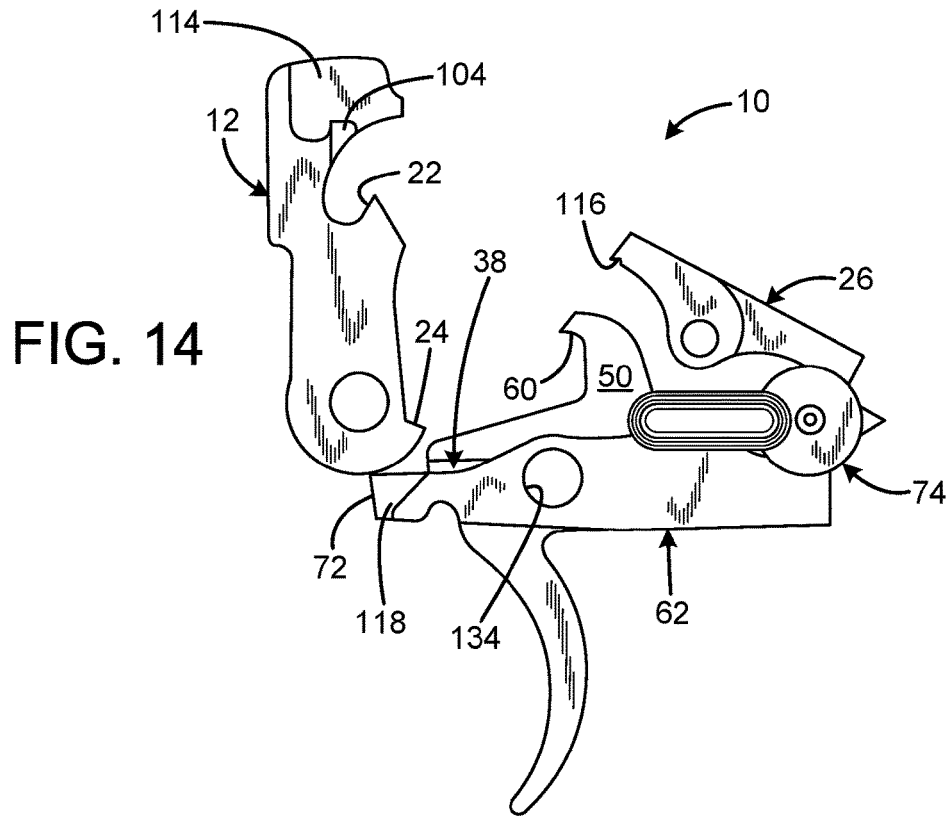


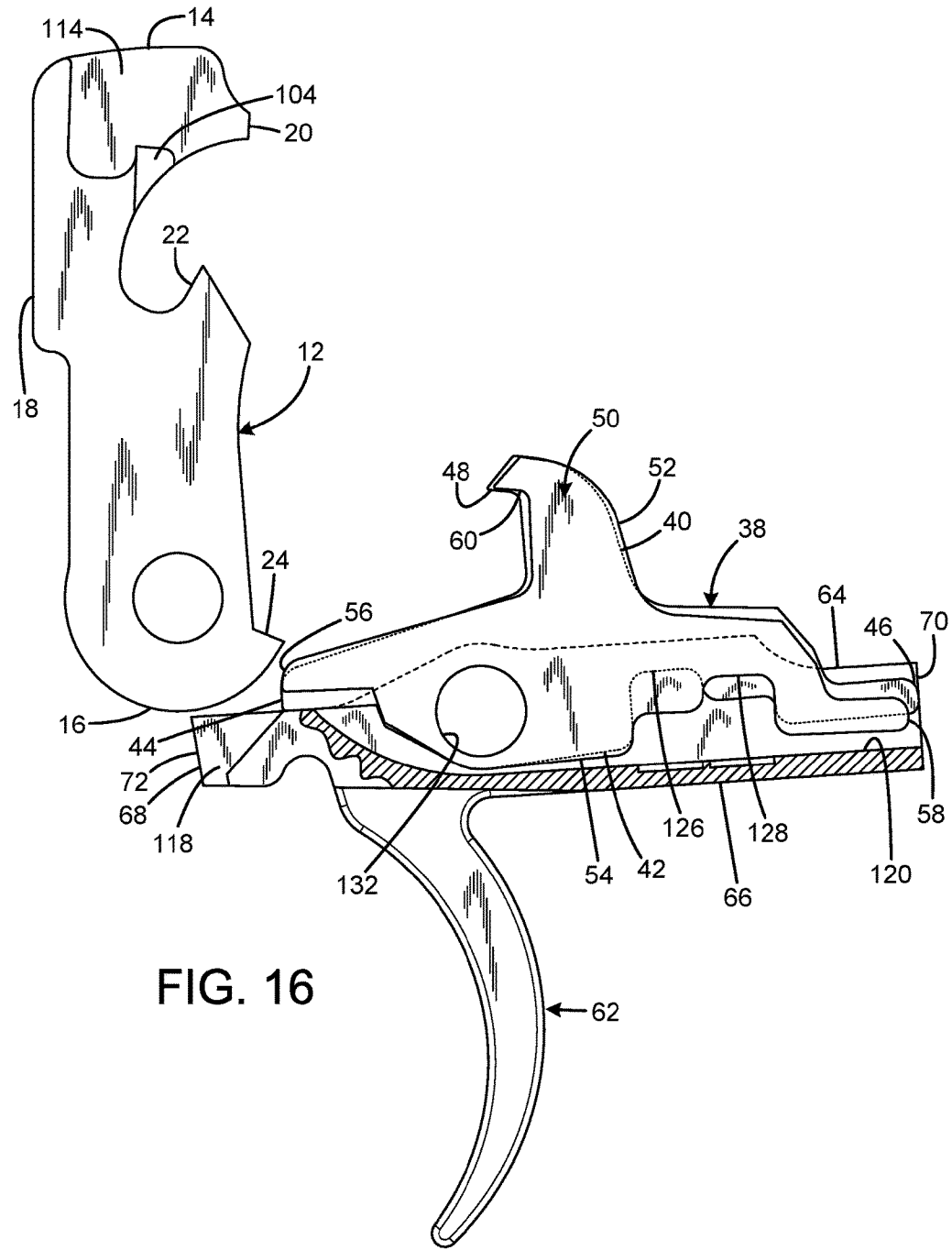
FIG. 10D

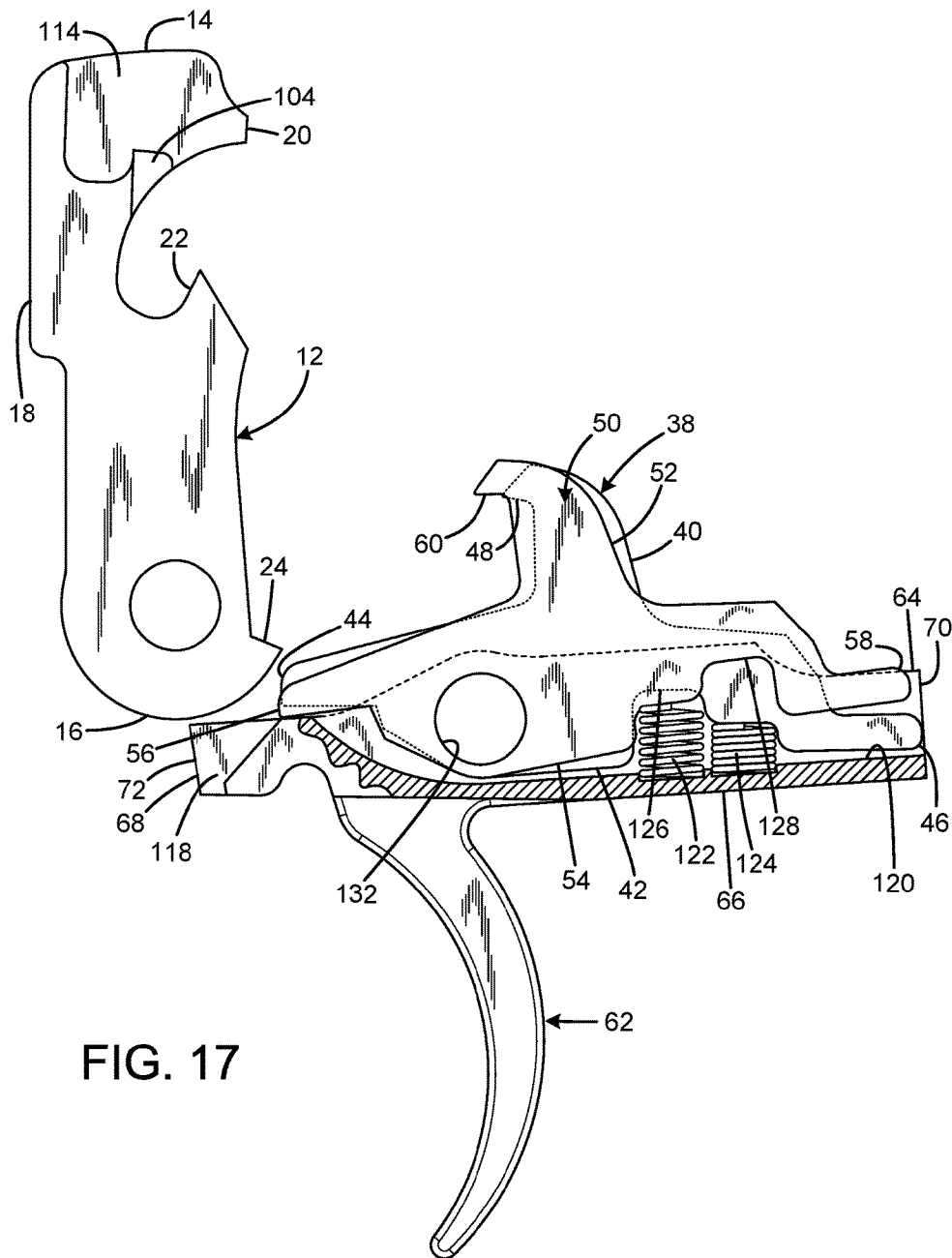












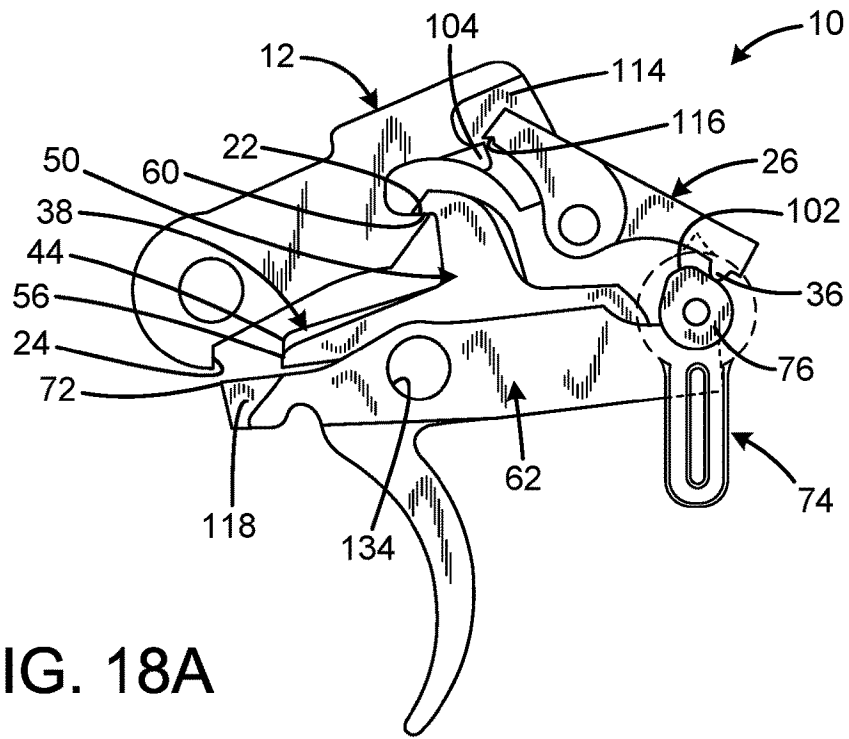


FIG. 18A

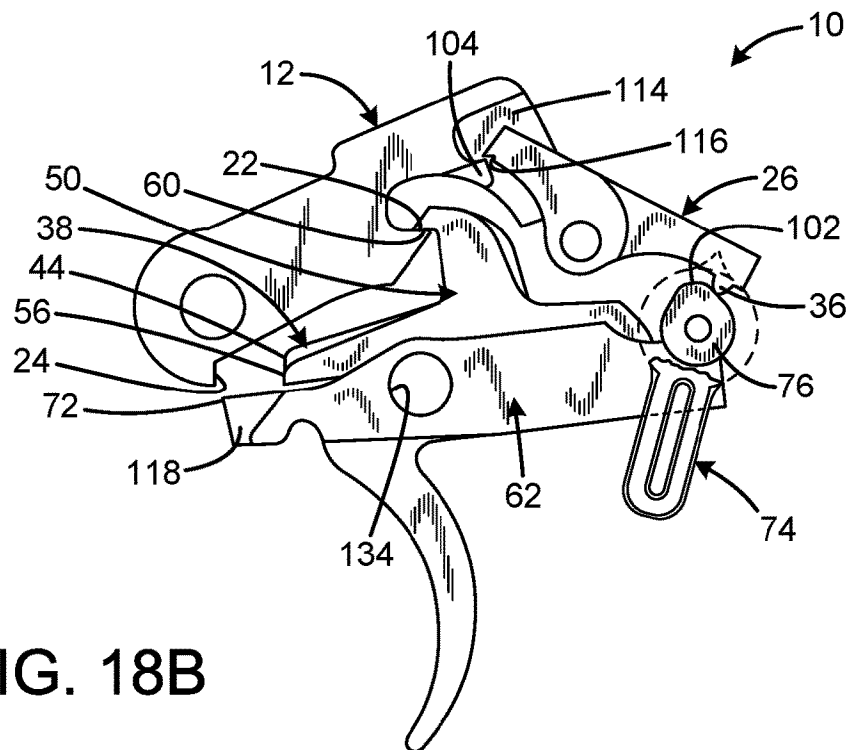


FIG. 18B

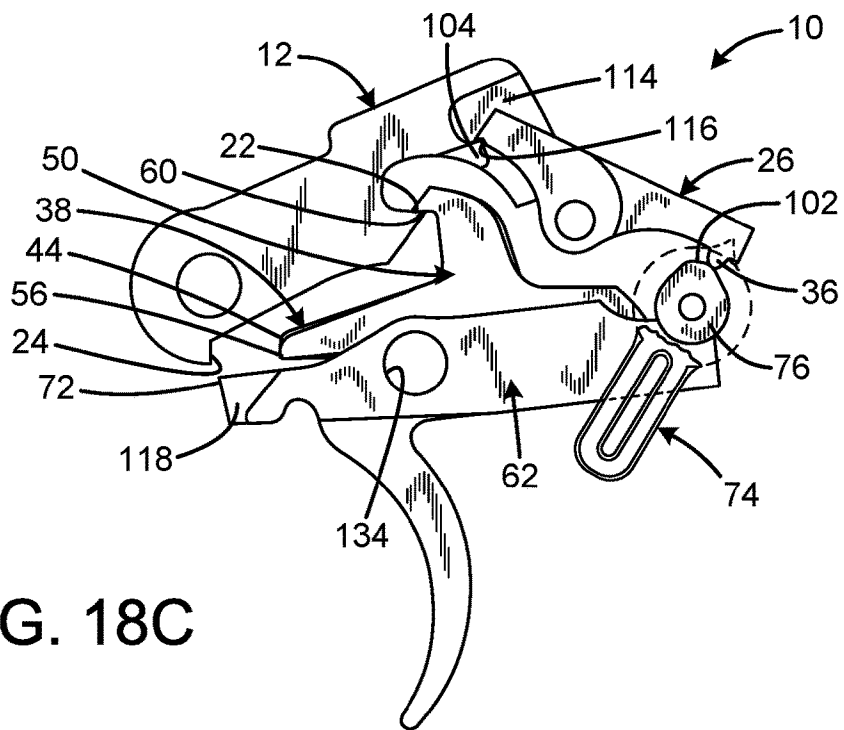


FIG. 18C

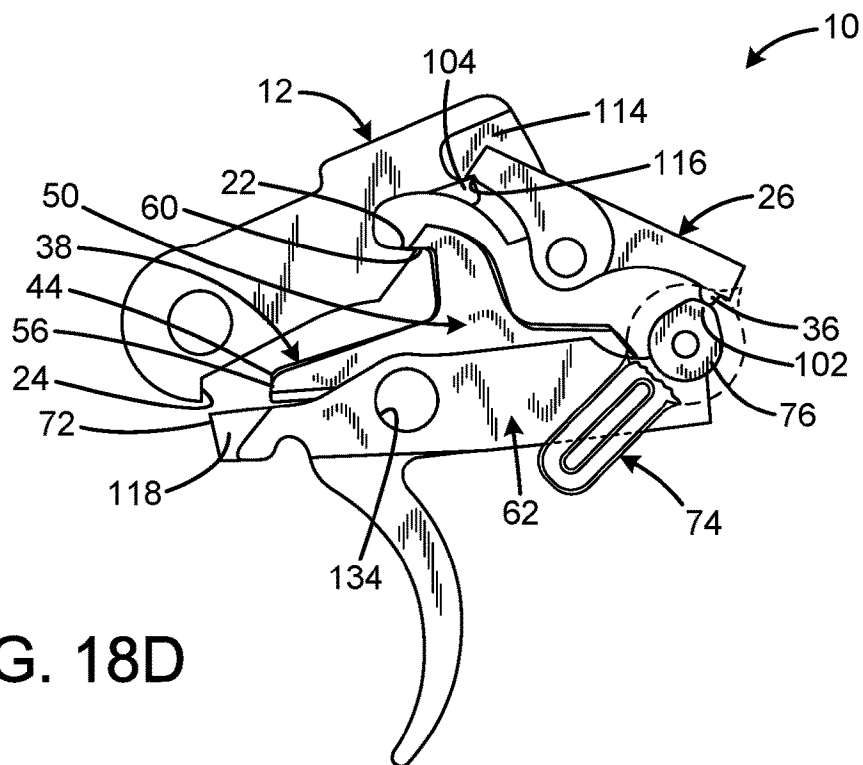


FIG. 18D

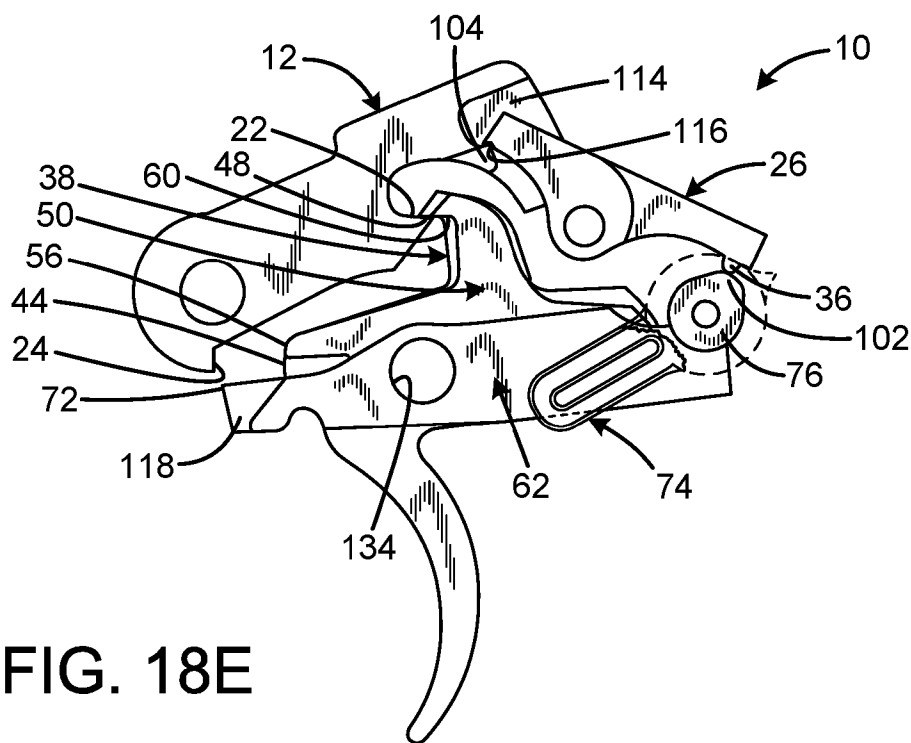


FIG. 18E

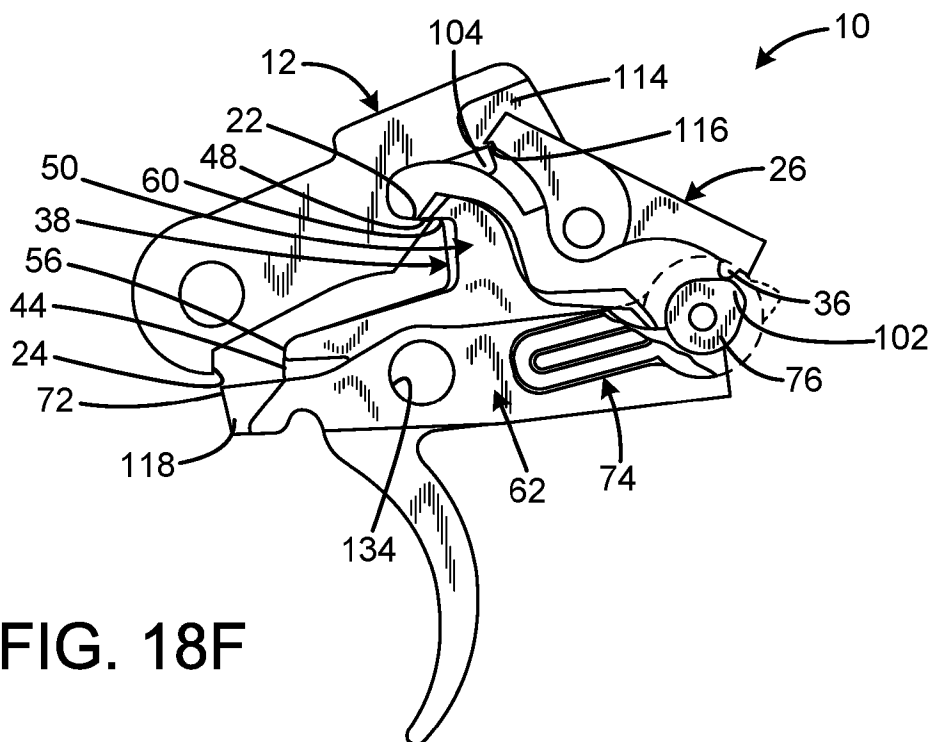


FIG. 18F

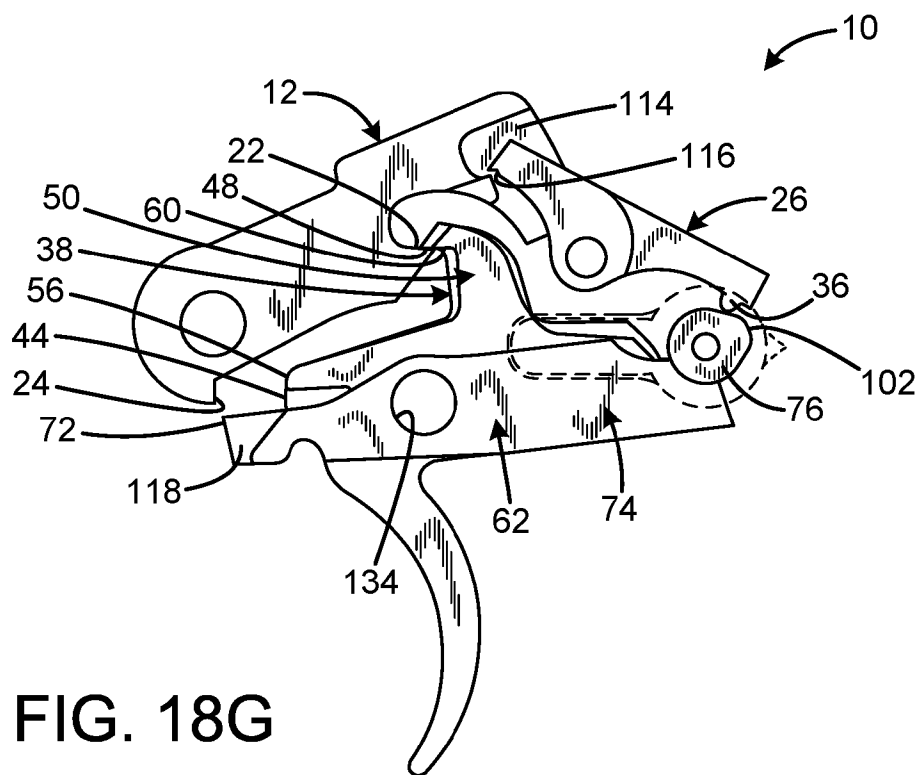
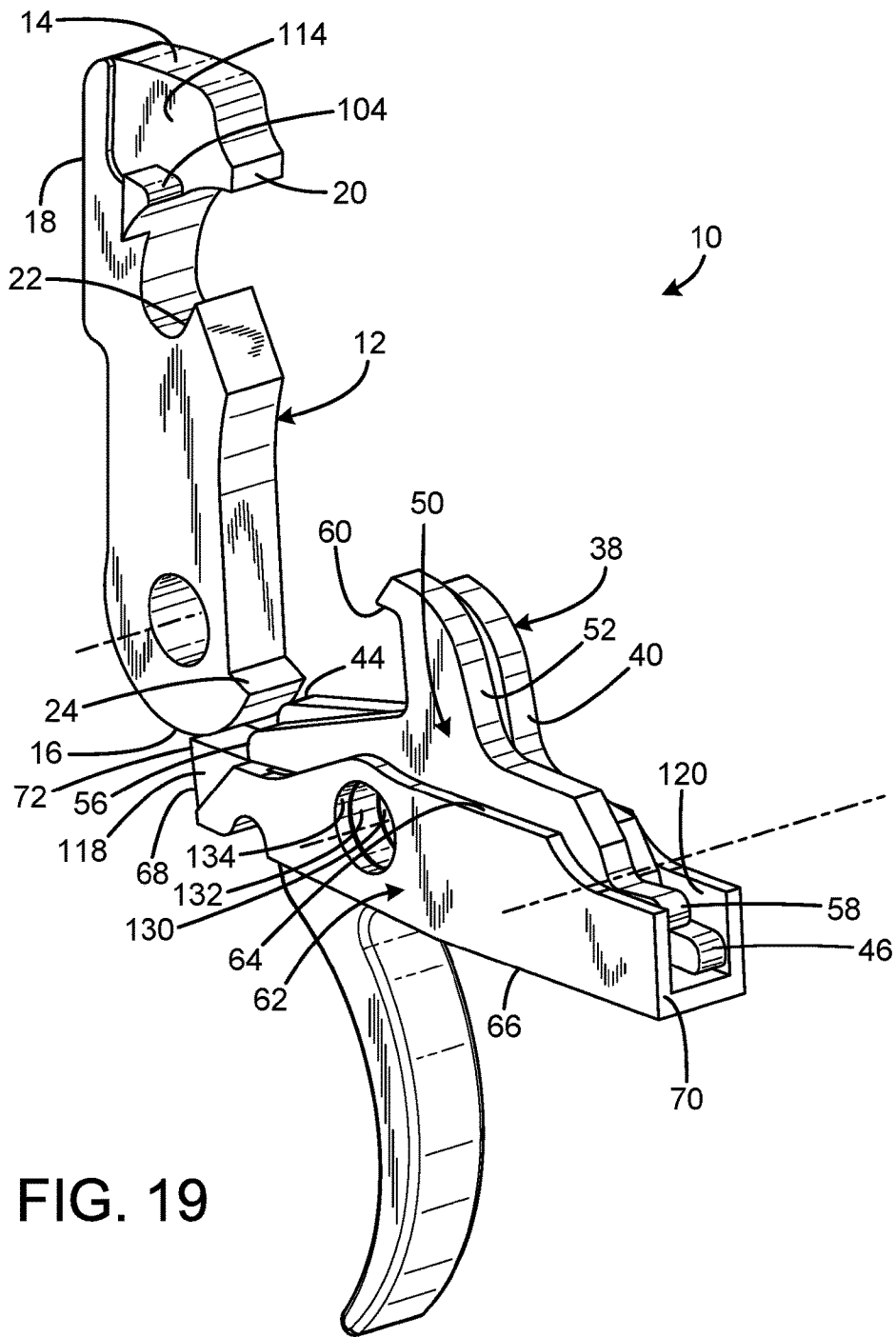


FIG. 18G



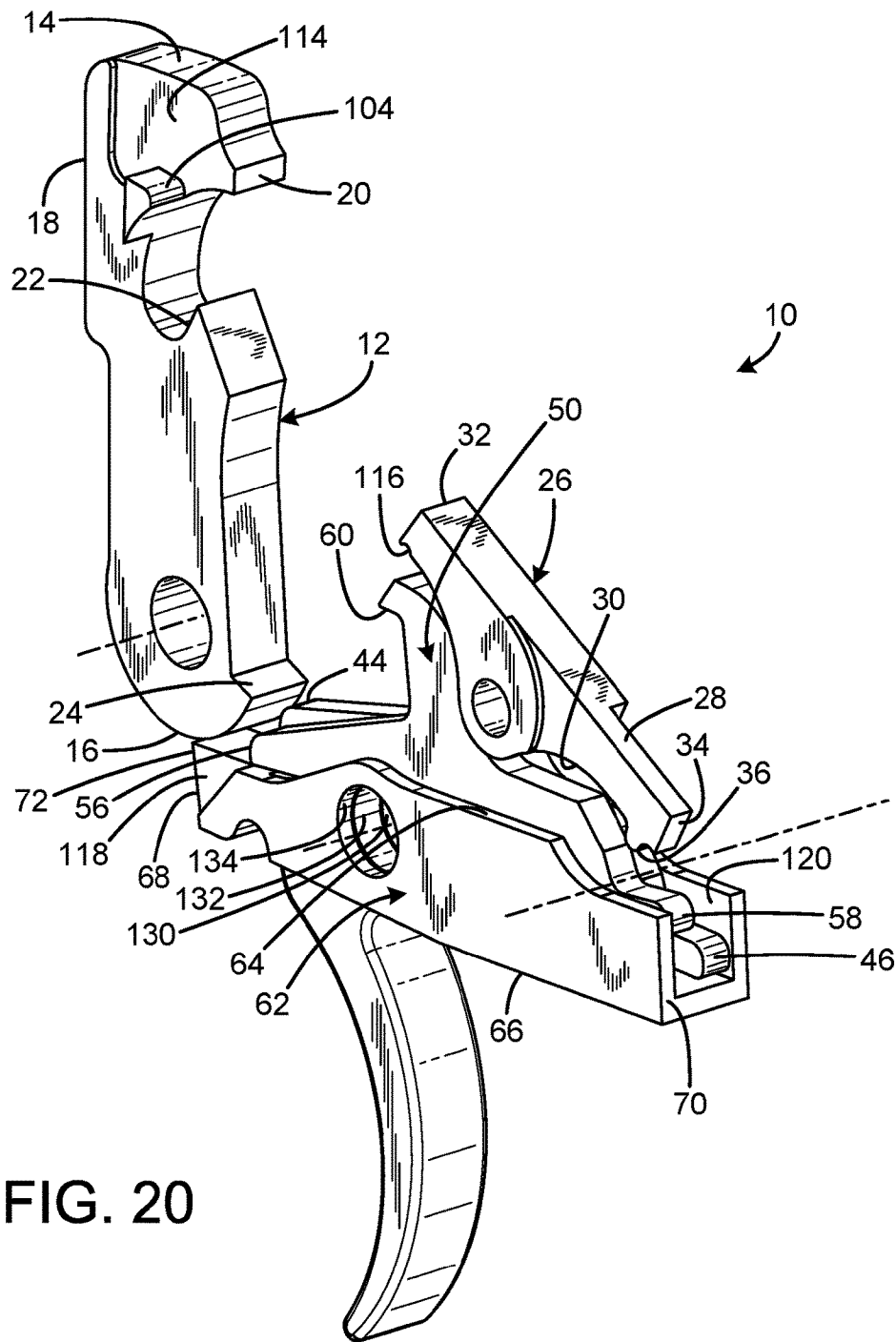
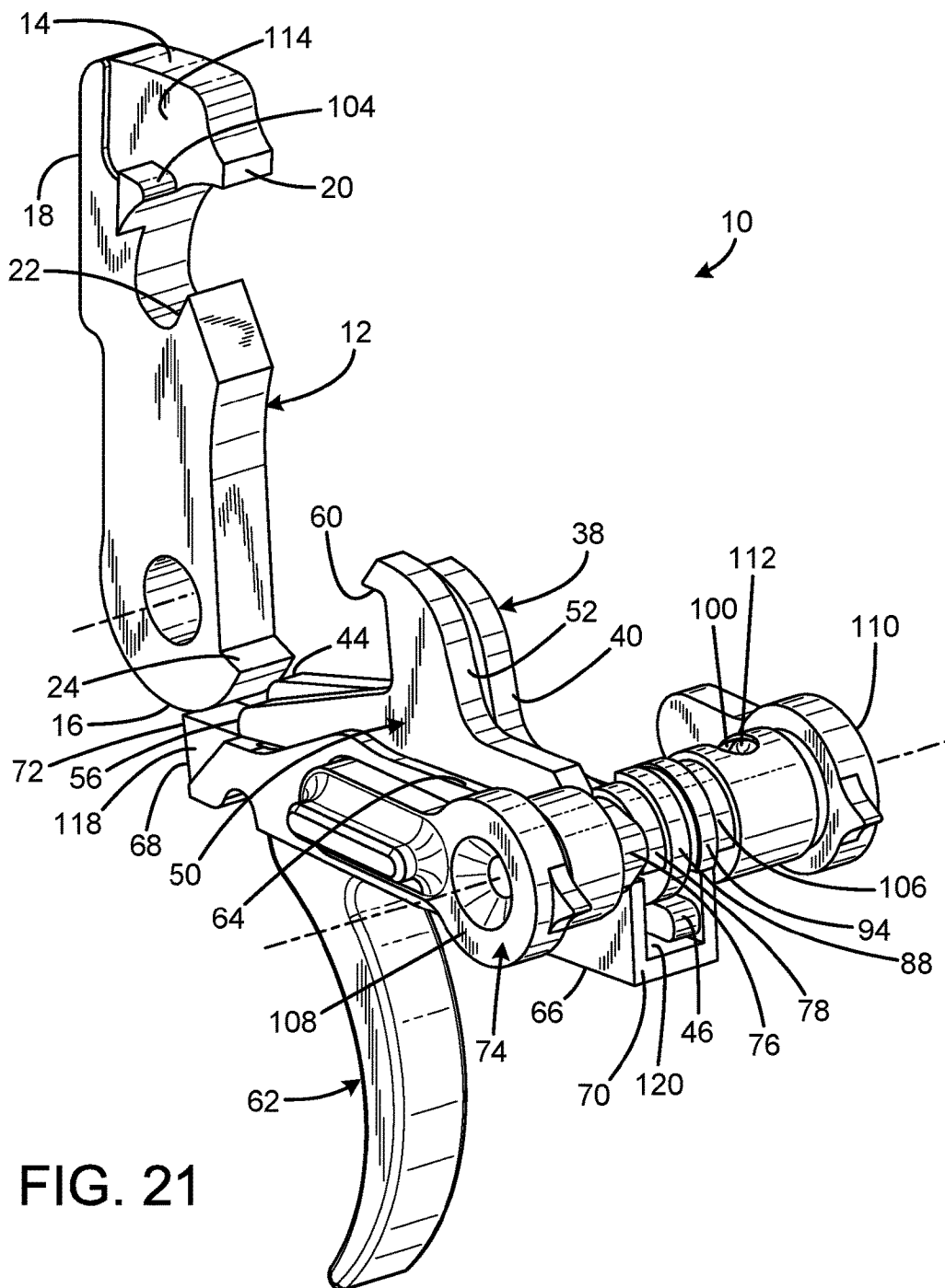


FIG. 20





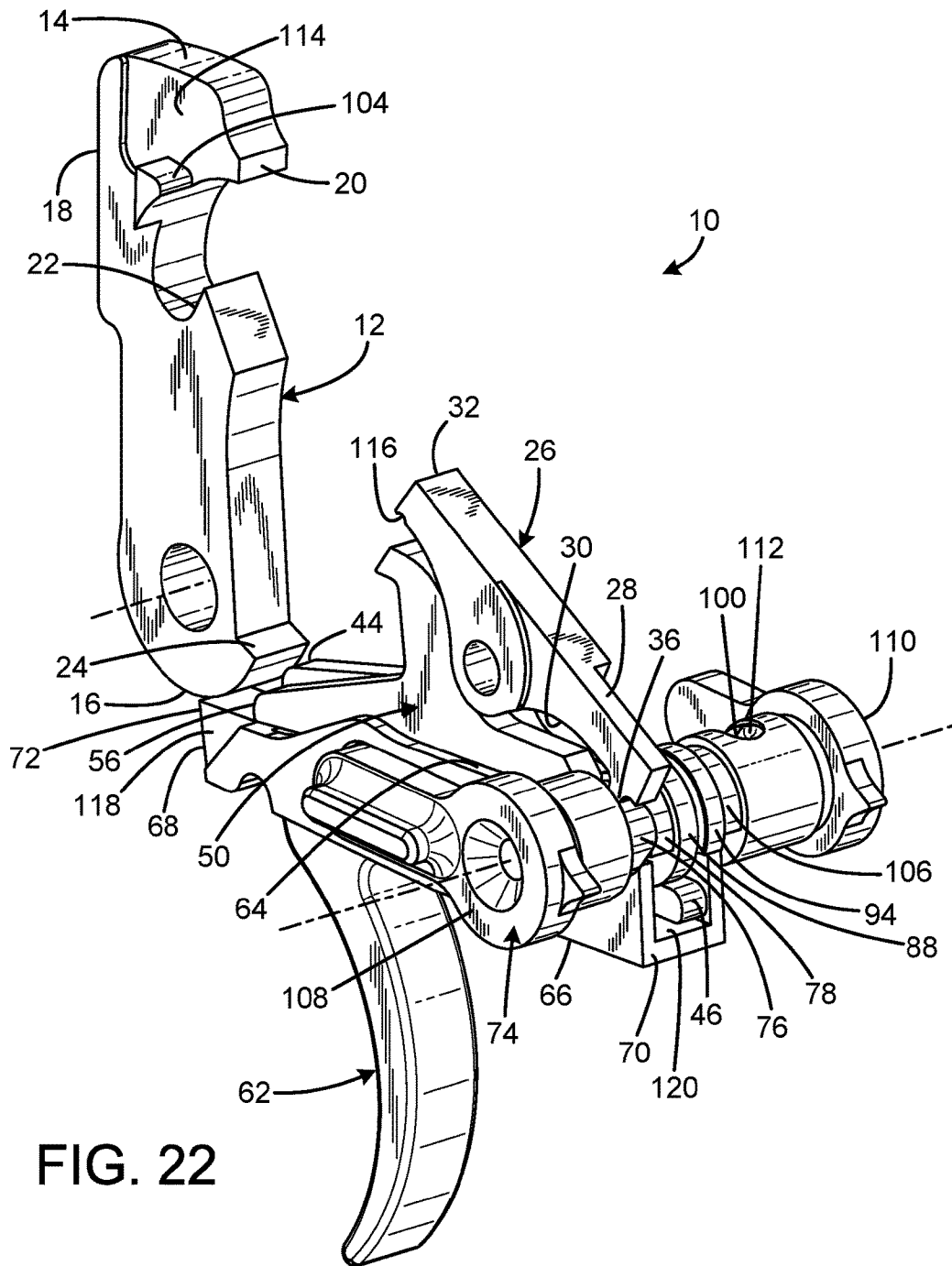


FIG. 22

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**TRIGGER GROUP FOR SEMI-AUTOMATIC  
FIREARMS**CROSS-REFERENCE TO RELATED  
APPLICATION

This application is a Continuation of U.S. patent application Ser. No. 14/624,548 filed on May 28, 2015, entitled, "TRIGGER GROUP FOR SEMI-AUTOMATIC FIREARMS," which claims the benefit of U.S. Provisional Patent Application No. 62/026,621 filed on Jul. 19, 2014, entitled "BINARY FIRING SYSTEM (aka BFS)," which are hereby incorporated by reference in their entirety for all that is taught and disclosed therein.

## FIELD OF THE INVENTION

The present invention relates to firearms, and more particularly to a trigger group for semi-automatic firearms.

## BACKGROUND OF THE INVENTION

A trigger group includes all parts of the firearm that initiate the firing of the bullet. Parts include the trigger, which is usually a lever that is tripped by one or more fingers of the firing hand; the sear, which holds the hammer back until the trigger has been pulled; a disconnecter, which keeps the hammer in place until the trigger is released and the sear takes over after a cycle of semi-automatic fire has occurred; and several springs throughout the group. The sear may be a separate part or can be a surface incorporated into the trigger. As the trigger is pulled, the sear slips, allowing the hammer to strike the firing pin to discharge a round.

The National Firearms Act, as interpreted by the Bureau of Alcohol, Tobacco, Firearms and Explosives Technology Branch, defines the pull of a trigger as a function, and the release of the trigger as a second function. As a result, a firearm that fires a shot upon the pull of a trigger and fires a second shot upon the release of the trigger is not a machine gun as defined by the National Firearms Act, 26 U.S.C. 5845(b), and is not subject to the associated legal restrictions.

An existing approach to a trigger system that fires one round with trigger pull and fires another round with trigger release is disclosed in U.S. Pat. No. 8,667,881 to Hawbaker. Hawbaker's trigger system provides one mode for normal semi-automatic operation and another mode that fires by pulling the trigger and fires a second round upon trigger release. However, Hawbaker's trigger system suffers from multiple disadvantages. First, a selector lever that is attached to the trigger must be manipulated within the trigger guard in order to change the mode of firing from semi-automatic to double fire. This attribute greatly increases the likelihood of an accidental discharge occurring from manipulating the selector lever. Second, once the trigger has been pulled in double fire mode, the user cannot place the firearm in safe mode, and instead must fire a second shot upon trigger release.

Therefore, a need exists for a new and improved trigger group for semi-automatic firearms that places the selector lever outside of the trigger guard and enables the firearm to be placed in safe mode even if the trigger has been pulled in double/binary fire mode. In this regard, the various embodiments of the present invention substantially fulfill at least some of these needs. In this respect, the trigger group for semi-automatic firearms according to the present invention substantially departs from the conventional concepts and

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designs of the prior art, and in doing so provides an apparatus primarily developed for the purpose of providing a semi-automatic firearm with a fixed magazine without requiring modifications to the firearm.

## SUMMARY OF THE INVENTION

The present invention provides an improved trigger group for semi-automatic firearms, and overcomes the above-mentioned disadvantages and drawbacks of the prior art. As such, the general purpose of the present invention, which will be described subsequently in greater detail, is to provide an improved trigger group for semi-automatic firearms that has all the advantages of the prior art mentioned above.

To attain this, the preferred embodiment of the present invention essentially comprises a hammer movable between a cocked position and a striking position, the hammer being biased toward the striking position, the hammer having a first hammer hook, the hammer having a second hammer hook, a trigger element connected to the frame and movable by a user between a rest position and an actuated position, a movable sear responsive to movement of the trigger element and operable to engage the first hammer hook to restrain the hammer in the cocked position when the trigger element is in the rest position, and in response to pulling the trigger element to the actuated position to release the hammer to the striking position to discharge the firearm, a selector movable between at least a first position and a second position, a disconnecter assembly operably connected to the selector and having a hammer retention facility selectable engaging the second hammer hook, the disconnecter assembly operable when the selector is in the first position to retain the hammer in the cocked position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, and the disconnecter assembly operable when the selector is in the second position to release the hammer to the striking position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, such that the firearm discharges once per cycle of the trigger element when the selector is in the first position, and fires once for each forward or rearward motion of the trigger element when the selector is in the second position, instead of firing only on the rearward trigger motion.

There are, of course, additional features of the invention that will be described hereinafter and which will form the subject matter of the claims attached.

There has thus been outlined, rather broadly, the more important features of the invention in order that the detailed description thereof that follows may be better understood and in order that the present contribution to the art may be better appreciated.

## BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is an exploded view of the current embodiment of the trigger group for semi-automatic firearms constructed in accordance with the principles of the present invention.

FIG. 2 is a front isometric view of the current embodiment of the trigger group for semi-automatic firearms of FIG. 1.

FIG. 3 is a top view of the current embodiment of the trigger group for semi-automatic firearms of FIG. 1.

FIG. 4 is a rear view of the current embodiment of the trigger group for semi-automatic firearms of FIG. 1.

FIG. 5A is a top view of the safety selector of FIG. 1.

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FIG. 5B is a sectional view of the safety selector taken along line 5B-5B of FIG. 5A.

FIG. 5C is a sectional view of the safety selector taken along line 5C-5C of FIG. 5A.

FIG. 5D is a sectional view of the safety selector taken along line 5D-5D of FIG. 5A.

FIG. 5E is a sectional view of the safety selector taken along line 5E-5E of FIG. 5A.

FIG. 5F is a top isometric view of the safety selector of FIG. 1.

FIG. 6 is a left side view of the trigger group for semi-automatic firearms of FIG. 1 with the safety selector in safe mode.

FIG. 7 is a left side view of the trigger group for semi-automatic firearms of FIG. 1 with the safety selector in semi-automatic mode.

FIG. 8 is a left side view of the trigger group for semi-automatic firearms of FIG. 1 after firearm discharge with the safety selector in semi-automatic mode.

FIG. 9A is a left side view of the trigger group for semi-automatic firearms of FIG. 1 after the firearm has been re-cocked with the trigger pulled when the safety selector is in semi-automatic mode.

FIG. 9B is a left side enlarged view of the safety selector, semi-automatic disconnecter, and binary disconnecter of FIG. 9A.

FIG. 9C is a front isometric enlarged view of the safety selector, semi-automatic disconnecter, and binary disconnecter of FIG. 9A.

FIG. 10A is a left side view of the trigger group for semi-automatic firearms of FIG. 1 with the safety selector in transition from semi-automatic mode to binary mode.

FIG. 10B is a top view of the safety selector and hammer lever of FIG. 10A.

FIG. 10C is a side sectional view of the safety selector and hammer lever taken along line 10C-10C of FIG. 10B.

FIG. 10D is a top view of the safety selector and hammer lever with the safety selector in binary mode.

FIG. 10E is a side sectional view of the safety selector and hammer lever taken along line 10E-10E of FIG. 10D.

FIG. 11A is a left side view of the trigger group for semi-automatic firearms of FIG. 1 with the safety selector in binary mode.

FIG. 11B is a left side enlarged view of the safety selector, semi-automatic disconnecter, and binary disconnecter of FIG. 11A.

FIG. 12 is a left side view of the trigger group for semi-automatic firearms of FIG. 1 after firearm discharge with the safety selector in binary mode.

FIG. 13 is a left side view of the trigger group for semi-automatic firearms of FIG. 1 after the firearm has been re-cocked with the trigger pulled when the safety selector is in binary mode.

FIG. 14 is a left side view of the trigger group for semi-automatic firearms of FIG. 1 after the firearm has discharged a second time upon trigger release when the safety selector is in binary mode.

FIG. 15 is a left side view of the binary disconnecter of FIG. 1 placed atop the semi-automatic disconnecter of FIG. 1.

FIG. 16 is a left side sectional view of the trigger group for semi-automatic firearms of FIG. 1 with the semi-automatic disconnecter spring and binary disconnecter spring removed.

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FIG. 17 is a left side sectional view of the trigger group for semi-automatic firearms of FIG. 1 with the semi-automatic disconnecter spring and binary disconnecter spring present.

FIG. 18A is a left side view of the trigger group for semi-automatic firearms of FIG. 1 with the safety selector in binary mode.

FIG. 18B is a left side view of the trigger group for semi-automatic firearms of FIG. 1 with the safety selector rotated 15° counterclockwise relative to FIG. 18A.

FIG. 18C is a left side view of the trigger group for semi-automatic firearms of FIG. 1 with the safety selector rotated 15° counterclockwise relative to FIG. 18B.

FIG. 18D is a left side view of the trigger group for semi-automatic firearms of FIG. 1 with the safety selector rotated 15° counterclockwise relative to FIG. 18C.

FIG. 18E is a left side view of the trigger group for semi-automatic firearms of FIG. 1 with the safety selector rotated 15° counterclockwise relative to FIG. 18D.

FIG. 18F is a left side view of the trigger group for semi-automatic firearms of FIG. 1 with the safety selector rotated 15° counterclockwise relative to FIG. 18E.

FIG. 18G is a left side view of the trigger group for semi-automatic firearms of FIG. 1 with the safety selector in semi-automatic mode.

FIG. 19 is a rear isometric view of the trigger group for semi-automatic firearms of FIG. 1 with the safety selector and the hammer lever removed.

FIG. 20 is a rear isometric view of the trigger group for semi-automatic firearms of FIG. 1 with the safety selector removed.

FIG. 21 is a rear isometric view of the trigger group for semi-automatic firearms of FIG. 1 with the hammer lever removed.

FIG. 22 is a rear isometric view of the trigger group for semi-automatic firearms of FIG. 1.

The same reference numerals refer to the same parts throughout the various figures.

#### DESCRIPTION OF THE CURRENT EMBODIMENT

An embodiment of the trigger group for semi-automatic firearms of the present invention is shown and generally designated by the reference numeral 10.

FIGS. 1-4 illustrate the improved trigger group for semi-automatic firearms 10 of the present invention. More particularly, the trigger group for semi-automatic firearms 10 has a hammer 12, hammer lever 26, binary disconnecter 38, semi-automatic disconnecter 50, trigger 62, and safety selector 74. When assembled, the hammer, hammer lever, binary disconnecter, semi-automatic disconnecter, trigger, and safety selector are connected to a housing 136. Each side of the housing has a front aperture 138, a central aperture 140, and a rear aperture 142. The apertures receive cross-pins (unlabeled) that are received within axles (unlabeled), which are cylinders with a thru-hole. The cross-pins hold the trigger group for semi-automatic firearms 10 within the lower of the firearm (not shown). The axles fit through apertures in the hammer, trigger, hammer spacers 144, and the housing. The hammer spacers are on the same level as the hammer and trigger, and keep the hammer and trigger from sliding laterally within the housing.

The hammer has a top 14, bottom 16, front 18, and rear 20. The top rear of the hammer defines a curved notch 22, and the bottom rear of the hammer defines a hammer hook notch 24. The hammer also includes a leftward protruding

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ridge **104** directly above the notch **22**. A relief area **114** is present above the ridge. The relief area is an optional feature depending upon the thickness of the hammer to provide clearance for the hammer lever. The hammer lever has a top **28**, bottom **30**, front **32**, and rear **34**. The bottom front of the hammer lever includes a small notch **116**, which improves the reliability of the mechanism. The bottom rear of the hammer lever includes a downward protrusion **36**.

The binary disconnecter **38** has a top **40**, bottom **42**, front **44**, rear **46**, and central aperture **130**. The top of the binary disconnecter includes a forward facing hook **48**, and the bottom rear defines a notch **126**. The semi-automatic disconnecter has a top **52**, bottom **54**, front **56**, rear **58**, and central aperture **132**. The top of the semi-automatic disconnecter includes a forward facing hook **60**, and the bottom rear defines a notch **128**. The trigger has a top **64**, bottom **66**, front **68**, rear **70**, and central aperture **134**. The top of the front of the trigger includes a sear **72**. A small relief groove **118** is present in the front section of the sear. This relief groove enables a spring (not shown) to sit modestly higher and allows the trigger slightly more rearward travel than the trigger would otherwise have. Various pins and springs required to operate the trigger group are omitted for clarity. In the current embodiment, the safety selector **74** is ambidextrous, with the lever on the left **108** being larger than the lever on the right **110**. The safety selector is swappable, which enables the user to place the larger lever on the desired side of the firearm. The trigger group for semi-automatic firearms **10** is suitable for use with an AR-15 rifle in the current embodiment.

FIGS. 5A-F illustrate the improved safety selector **74** of the present invention. More particularly, the safety selector provides the user of an associated firearm with three distinct modes: safe mode, semi-automatic mode, and binary mode. The safety selector has five cam lobe profiles **76**, **78**, **88**, **94**, **106** and a safety dent trough **100** extending from left **108** to right **110**. Cam lobe **76** regulates the movement of the hammer lever **26**. Cam lobe **78** regulates the movement of the trigger **62**. Cam lobe **88** regulates the movement of the semi-automatic disconnecter **50**. Cam lobe **94** regulates the movement of the binary disconnecter **38**. A fifth cam lobe **106** has a profile that matches cam lobe **78** and performs the same function of regulating the movement of the trigger. Cam lobe **106** is used in conjunction with the ambidextrous lever when the safety selector's orientation is swapped to place the larger lever on the right side of the firearm.

The hammer lever cam **76** has a tip **102** of the cam lobe that engages the protrusion **36** on the hammer lever **26**. The trigger relief and safety cam **78** has a full diameter section **80** that limits trigger **62** travel to prevent firing in safe mode, a trigger relief cut **82** to enable binary mode firing, and a rounded edge **84** to provide a smooth transition between firing modes. The semi-automatic disconnecter cam **88** has a cam lobe portion **90** that limits semi-automatic disconnecter **50** travel when engaged and a relief **92** that allows the semi-automatic disconnecter to fully articulate. The binary disconnecter cam **94** has a cam lobe portion **96** that limits binary disconnecter **38** travel when engaged and a relief **98** that allows the binary disconnecter to fully articulate. The cam **106** is identical to the trigger relief and safety cam **78**.

The safety dent trough **100** located on the far right side **110** of the safety selector is a shallow groove with three plunge cuts **112** spaced 90° apart. A spring loaded safety detent (not shown) travels in this groove and stops at each plunge cut. This feature defines the three separate modes noted above. When additional finger pressure is applied to

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the safety selector lever, the safety detent spring is overridden, and the safety selector travels to the next plunge cut that defines the next mode.

FIG. 6 illustrates the improved trigger group for semi-automatic firearms **10** of the present invention. More particularly, the trigger group for semi-automatic firearms **10** is shown in safe mode with the safety selector **74** pointing at the 9 o'clock position. The trigger is physically prevented from being pulled because cam lobe **78** on the safety selector **74** is restricting the rearward section **70** of the trigger from moving upward. Since the trigger is immobilized, the hammer **12** is restricted from rotating forward under spring pressure because the sear **72** on the front **68** edge of the trigger is caught on notch **24** of the hammer.

FIG. 7 illustrates the improved trigger group for semi-automatic firearms **10** of the present invention. More particularly, the trigger group for semi-automatic firearms **10** is shown in semi-automatic mode with the safety selector **74** pointing at the 12 o'clock position. In this mode, cam lobe **78** on the safety selector **74** is recessed to allow the trigger **62** to be pulled when the hammer **12** is cocked. Cam lobe **88** on the safety selector is also recessed to allow the rear **58** of the semi-automatic disconnecter **50** to rotate counterclockwise under spring pressure so that the hook **60** on the semi-automatic disconnecter is able to come into contact with the notch **22** on the hammer. The cam lobe **94** is pushing down on the binary disconnecter **38** to prevent the rear **46** from rotating counterclockwise under spring pressure so that the hook **48** on the binary disconnecter is able to interface with the hammer. If the trigger is pulled in this mode, the hammer will rotate forward under spring pressure and hit the firing pin (not shown) to discharge a round.

FIG. 8 illustrates the improved trigger group for semi-automatic firearms **10** of the present invention. More particularly, the trigger group for semi-automatic firearms **10** is shown in semi-automatic mode with the safety selector **74** pointing at the 12 o'clock position. The trigger **62** has been pulled, which has disengage the sear **72** from the notch **24** on the hammer. The disengagement has enabled the hammer **12** to rotate forward under spring pressure to hit the firing pin to discharge a round. The semi-automatic disconnecter **50** is rotated counterclockwise relative to the binary disconnecter **38**. In this position, the hook **60** on the semi-automatic disconnecter is positioned in front of the hook **48** on the binary disconnecter.

FIGS. 9A-C illustrate the improved trigger group for semi-automatic firearms **10** of the present invention. More particularly, the trigger group for semi-automatic firearms **10** is shown in semi-automatic mode with the safety selector **74** pointing at the 12 o'clock position. Gas pressure resulting from the discharge of a round has driven the bolt carrier group (not shown) rearward, pushing the hammer **12** back into the cocked position. The notch **22** of the hammer has latched onto the hook **60** of the semi-automatic disconnecter **50**. This engagement prevents the hammer from rotating forward again even though the trigger **62** remains pulled. The hook **48** on the binary disconnecter **38** is held behind the hook on the semi-automatic disconnecter, which prevents the hook on the binary disconnecter from engaging the notch **22** on the hammer. As the trigger is released, the front **56** of the semi-automatic disconnecter is pushed up. This movement disengages the notch **22** of the hammer from the hook **60** of the semi-automatic disconnecter. Just prior to the hammer disengaging from the semi-automatic disconnecter, the sear **72** on the trigger **62** is positioned to catch the notch

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24 in the hammer, which preventing the hammer from rotating forward until the trigger is pulled again. This is the position shown in FIG. 4.

FIGS. 10A-E illustrate the improved trigger group for semi-automatic firearms 10 of the present invention. More particularly, the trigger group for semi-automatic firearms 10 is shown in transition from semi-automatic mode to binary mode (FIGS. 10A-C) and in semi-automatic mode (FIGS. 10D-E). The hammer lever 26 and ridge 104 on the hammer 12 were created for safer and easier transition between the semi-automatic disconnecter 50 and the binary disconnecter 38. Without the use of the hammer lever and ridge, it would be unsafe to transition from binary mode to semi-automatic mode while holding the trigger 62 back since the semi-automatic disconnecter could force the binary disconnecter off of the hammer. The hammer would then rotate forward under spring pressure and hit the firing pin. This would create the unfavorable circumstance of inadvertently allowing the firearm to discharge by simply manipulating the safety selector 74. The hammer lever resolves this safety issue by insuring the hammer cannot rotate forward during mode transition. To further improve operation, all cam lobes were smoothly radiused between semi-automatic mode and binary mode.

As is shown in FIG. 10D-E and FIG. 7, when the safety selector 74 is in a semi-automatic mode, the front 32 of the hammer lever 26 is disengage from the ridge 104 on the hammer. As a result, the hammer is free to rotate forward once the trigger 62 is pulled. However, as the safety selector is rotated clockwise towards the 3 o'clock position to place the firearm in binary mode, the protrusion 36 on the bottom 30 rear 34 of the hammer lever contacts the tip 102 of the cam lobe 76. The contact lifts the rear of the hammer lever and pivots the front 32 downwards into engagement with the ridge on the hammer (shown in FIGS. 7A-C). As long as the hammer lever engages the ridge on the hammer, the hammer cannot rotate forward. Once the safety selector reaches the binary mode position (shown in FIGS. 8A-B), the tip of the cam lobe rotates past the protrusion on the hammer lever, and spring pressure disengages the front of the hammer lever from the ridge on the hammer to permit firearm operation.

FIGS. 11A-B illustrate the improved trigger group for semi-automatic firearms 10 of the present invention. More particularly, the trigger group for semi-automatic firearms 10 is shown in binary mode with the safety selector 74 pointing at the 12 o'clock position. In this mode, cam lobe 78 on the safety selector 74 is recessed to allow the trigger 62 to be pulled when the hammer 12 is cocked. Cam lobe 94 on the safety selector is also recessed to allow the rear 46 of the binary disconnecter 38 to rotate counterclockwise under spring pressure so that the hook 48 on the binary disconnecter is able to come into contact with the notch 22 on the hammer. The cam lobe 88 is pushing down on the semi-automatic disconnecter 50 to prevent the rear 58 from rotating counterclockwise under spring pressure so that the hook 60 on the semi-automatic disconnecter is able to interface with the hammer. If the trigger is pulled in this mode, the hammer will rotate forward under spring pressure and hit the firing pin (not shown) to discharge a round.

FIG. 12 illustrates the improved trigger group for semi-automatic firearms 10 of the present invention. More particularly, the trigger group for semi-automatic firearms 10 is shown in binary mode with the safety selector 74 pointing at the 3 o'clock position. The trigger 62 has been pulled, which has disengage the sear 72 from the notch 24 on the hammer. The disengagement has enabled the hammer 12 to rotate forward under spring pressure to hit the firing pin to dis-

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charge a round. The binary disconnecter 38 is rotated counterclockwise relative to the semi-automatic disconnecter 50. In this position, the hook 48 on the binary disconnecter is positioned in front of the hook 60 on the semi-automatic disconnecter.

FIGS. 13 and 14 illustrate the improved trigger group for semi-automatic firearms 10 of the present invention. More particularly, the trigger group for semi-automatic firearms 10 is shown in binary mode with the safety selector 74 pointing at the 3 o'clock position. Gas pressure resulting from the discharge of a round has driven the bolt carrier group (not shown) rearward, pushing the hammer 12 back into the cocked position shown in FIG. 10. The notch 22 of the hammer has latched onto the hook 48 of the binary disconnecter 38. This engagement prevents the hammer from rotating forward again even though the trigger 62 remains pulled. The hook 60 on the semi-automatic disconnecter 50 is held behind the hook on the binary disconnecter, which prevents the hook on the semi-automatic disconnecter from engaging the notch 22 on the hammer. As the trigger is released, the front 44 of the binary disconnecter is pushed up. This movement disengages the notch 22 of the hammer from the hook 48 of the binary disconnecter. Unlike semi-automatic mode, the sear 72 on the trigger 62 is not positioned to catch the notch 24 in the hammer 12 just prior to the hammer disengaging from the binary disconnecter 38. As a result, the hammer rotates forward again upon release of the trigger, discharging a second round. This is the position shown in FIG. 14.

As is shown in FIG. 15-17, the binary disconnecter 38 and the semi-automatic disconnecter 50 differ in subtle ways. First, the binary disconnecter has a reversed bottom 42 rear 46 profile relative to the semi-automatic disconnecter 50. Second, the bottom 42 front 44 of the binary disconnecter is positioned slightly higher than the bottom 54 front 56 of the semi-automatic disconnecter. Third, the forward facing hook 60 of the semi-automatic disconnecter extends slightly forward of the forward facing hook 48 of the binary disconnecter. A binary disconnecter spring 122 has one end received within a notch 126 in the bottom rear of the binary disconnecter. A semi-automatic disconnecter spring 124 has one end received within a notch 128 in the bottom rear of the semi-automatic disconnecter. The springs cause the disconnecters to be biased to rotate counterclockwise about a pin (not shown) inserted through aperture 130 in the binary disconnecter and aperture 132 in the semi-automatic disconnecter.

While the semi-automatic disconnecter 50 and the binary disconnecter 38 differ in seemingly minor ways, these slight changes in geometry affect what gun designers refer to as the "timing" of the trigger group 10. These changes in geometry are normally used to provide the proper function for a conventional semi-automatic rifle (especially to prevent it from being readily modified) or for full-automatic or select fire machine guns.

Because of the geometry, the semi-automatic disconnecter 50 operates to catch the hammer 12 as the hammer is pushed back by the bolt after firing, even while the trigger 62 is still pulled back from a shot. When the trigger is released, the geometry of the semi-automatic disconnecter provides that the trigger sear 72 is elevated adequately by the time the hammer swings forward slightly, so that the hammer hook notch 24 catches on the sear, readying the trigger for firing.

When the binary disconnecter 38 is enabled (which occurs in the same manner as enabling the semi-automatic disconnecter 50 by the safety selector 74 shifting the binary

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disconnecter forward so that the binary disconnecter's forward facing hook 48 can engage the hammer 12) the slightly different timing geometry gives a different result when the trigger 62 is released. Instead of releasing the hammer to the sear 72, the different geometry allows the hammer hook notch 24 to bypass the sear, and the hammer to fly forward to fire another shot. The bolt cocks back the hammer, where the binary disconnecter catches the hammer until the trigger is pulled back.

FIGS. 18A-G illustrate the improved trigger group for semi-automatic firearms 10 of the present invention. More particularly, the trigger group for semi-automatic firearms 10 is shown transitioning from binary mode to semi-automatic mode. In each figure, the safety selector 74 has been rotated 15° counterclockwise relative to the previous figure. In binary mode (FIG. 18A), the front 32 of the hammer lever does not engage the ridge 104 on the hammer 12, leaving the hammer free to rotate forward as the trigger 62 is pulled and released. Once the safety selector has been rotated 15° counterclockwise (FIG. 18B), though, the protrusion 36 on the bottom 30 rear 34 of the hammer lever has begun to contact the tip 102 of the cam lobe 76. The tip of the cam lobe raises the rear of the hammer lever and pushes the front of the hammer lever downward into engagement with the ridge on the hammer. As the safety selector continues to be rotated counterclockwise, the hammer notch 22 transitions from engagement with hook 48 on the binary disconnecter 38 to engagement with hook 60 on the semi-automatic disconnecter 50 (FIGS. 18C-F). In the event the hammer notch 22 becomes disengaged from the hook on the binary disconnecter prior to engaging with the hook on the semi-automatic disconnecter, the engagement of the hammer lever with the ridge prevents the hammer from rotating forward and discharging a firearm even if the trigger were being pulled. FIG. 18G shows the result of the final 15° of counterclockwise rotation of the safety selector, which is to place the firearm in semi-automatic mode.

If desired, the user can continue to rotate the safety selector 74 counterclockwise to return the firearm to safe mode. This can be accomplished even if the firearm is initially in binary mode with the trigger held back waiting to fire a second round upon trigger release. The user can manipulate the selector to return the firearm to safe mode while holding the trigger back without discharging the second round. This is an incredibly important capability since persons utilizing deadly force must generally cease fire when a threat has been eliminated. To fire an additional round in such an instance would be a significant liability for the owner of the firearm and the manufacturer of the trigger.

FIGS. 19-21 illustrate the improved trigger group for semi-automatic firearms 10 of the present invention. More particularly, the trigger group for semi-automatic firearms 10 is shown with the hammer lever 26 and safety selector 74 both present and removed. As a result, it can be appreciated that the binary disconnecter 38 and semi-automatic disconnecter 50 fit in a channel 120 along the top spine of the trigger 62.

In the context of the specification, the terms "rear" and "rearward," and "front" and "forward" have the following definitions: "rear" or "rearward" means in the direction away from the muzzle of the firearm while "front" or "forward" means it is in the direction towards the muzzle of the firearm.

While a current embodiment of a trigger group for semi-automatic firearms has been described in detail, it should be apparent that modifications and variations thereto are possible, all of which fall within the true spirit and scope of the

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invention. With respect to the above description then, it is to be realized that the optimum dimensional relationships for the parts of the invention, to include variations in size, materials, shape, form, function and manner of operation, assembly and use, are deemed readily apparent and obvious to one skilled in the art, and all equivalent relationships to those illustrated in the drawings and described in the specification are intended to be encompassed by the present invention. For example, although an AR-15 is disclosed, the invention is suitable for use with a wide variety of firearm platforms including the AK-47, FN-FAL, Mini-14, UZI, M1A, Garand, and Remington 740, 7400, and 750.

Therefore, the foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly, all suitable modifications and equivalents may be resorted to, falling within the scope of the invention.

We claim:

1. A trigger group for a firearm, the trigger group comprising:
  - a hammer movable between a cocked position and a striking position;
  - the hammer being biased toward the striking position;
  - the hammer having a first hammer hook;
  - the hammer having a second hammer hook;
  - a trigger element movable by a user between a rest position and an actuated position;
  - a movable sear responsive to movement of the trigger element and operable to engage the first hammer hook to restrain the hammer in the cocked position when the trigger element is in the rest position, and in response to pulling the trigger element to the actuated position to release the hammer to the striking position to discharge the firearm;
  - a selector movable between at least a first position, a second position, and a third position;
  - a disconnecter assembly operably connected to the selector and having a hammer retention facility configured to engage the second hammer hook;
  - the disconnecter assembly operable when the selector is in the first position to retain the hammer in the cocked position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element;
  - the disconnecter assembly operable when the selector is in the second position to release the hammer to the striking position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, such that the firearm discharges once per cycle of the trigger element when the selector is in the first position, and twice for each rearward-forward motion sequence of the trigger element when the selector is in the second position;
  - the disconnecter assembly being operable when the selector is in the third position to prevent discharge of the firearm in response to an application of force on the trigger; and
  - wherein the selector is rotatable about a single axis.
2. The trigger group of claim 1 wherein the selector has a barrel closely received in a bore.
3. The trigger group of claim 1 wherein the selector being the only rotatable selector of the trigger group.
4. The trigger group of claim 1 wherein the selector being the only mechanical selector of the trigger group.

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5. The trigger group of claim 1 wherein the selector has only a single lever.

6. The trigger group of claim 1 wherein the selector defines only a single axis of rotation.

7. A trigger group for a firearm, the trigger group comprising:

a hammer movable between a cocked position and a striking position;

the hammer being biased toward the striking position;

the hammer having a first hammer hook;

the hammer having a second hammer hook;

a trigger element movable by a user between a rest position and an actuated position;

a movable sear responsive to movement of the trigger element and operable to engage the first hammer hook to restrain the hammer in the cocked position when the trigger element is in the rest position, and in response to pulling the trigger element to the actuated position to release the hammer to the striking position to discharge the firearm;

a selector movable between at least a first position, a second position, and a third position;

a disconnecter assembly operably connected to the selector and having a hammer retention facility configured to engage the second hammer hook;

the disconnecter assembly operable when the selector is in the first position to retain the hammer in the cocked position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element;

the disconnecter assembly operable when the selector is in the second position to release the hammer to the striking position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, such that the firearm discharges once per cycle of the trigger element when the selector is in the first position, and twice for each rearward-forward motion sequence of the trigger element when the selector is in the second position;

the disconnecter assembly being operable when the selector is in the third position to prevent discharge of the firearm in response to an application of force on the trigger;

wherein the selector has three different rotational orientations, each corresponding to a respective one of the first, second and third positions; and

wherein the selector is a single element having the three different rotational orientations.

8. A trigger group for a firearm, the trigger group comprising:

a hammer movable between a cocked position and a striking position;

the hammer being biased toward the striking position;

the hammer having a first hammer hook;

the hammer having a second hammer hook;

a trigger element movable by a user between a rest position and an actuated position;

a movable sear responsive to movement of the trigger element and operable to engage the first hammer hook to restrain the hammer in the cocked position when the trigger element is in the rest position, and in response to pulling the trigger element to the actuated position to release the hammer to the striking position to discharge the firearm;

a selector movable between at least a first position, a second position, and a third position;

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a disconnecter assembly operably connected to the selector and having a hammer retention facility configured to engage the second hammer hook;

the disconnecter assembly operable when the selector is in the first position to retain the hammer in the cocked position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element;

the disconnecter assembly operable when the selector is in the second position to release the hammer to the striking position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, such that the firearm discharges once per cycle of the trigger element when the selector is in the first position, and twice for each rearward-forward motion sequence of the trigger element when the selector is in the second position;

the disconnecter assembly being operable when the selector is in the third position to prevent discharge of the firearm in response to an application of force on the trigger; and

wherein the selector is constrained against movement except on a single rotational axis.

9. A trigger group for a firearm, the trigger group comprising:

a hammer movable between a cocked position and a striking position;

the hammer being biased toward the striking position;

the hammer having a first hammer hook;

the hammer having a second hammer hook;

a trigger element movable by a user between a rest position and an actuated position;

a movable sear responsive to movement of the trigger element and operable to engage the first hammer hook to restrain the hammer in the cocked position when the trigger element is in the rest position, and in response to pulling the trigger element to the actuated position to release the hammer to the striking position to discharge the firearm;

a selector movable between at least a first position, a second position, and a third position;

a disconnecter assembly operably connected to the selector and having a hammer retention facility configured to engage the second hammer hook;

the disconnecter assembly operable when the selector is in the first position to retain the hammer in the cocked position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element;

the disconnecter assembly operable when the selector is in the second position to release the hammer to the striking position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, such that the firearm discharges once per cycle of the trigger element when the selector is in the first position, and twice for each rearward-forward motion sequence of the trigger element when the selector is in the second position;

the disconnecter assembly being operable when the selector is in the third position to prevent discharge of the firearm in response to an application of force on the trigger; and

wherein the selector is displaced by a selected angle between the first and second positions and by the selected angle between the first and third positions.

10. A trigger group for a firearm, the trigger group comprising:



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a hammer movable between a cocked position and a striking position;  
 the hammer being biased toward the striking position;  
 the hammer having a first hammer hook;  
 the hammer having a second hammer hook;  
 a trigger element movable by a user between a rest position and an actuated position;  
 a movable sear responsive to movement of the trigger element and operable to engage the first hammer hook to restrain the hammer in the cocked position when the trigger element is in the rest position, and in response to pulling the trigger element to the actuated position to release the hammer to the striking position to discharge the firearm;  
 a selector movable between at least a first position, a second position, and a third position;  
 a disconnecter assembly operably connected to the selector and having a hammer retention facility configured to engage the second hammer hook;  
 the disconnecter assembly operable when the selector is in the first position to retain the hammer in the cocked position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element;  
 the disconnecter assembly operable when the selector is in the second position to release the hammer to the striking position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, such that the firearm discharges once per cycle of the trigger element when the selector is in the first position, and twice for each rearward-forward motion sequence of the trigger element when the selector is in the second position;  
 the disconnecter assembly being operable when the selector is in the third position to prevent discharge of the firearm in response to an application of force on the trigger; and  
 wherein the second and third position are 180° apart from each other.

11. A trigger group for a firearm, the trigger group comprising:

a hammer movable between a cocked position and a striking position;  
 the hammer being biased toward the striking position;  
 the hammer having a first hammer hook;  
 the hammer having a second hammer hook;  
 a trigger element movable by a user between a rest position and an actuated position;  
 a movable sear responsive to movement of the trigger element and operable to engage the first hammer hook to restrain the hammer in the cocked position when the trigger element is in the rest position, and in response to pulling the trigger element to the actuated position to release the hammer to the striking position to discharge the firearm;  
 a selector movable between at least a first position, a second position, and a third position;  
 a disconnecter assembly operably connected to the selector and having a hammer retention facility configured to engage the second hammer hook;  
 the disconnecter assembly operable when the selector is in the first position to retain the hammer in the cocked position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element;  
 the disconnecter assembly operable when the selector is in the second position to release the hammer to the

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striking position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, such that the firearm discharges once per cycle of the trigger element when the selector is in the first position, and twice for each rearward-forward motion sequence of the trigger element when the selector is in the second position;  
 the disconnecter assembly being operable when the selector is in the third position to prevent discharge of the firearm in response to an application of force on the trigger;  
 wherein the selector has an elongated lever portion that is horizontal in the second and third positions, and vertical in the first position.

12. A trigger group for a firearm, the trigger group comprising:

a hammer movable between a cocked position and a striking position;  
 the hammer being biased toward the striking position;  
 the hammer having a first hammer hook;  
 the hammer having a second hammer hook;  
 a trigger element movable by a user between a rest position and an actuated position;  
 a movable sear responsive to movement of the trigger element and operable to engage the first hammer hook to restrain the hammer in the cocked position when the trigger element is in the rest position, and in response to pulling the trigger element to the actuated position to release the hammer to the striking position to discharge the firearm;  
 a selector movable between at least a first position, a second position, and a third position;  
 a disconnecter assembly operably connected to the selector and having a hammer retention facility configured to engage the second hammer hook;  
 the disconnecter assembly operable when the selector is in the first position to retain the hammer in the cocked position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element;  
 the disconnecter assembly operable when the selector is in the second position to release the hammer to the striking position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, such that the firearm discharges once per cycle of the trigger element when the selector is in the first position, and twice for each rearward-forward motion sequence of the trigger element when the selector is in the second position;  
 the disconnecter assembly being operable when the selector is in the third position to prevent discharge of the firearm in response to an application of force on the trigger; and  
 wherein the selector has a pointer that is horizontal in the second and third positions, and vertical in the first position.

13. A trigger group for a firearm, the trigger group comprising:

a hammer movable between a cocked position and a striking position;  
 the hammer being biased toward the striking position;  
 the hammer having a first hammer hook;  
 the hammer having a second hammer hook;  
 a trigger element movable by a user between a rest position and an actuated position;  
 a movable sear responsive to movement of the trigger element and operable to engage the first hammer hook

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to restrain the hammer in the cocked position when the trigger element is in the rest position, and in response to pulling the trigger element to the actuated position to release the hammer to the striking position to discharge the firearm;

a selector movable between at least a first position, a second position, and a third position;

a disconnecter assembly operably connected to the selector and having a hammer retention facility configured to engage the second hammer hook;

the disconnecter assembly operable when the selector is in the first position to retain the hammer in the cocked position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element;

the disconnecter assembly operable when the selector is in the second position to release the hammer to the striking position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, such that the firearm discharges once per cycle of the trigger element when the selector is in the first position, and twice for each rearward-forward motion sequence of the trigger element when the selector is in the second position;

the disconnecter assembly being operable when the selector is in the third position to prevent discharge of the firearm in response to an application of force on the trigger; and

wherein the selector has an elongated lever portion that extends in a first direction when in the first position, a second direction in the second position, and a third direction in the third position, and wherein the second and third directions are opposite from each other and perpendicular to the first direction.

**14.** A trigger group for a firearm, the trigger group comprising:

a hammer movable between a cocked position and a striking position;

the hammer being biased toward the striking position;

the hammer having a first hammer hook;

the hammer having a second hammer hook;

a trigger element movable by a user between a rest position and an actuated position;

a movable sear responsive to movement of the trigger element and operable to engage the first hammer hook to restrain the hammer in the cocked position when the trigger element is in the rest position, and in response to pulling the trigger element to the actuated position to release the hammer to the striking position to discharge the firearm;

a selector movable between at least a first position, a second position, and a third position;

a disconnecter assembly operably connected to the selector and having a hammer retention facility configured to engage the second hammer hook;

the disconnecter assembly operable when the selector is in the first position to retain the hammer in the cocked position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element;

the disconnecter assembly operable when the selector is in the second position to release the hammer to the striking position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, such that the firearm discharges once per cycle of the trigger element when the selector is in the first position, and twice for

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each rearward-forward motion sequence of the trigger element when the selector is in the second position;

the disconnecter assembly being operable when the selector is in the third position to prevent discharge of the firearm in response to an application of force on the trigger; and

wherein the selector has a pointer that extends in a first direction when in the first position, a second direction in the second position, and a third direction in the third position, and wherein the second and third directions are opposite from each other and perpendicular to the first direction.

**15.** A trigger group for a firearm, the trigger group comprising:

a hammer movable between a cocked position and a striking position;

the hammer being biased toward the striking position;

the hammer having a first hammer hook;

the hammer having a second hammer hook;

a trigger element movable by a user between a rest position and an actuated position;

a movable sear responsive to movement of the trigger element and operable to engage the first hammer hook to restrain the hammer in the cocked position when the trigger element is in the rest position, and in response to pulling the trigger element to the actuated position to release the hammer to the striking position to discharge the firearm;

a selector movable between at least a first position, a second position, and a third position;

a disconnecter assembly operably connected to the selector and having a hammer retention facility configured to engage the second hammer hook;

the disconnecter assembly operable when the selector is in the first position to retain the hammer in the cocked position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element;

the disconnecter assembly operable when the selector is in the second position to release the hammer to the striking position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, such that the firearm discharges once per cycle of the trigger element when the selector is in the first position, and twice for each rearward-forward motion sequence of the trigger element when the selector is in the second position;

the disconnecter assembly being operable when the selector is in the third position to prevent discharge of the firearm in response to an application of force on the trigger; and

wherein the selector is rotatable about a horizontal axis perpendicular to a major axis of the firearm defined by a direction of trigger movement.

**16.** A trigger group for a firearm, the trigger group comprising:

a hammer movable between a cocked position and a striking position;

the hammer being biased toward the striking position;

the hammer having a first hammer hook;

the hammer having a second hammer hook;

a trigger element movable by a user between a rest position and an actuated position;

a movable sear responsive to movement of the trigger element and operable to engage the first hammer hook to restrain the hammer in the cocked position when the trigger element is in the rest position, and in response

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to pulling the trigger element to the actuated position to release the hammer to the striking position to discharge the firearm;

a selector movable between at least a first position, a second position, and a third position;

a disconnecter assembly operably connected to the selector and having a hammer retention facility configured to engage the second hammer hook;

the disconnecter assembly operable when the selector is in the first position to retain the hammer in the cocked position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element;

the disconnecter assembly operable when the selector is in the second position to enable release of the hammer to the striking position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, such that the firearm discharges once per cycle of the trigger element when the selector is in the first position, and twice for each rearward-forward motion sequence of the trigger element when the selector is in the second position;

the disconnecter assembly being operable when the selector is in the third position to prevent discharge of the firearm in response to an application of force on the trigger; and

wherein the selector is rotatable about a single axis.

17. The trigger group of claim 16 wherein the selector has a barrel closely received in a bore.

18. The trigger group of claim 16 wherein the selector being the only rotatable selector of the trigger group.

19. The trigger group of claim 16 wherein the selector being the only mechanical selector of the trigger group.

20. The trigger group of claim 16 wherein the selector has only a single lever.

21. The trigger group of claim 16 wherein the selector defines only a single axis of rotation.

22. A trigger group for a firearm, the trigger group comprising:

a hammer movable between a cocked position and a striking position;

the hammer being biased toward the striking position;

the hammer having a first hammer hook;

the hammer having a second hammer hook;

a trigger element movable by a user between a rest position and an actuated position;

a movable sear responsive to movement of the trigger element and operable to engage the first hammer hook to restrain the hammer in the cocked position when the trigger element is in the rest position, and in response to pulling the trigger element to the actuated position to release the hammer to the striking position to discharge the firearm;

a selector movable between at least a first position, a second position, and a third position;

a disconnecter assembly operably connected to the selector and having a hammer retention facility configured to engage the second hammer hook;

the disconnecter assembly operable when the selector is in the first position to retain the hammer in the cocked position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element;

the disconnecter assembly operable when the selector is in the second position to enable release of the hammer to the striking position in response to release of the

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trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, such that the firearm discharges once per cycle of the trigger element when the selector is in the first position, and twice for each rearward-forward motion sequence of the trigger element when the selector is in the second position;

the disconnecter assembly being operable when the selector is in the third position to prevent discharge of the firearm in response to an application of force on the trigger;

wherein the selector has three different rotational orientations, each corresponding to a respective one of the first, second and third positions; and

wherein the selector is a single element having the three different rotational orientations.

23. A trigger group for a firearm, the trigger group comprising:

a hammer movable between a cocked position and a striking position;

the hammer being biased toward the striking position;

the hammer having a first hammer hook;

the hammer having a second hammer hook;

a trigger element movable by a user between a rest position and an actuated position;

a movable sear responsive to movement of the trigger element and operable to engage the first hammer hook to restrain the hammer in the cocked position when the trigger element is in the rest position, and in response to pulling the trigger element to the actuated position to release the hammer to the striking position to discharge the firearm;

a selector movable between at least a first position, a second position, and a third position;

a disconnecter assembly operably connected to the selector and having a hammer retention facility configured to engage the second hammer hook;

the disconnecter assembly operable when the selector is in the first position to retain the hammer in the cocked position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element;

the disconnecter assembly operable when the selector is in the second position to enable release of the hammer to the striking position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, such that the firearm discharges once per cycle of the trigger element when the selector is in the first position, and twice for each rearward-forward motion sequence of the trigger element when the selector is in the second position;

the disconnecter assembly being operable when the selector is in the third position to prevent discharge of the firearm in response to an application of force on the trigger; and

wherein the selector is constrained against movement except on a single rotational axis.

24. A trigger group for a firearm, the trigger group comprising:

a hammer movable between a cocked position and a striking position;

the hammer being biased toward the striking position;

the hammer having a first hammer hook;

the hammer having a second hammer hook;

a trigger element movable by a user between a rest position and an actuated position;

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a movable sear responsive to movement of the trigger element and operable to engage the first hammer hook to restrain the hammer in the cocked position when the trigger element is in the rest position, and in response to pulling the trigger element to the actuated position to release the hammer to the striking position to discharge the firearm;

a selector movable between at least a first position, a second position, and a third position;

a disconnecter assembly operably connected to the selector and having a hammer retention facility configured to engage the second hammer hook;

the disconnecter assembly operable when the selector is in the first position to retain the hammer in the cocked position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element;

the disconnecter assembly operable when the selector is in the second position to enable release of the hammer to the striking position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, such that the firearm discharges once per cycle of the trigger element when the selector is in the first position, and twice for each rearward-forward motion sequence of the trigger element when the selector is in the second position;

the disconnecter assembly being operable when the selector is in the third position to prevent discharge of the firearm in response to an application of force on the trigger; and

wherein the selector is displaced by a selected angle between the first and second positions and by the selected angle between the first and third positions.

**25.** A trigger group for a firearm, the trigger group comprising:

a hammer movable between a cocked position and a striking position;

the hammer being biased toward the striking position;

the hammer having a first hammer hook;

the hammer having a second hammer hook;

a trigger element movable by a user between a rest position and an actuated position;

a movable sear responsive to movement of the trigger element and operable to engage the first hammer hook to restrain the hammer in the cocked position when the trigger element is in the rest position, and in response to pulling the trigger element to the actuated position to release the hammer to the striking position to discharge the firearm;

a selector movable between at least a first position, a second position, and a third position;

a disconnecter assembly operably connected to the selector and having a hammer retention facility configured to engage the second hammer hook;

the disconnecter assembly operable when the selector is in the first position to retain the hammer in the cocked position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element;

the disconnecter assembly operable when the selector is in the second position to enable release of the hammer to the striking position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, such that the firearm discharges once per cycle of the trigger element when the selector is in the first position,

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and twice for each rearward-forward motion sequence of the trigger element when the selector is in the second position;

the disconnecter assembly being operable when the selector is in the third position to prevent discharge of the firearm in response to an application of force on the trigger; and

wherein the second and third position are 180° apart from each other.

**26.** A trigger group for a firearm, the trigger group comprising:

a hammer movable between a cocked position and a striking position;

the hammer being biased toward the striking position;

the hammer having a first hammer hook;

the hammer having a second hammer hook;

a trigger element movable by a user between a rest position and an actuated position;

a movable sear responsive to movement of the trigger element and operable to engage the first hammer hook to restrain the hammer in the cocked position when the trigger element is in the rest position, and in response to pulling the trigger element to the actuated position to release the hammer to the striking position to discharge the firearm;

a selector movable between at least a first position, a second position, and a third position;

a disconnecter assembly operably connected to the selector and having a hammer retention facility configured to engage the second hammer hook;

the disconnecter assembly operable when the selector is in the first position to retain the hammer in the cocked position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element;

the disconnecter assembly operable when the selector is in the second position to enable release of the hammer to the striking position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, such that the firearm discharges once per cycle of the trigger element when the selector is in the first position, and twice for each rearward-forward motion sequence of the trigger element when the selector is in the second position;

the disconnecter assembly being operable when the selector is in the third position to prevent discharge of the firearm in response to an application of force on the trigger; and

wherein the selector has an elongated lever portion that is horizontal in the second and third positions, and vertical in the first position.

**27.** A trigger group for a firearm, the trigger group comprising:

a hammer movable between a cocked position and a striking position;

the hammer being biased toward the striking position;

the hammer having a first hammer hook;

the hammer having a second hammer hook;

a trigger element movable by a user between a rest position and an actuated position;

a movable sear responsive to movement of the trigger element and operable to engage the first hammer hook to restrain the hammer in the cocked position when the trigger element is in the rest position, and in response

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to pulling the trigger element to the actuated position to release the hammer to the striking position to discharge the firearm;

a selector movable between at least a first position, a second position, and a third position;

a disconnecter assembly operably connected to the selector and having a hammer retention facility configured to engage the second hammer hook;

the disconnecter assembly operable when the selector is in the first position to retain the hammer in the cocked position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element;

the disconnecter assembly operable when the selector is in the second position to enable release of the hammer to the striking position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, such that the firearm discharges once per cycle of the trigger element when the selector is in the first position, and twice for each rearward-forward motion sequence of the trigger element when the selector is in the second position;

the disconnecter assembly being operable when the selector is in the third position to prevent discharge of the firearm in response to an application of force on the trigger; and

wherein the selector has a pointer that is horizontal in the second and third positions, and vertical in the first position.

**28.** A trigger group for a firearm, the trigger group comprising:

- a hammer movable between a cocked position and a striking position;
- the hammer being biased toward the striking position;
- the hammer having a first hammer hook;
- the hammer having a second hammer hook;
- a trigger element movable by a user between a rest position and an actuated position;
- a movable sear responsive to movement of the trigger element and operable to engage the first hammer hook to restrain the hammer in the cocked position when the trigger element is in the rest position, and in response to pulling the trigger element to the actuated position to release the hammer to the striking position to discharge the firearm;
- a selector movable between at least a first position, a second position, and a third position;
- a disconnecter assembly operably connected to the selector and having a hammer retention facility configured to engage the second hammer hook;
- the disconnecter assembly operable when the selector is in the first position to retain the hammer in the cocked position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element;
- the disconnecter assembly operable when the selector is in the second position to enable release of the hammer to the striking position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, such that the firearm discharges once per cycle of the trigger element when the selector is in the first position, and twice for each rearward-forward motion sequence of the trigger element when the selector is in the second position;

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the disconnecter assembly being operable when the selector is in the third position to prevent discharge of the firearm in response to an application of force on the trigger; and

wherein the selector has an elongated lever portion that extends in a first direction when in the first position, a second direction in the second position, and a third direction in the third position, and wherein the second and third directions are opposite from each other and perpendicular to the first direction.

**29.** A trigger group for a firearm, the trigger group comprising:

- a hammer movable between a cocked position and a striking position;
- the hammer being biased toward the striking position;
- the hammer having a first hammer hook;
- the hammer having a second hammer hook;
- a trigger element movable by a user between a rest position and an actuated position;
- a movable sear responsive to movement of the trigger element and operable to engage the first hammer hook to restrain the hammer in the cocked position when the trigger element is in the rest position, and in response to pulling the trigger element to the actuated position to release the hammer to the striking position to discharge the firearm;
- a selector movable between at least a first position, a second position, and a third position;
- a disconnecter assembly operably connected to the selector and having a hammer retention facility configured to engage the second hammer hook;
- the disconnecter assembly operable when the selector is in the first position to retain the hammer in the cocked position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element;
- the disconnecter assembly operable when the selector is in the second position to enable release of the hammer to the striking position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, such that the firearm discharges once per cycle of the trigger element when the selector is in the first position, and twice for each rearward-forward motion sequence of the trigger element when the selector is in the second position;
- the disconnecter assembly being operable when the selector is in the third position to prevent discharge of the firearm in response to an application of force on the trigger; and
- wherein the selector has a pointer that extends in a first direction when in the first position, a second direction in the second position, and a third direction in the third position, and wherein the second and third directions are opposite from each other and perpendicular to the first direction.

**30.** A trigger group for a firearm, the trigger group comprising:

- a hammer movable between a cocked position and a striking position;
- the hammer being biased toward the striking position;
- the hammer having a first hammer hook;
- the hammer having a second hammer hook;
- a trigger element movable by a user between a rest position and an actuated position;
- a movable sear responsive to movement of the trigger element and operable to engage the first hammer hook

to restrain the hammer in the cocked position when the trigger element is in the rest position, and in response to pulling the trigger element to the actuated position to release the hammer to the striking position to discharge the firearm; 5

a selector movable between at least a first position, a second position, and a third position;

a disconnecter assembly operably connected to the selector and having a hammer retention facility configured to engage the second hammer hook; 10

the disconnecter assembly operable when the selector is in the first position to retain the hammer in the cocked position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element; 15

the disconnecter assembly operable when the selector is in the second position to enable release of the hammer to the striking position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, 20

such that the firearm discharges once per cycle of the trigger element when the selector is in the first position, and twice for each rearward-forward motion sequence of the trigger element when the selector is in the second position; 25

the disconnecter assembly being operable when the selector is in the third position to prevent discharge of the firearm in response to an application of force on the trigger; and

wherein the selector is rotatable about a horizontal axis 30

perpendicular to a major axis of the firearm defined by a direction of trigger movement.

\* \* \* \* \*



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(12) **EX PARTE REEXAMINATION CERTIFICATE** (12018th)

**United States Patent**

**Fellows et al.**

(10) **Number:** **US 10,393,461 C1**

(45) **Certificate Issued:** **\*Mar. 22, 2022**

(54) **TRIGGER GROUP FOR SEMI-AUTOMATIC FIREARMS**

*F41A 19/02* (2006.01)

*F41A 19/04* (2006.01)

*F41A 19/24* (2006.01)

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(52) **U.S. Cl.**  
CPC ..... *F41A 19/24* (2013.01); *F41A 19/02*  
(2013.01); *F41A 19/10* (2013.01); *F41A 19/12*  
(2013.01); *F41A 19/14* (2013.01)

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(US); **Jay Leonard Jacobson**, Minden,  
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(58) **Field of Classification Search**  
None  
See application file for complete search history.

(73) Assignee: **Franklin Armory Holdings, Inc.**

(56) **References Cited**

**Reexamination Request:**

No. 90/014,710, Mar. 26, 2021

To view the complete listing of prior art documents cited during the proceeding for Reexamination Control Number 90/014,710, please refer to the USPTO's public Patent Application Information Retrieval (PAIR) system under the Display References tab.

**Reexamination Certificate for:**

Patent No.: **10,393,461**  
Issued: **Aug. 27, 2019**  
Appl. No.: **15/923,831**  
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*Primary Examiner* — Jeffrey R Jastrzab

(\*) Notice: This patent is subject to a terminal disclaimer.

(57) **ABSTRACT**

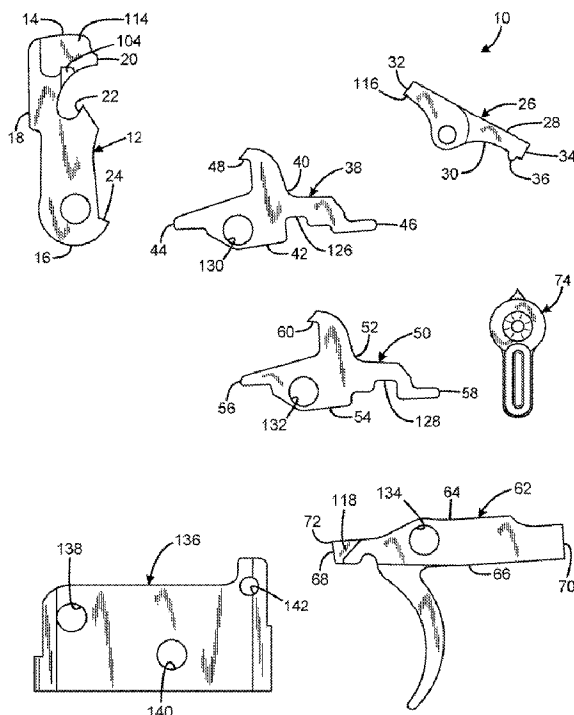
Trigger groups for semi-automatic firearms have a hammer, a trigger element, a sear, a selector, and a disconnecter assembly, the disconnecter assembly operable when the selector is in a first position to retain the hammer in the cocked position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, and the disconnecter assembly operable when the selector is in a second position to release the hammer to the striking position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, such that the firearm discharges once per cycle of the trigger element when the selector is in the first position, and fires once for each forward or rearward motion of the trigger element when the selector is in the second position.

**Related U.S. Application Data**

(63) Continuation of application No. 14/724,548, filed on May 28, 2015, now Pat. No. 9,952,012.

(60) Provisional application No. 62/026,621, filed on Jul. 19, 2014.

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*F41A 19/14* (2006.01)  
*F41A 19/10* (2006.01)  
*F41A 19/12* (2006.01)



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**EX PARTE  
REEXAMINATION CERTIFICATE**

THE PATENT IS HEREBY AMENDED AS  
INDICATED BELOW.

**Matter enclosed in heavy brackets [ ] appeared in the patent, but has been deleted and is no longer a part of the patent; matter printed in italics indicates additions made to the patent.**

AS A RESULT OF REEXAMINATION, IT HAS BEEN DETERMINED THAT:

Claims 1,7-16 and 22-30 are determined to be patentable as amended.

Claims 2-6 and 17-21, dependent on an amended claim, are determined to be patentable.

1. A trigger group for a firearm, the trigger group comprising:

a hammer movable between a cocked position and a striking position;

the hammer being biased toward the striking position;

the hammer having a first hammer hook;

the hammer having a second hammer hook;

a trigger element movable by a user between a rest position and an actuated position;

a movable sear responsive to movement of the trigger element and operable to engage the first hammer hook to restrain the hammer in the cocked position when the trigger element is in the rest position, and in response to pulling the trigger element to the actuated position to release the hammer to the striking position to discharge the firearm;

a selector movable between at least a first position, a second position, and a third position;

a disconnecter assembly operably connected to the selector and [having a hammer retention facility] *comprising a plurality of disconnecter hooks* configured to *selectably* engage the second hammer hook;

the disconnecter assembly operable when the selector is in the first position to retain the hammer in the cocked position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, *by engagement of the second hammer hook with one of the plurality of disconnecter hooks*;

the disconnecter assembly operable when the selector is in the second position to release the hammer to the striking position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, *by release of the second hammer hook by another one of the plurality of disconnecter hooks*, such that the firearm discharges once per cycle of the trigger element when the selector is in the first position, and twice for each rearward-forward motion sequence of the trigger element when the selector is in the second position;

the [disconnecter assembly being operable] *selector operating* when [the selector is] in the third position to prevent discharge of the firearm in response to an application of force on the trigger *element*; and wherein the selector is rotatable about a single axis.

7. A trigger group for a firearm, the trigger group comprising:

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a hammer movable between a cocked position and a striking position;

the hammer being biased toward the striking position;

the hammer having a first hammer hook;

the hammer having a second hammer hook;

a trigger element movable by a user between a rest position and an actuated position;

a movable sear responsive to movement of the trigger element and operable to engage the first hammer hook to restrain the hammer in the cocked position when the trigger element is in the rest position, and in response to pulling the trigger element to the actuated position to release the hammer to the striking position to discharge the firearm;

a selector movable between at least a first position, a second position, and a third position;

a disconnecter assembly operably connected to the selector and [having a hammer retention facility] *comprising a plurality of disconnecter hooks* configured to *selectably* engage the second hammer hook;

the disconnecter assembly operable when the selector is in the first position to retain the hammer in the cocked position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, *by engagement of the second hammer hook with one of the plurality of disconnecter hooks*;

the disconnecter assembly operable when the selector is in the second position to release the hammer to the striking position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, *by release of the second hammer hook by another one of the plurality of disconnecter hooks*, such that the firearm discharges once per cycle of the trigger element when the selector is in the first position, and twice for each rearward-forward motion sequence of the trigger element when the selector is in the second position;

the [disconnecter assembly being operable] *selector operating* when [the selector is] in the third position to prevent discharge of the firearm in response to an application of force on the trigger *element*;

wherein the selector has three different rotational orientations, each corresponding to a respective one of the first, second and third positions; and

wherein the selector is a single element having the three different rotational orientations.

8. A trigger group for a firearm, the trigger group comprising:

a hammer movable between a cocked position and a striking position;

the hammer being biased toward the striking position;

the hammer having a first hammer hook;

the hammer having a second hammer hook;

a trigger element movable by a user between a rest position and an actuated position;

a movable sear responsive to movement of the trigger element and operable to engage the first hammer hook to restrain the hammer in the cocked position when the trigger element is in the rest position, and in response to pulling the trigger element to the actuated position to release the hammer to the striking position to discharge the firearm;

a selector movable between at least a first position, a second position, and a third position;

a disconnecter assembly operably connected to the selector and [having a hammer retention facility] *comprising*



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a plurality of disconnecter hooks configured to *selectably* engage the second hammer hook;

the disconnecter assembly operable when the selector is in the first position to retain the hammer in the cocked position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, *by engagement of the second hammer hook with one of the plurality of disconnecter hooks*;

the disconnecter assembly operable when the selector is in the second position to release the hammer to the striking position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, *by release of the second hammer hook by another one of the plurality of disconnecter hooks*, such that the firearm discharges once per cycle of the trigger element when the selector is in the first position, and twice for each rearward-forward motion sequence of the trigger element when the selector is in the second position;

the [disconnector assembly being operable] *selector operating* when [the selector is] in the third position to prevent discharge of the firearm in response to an application of force on the trigger; and wherein the selector is constrained against movement except on a single rotational axis.

9. A trigger group for a firearm, the trigger group comprising:

- a hammer movable between a cocked position and a striking position;
- the hammer being biased toward the striking position;
- the hammer having a first hammer hook;
- the hammer having a second hammer hook;
- a trigger element movable by a user between a rest position and an actuated position;
- a movable sear responsive to movement of the trigger element and operable to engage the first hammer hook to restrain the hammer in the cocked position when the trigger element is in the rest position, and in response to pulling the trigger element to the actuated position to release the hammer to the striking position to discharge the firearm;
- a selector movable between at least a first position, a second position, and a third position;
- a disconnecter assembly operably connected to the selector and [having a hammer retention facility] *comprising a plurality of disconnecter hooks* configured to *selectably* engage the second hammer hook;
- the disconnecter assembly operable when the selector is in the first position to retain the hammer in the cocked position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, *by engagement of the second hammer hook with one of the plurality of disconnecter hooks*;
- the disconnecter assembly operable when the selector is in the second position to release the hammer to the striking position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, *by release of the second hammer hook by another one of the plurality of disconnecter hooks*, such that the firearm discharges once per cycle of the trigger element when the selector is in the first position, and twice for each rearward-forward motion sequence of the trigger element when the selector is in the second position;

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the [disconnector assembly being operable] *selector operating* when [the selector is] in the third position to prevent discharge of the firearm in response to an application of force on the trigger; and wherein the selector is displaced by a selected angle between the first and second positions and by the selected angle between the first and third positions.

10. A trigger group for a firearm, the trigger group comprising:

- a hammer movable between a cocked position and a striking position;
- the hammer being biased toward the striking position;
- the hammer having a first hammer hook;
- the hammer having a second hammer hook;
- a trigger element movable by a user between a rest position and an actuated position;
- a movable sear responsive to movement of the trigger element and operable to engage the first hammer hook to restrain the hammer in the cocked position when the trigger element is in the rest position, and in response to pulling the trigger element to the actuated position to release the hammer to the striking position to discharge the firearm;
- a selector movable between at least a first position, a second position, and a third position;
- a disconnecter assembly operably connected to the selector and [having a hammer retention facility] *comprising a plurality of disconnecter hooks* configured to *selectably* engage the second hammer hook;
- the disconnecter assembly operable when the selector is in the first position to retain the hammer in the cocked position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, *by engagement of the second hammer hook with one of the plurality of disconnecter hooks*;
- the disconnecter assembly operable when the selector is in the second position to release the hammer to the striking position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, *by release of the second hammer hook by another one of the plurality of disconnecter hooks*, such that the firearm discharges once per cycle of the trigger element when the selector is in the first position, and twice for each rearward-forward motion sequence of the trigger element when the selector is in the second position;
- the [disconnector assembly being operable] *selector operating* when [the selector is] in the third position to prevent discharge of the firearm in response to an application of force on the trigger; and wherein the second and third position are 180° apart from each other.

11. A trigger group for a firearm, the trigger group comprising:

- a hammer movable between a cocked position and a striking position;
- the hammer being biased toward the striking position;
- the hammer having a first hammer hook;
- the hammer having a second hammer hook;
- a trigger element movable by a user between a rest position and an actuated position;
- a movable sear responsive to movement of the trigger element and operable to engage the first hammer hook to restrain the hammer in the cocked position when the trigger element is in the rest position, and in response

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to pulling the trigger element to the actuated position to release the hammer to the striking position to discharge the firearm;

a selector movable between at least a first position, a second position, and a third position;

a disconnecter assembly operably connected to the selector and [having a hammer retention facility] comprising a plurality of disconnecter hooks configured to selectively engage the second hammer hook;

the disconnecter assembly operable when the selector is in the first position to retain the hammer in the cocked position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, *by engagement of the second hammer hook with one of the plurality of disconnecter hooks*;

the disconnecter assembly operable when the selector is in the second position to release the hammer to the striking position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, *by release of the second hammer hook by another one of the plurality of disconnecter hooks*, such that the firearm discharges once per cycle of the trigger element when the selector is in the first position, and twice for each rearward-forward motion sequence of the trigger element when the selector is in the second position;

the [disconnecter assembly being operable] selector operating when [the selector is] in the third position to prevent discharge of the firearm in response to an application of force on the trigger;

wherein the selector has an elongated lever portion that is horizontal in the second and third positions, and vertical in the first position.

12. A trigger group for a firearm, the trigger group comprising:

a hammer movable between a cocked position and a striking position;

the hammer being biased toward the striking position;

the hammer having a first hammer hook;

the hammer having a second hammer hook;

a trigger element movable by a user between a rest position and an actuated position;

a movable sear responsive to movement of the trigger element and operable to engage the first hammer hook to restrain the hammer in the cocked position when the trigger element is in the rest position, and in response to pulling the trigger element to the actuated position to release the hammer to the striking position to discharge the firearm;

a selector movable between at least a first position, a second position, and a third position;

a disconnecter assembly operably connected to the selector and [having a hammer retention facility] comprising a plurality of disconnecter hooks configured to selectively engage the second hammer hook;

the disconnecter assembly operable when the selector is in the first position to retain the hammer in the cocked position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, *by engagement of the second hammer hook with one of the plurality of disconnecter hooks*;

the disconnecter assembly operable when the selector is in the second position to release the hammer to the striking position in response to release of the trigger element to the rest position subsequent to discharge of

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the firearm by pulling the trigger element, *by release of the second hammer hook by another one of the plurality of disconnecter hooks*, such that the firearm discharges once per cycle of the trigger element when the selector is in the first position, and twice for each rearward-forward motion sequence of the trigger element when the selector is in the second position;

the [disconnecter assembly being operable] selector operating when [the selector is] in the third position to prevent discharge of the firearm in response to an application of force on the trigger; and

wherein the selector has a pointer that is horizontal in the second and third positions, and vertical in the first position.

13. A trigger group for a firearm, the trigger group comprising:

a hammer movable between a cocked position and a striking position;

the hammer being biased toward the striking position;

the hammer having a first hammer hook;

the hammer having a second hammer hook;

a trigger element movable by a user between a rest position and an actuated position;

a movable sear responsive to movement of the trigger element and operable to engage the first hammer hook to restrain the hammer in the cocked position when the trigger element is in the rest position, and in response to pulling the trigger element to the actuated position to release the hammer to the striking position to discharge the firearm;

a selector movable between at least a first position, a second position, and a third position;

a disconnecter assembly operably connected to the selector and [having a hammer retention facility] comprising a plurality of disconnecter hooks configured to selectively engage the second hammer hook;

the disconnecter assembly operable when the selector is in the first position to retain the hammer in the cocked position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, *by engagement of the second hammer hook with one of the plurality of disconnecter hooks*;

the disconnecter assembly operable when the selector is in the second position to release the hammer to the striking position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, *by release of the second hammer hook by another one of the plurality of disconnecter hooks*, such that the firearm discharges once per cycle of the trigger element when the selector is in the first position, and twice for each rearward-forward motion sequence of the trigger element when the selector is in the second position;

the [disconnecter assembly being operable] selector operating when [the selector is] in the third position to prevent discharge of the firearm in response to an application of force on the trigger; and

wherein the selector has an elongated lever portion that extends in a first direction when in the first position, a second direction in the second position, and a third direction in the third position, and wherein the second and third directions are opposite from each other and perpendicular to the first direction.

14. A trigger group for a firearm, the trigger group comprising:

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a hammer movable between a cocked position and a striking position;  
the hammer being biased toward the striking position;  
the hammer having a first hammer hook;  
the hammer having a second hammer hook;  
a trigger element movable by a user between a rest position and an actuated position;  
a movable sear responsive to movement of the trigger element and operable to engage the first hammer hook to restrain the hammer in the cocked position when the trigger element is in the rest position, and in response to pulling the trigger element to the actuated position to release the hammer to the striking position to discharge the firearm;  
a selector movable between at least a first position, a second position, and a third position;  
a disconnecter assembly operably connected to the selector and [having a hammer retention facility] comprising a plurality of disconnecter hooks configured to selectively engage the second hammer hook;  
the disconnecter assembly operable when the selector is in the first position to retain the hammer in the cocked position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, *by engagement of the second hammer hook with one of the plurality of disconnecter hooks*;  
the disconnecter assembly operable when the selector is in the second position to release the hammer to the striking position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, *by release of the second hammer hook by another one of the plurality of disconnecter hooks*, such that the firearm discharges once per cycle of the trigger element when the selector is in the first position, and twice for each rearward-forward motion sequence of the trigger element when the selector is in the second position;  
the [disconnecter assembly being operable] selector operating when [the selector is] in the third position to prevent discharge of the firearm in response to an application of force on the trigger; and  
wherein the selector has a pointer that extends in a first direction when in the first position, a second direction in the second position, and a third direction in the third position, and wherein the second and third directions are opposite from each other and perpendicular to the first direction.

15. A trigger group for a firearm, the trigger group comprising:  
a hammer movable between a cocked position and a striking position;  
the hammer being biased toward the striking position;  
the hammer having a first hammer hook;  
the hammer having a second hammer hook;  
a trigger element movable by a user between a rest position and an actuated position;  
a movable sear responsive to movement of the trigger element and operable to engage the first hammer hook to restrain the hammer in the cocked position when the trigger element is in the rest position, and in response to pulling the trigger element to the actuated position to release the hammer to the striking position to discharge the firearm;  
a selector movable between at least a first position, a second position, and a third position;

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a disconnecter assembly operably connected to the selector and [having a hammer retention facility] comprising a plurality of disconnecter hooks configured to selectively engage the second hammer hook;  
the disconnecter assembly operable when the selector is in the first position to retain the hammer in the cocked position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, *by engagement of the second hammer hook with one of the plurality of disconnecter hooks*;  
the disconnecter assembly operable when the selector is in the second position to release the hammer to the striking position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, *by release of the second hammer hook by another one of the plurality of disconnecter hooks*, such that the firearm discharges once per cycle of the trigger element when the selector is in the first position, and twice for each rearward-forward motion sequence of the trigger element when the selector is in the second position;  
the [disconnecter assembly being operable] selector operating when [the selector is] in the third position to prevent discharge of the firearm in response to an application of force on the trigger; and  
wherein the selector is rotatable about a horizontal axis perpendicular to a major axis of the firearm defined by a direction of trigger movement.

16. A trigger group for a firearm, the trigger group comprising:  
a hammer movable between a cocked position and a striking position;  
the hammer being biased toward the striking position;  
the hammer having a first hammer hook;  
the hammer having a second hammer hook;  
a trigger element movable by a user between a rest position and an actuated position;  
a movable sear responsive to movement of the trigger element and operable to engage the first hammer hook to restrain the hammer in the cocked position when the trigger element is in the rest position, and in response to pulling the trigger element to the actuated position to release the hammer to the striking position to discharge the firearm;  
a selector movable between at least a first position, a second position, and a third position;  
a disconnecter assembly operably connected to the selector and [having a hammer retention facility] comprising a plurality of disconnecter hooks configured to selectively engage the second hammer hook;  
the disconnecter assembly operable when the selector is in the first position to retain the hammer in the cocked position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, *by engagement of the second hammer hook with one of the plurality of disconnecter hooks*;  
the disconnecter assembly operable when the selector is in the second position to enable release of the hammer to the striking position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, *by release of the second hammer hook by another one of the plurality of disconnecter hooks*, such that the firearm discharges once per cycle of the trigger element when the selector is in the first position, and twice for

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each rearward-forward motion sequence of the trigger element when the selector is in the second position; the [disconnecter assembly being operable] *selector operating* when [the selector is] in the third position to prevent discharge of the firearm in response to an application of force on the trigger; and wherein the selector is rotatable about a single axis.

22. A trigger group for a firearm, the trigger group comprising:

a hammer movable between a cocked position and a striking position;

the hammer being biased toward the striking position;

the hammer having a first hammer hook;

the hammer having a second hammer hook;

a trigger element movable by a user between a rest position and an actuated position;

a movable sear responsive to movement of the trigger element and operable to engage the first hammer hook to restrain the hammer in the cocked position when the trigger element is in the rest position, and in response to pulling the trigger element to the actuated position to release the hammer to the striking position to discharge the firearm;

a selector movable between at least a first position, a second position, and a third position;

a disconnecter assembly operably connected to the selector and [having a hammer retention facility] *comprising a plurality of disconnecter hooks* configured to *selectably* engage the second hammer hook;

the disconnecter assembly operable when the selector is in the first position to retain the hammer in the cocked position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, *by engagement of the second hammer hook with one of the plurality of disconnecter hooks*;

the disconnecter assembly operable when the selector is in the second position to enable release of the hammer to the striking position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, *by release of the second hammer hook by another one of the plurality of disconnecter hooks*, such that the firearm discharges once per cycle of the trigger element when the selector is in the first position, and twice for each rearward-forward motion sequence of the trigger element when the selector is in the second position;

the [disconnecter assembly being operable] *selector operating* when [the selector is] in the third position to prevent discharge of the firearm in response to an application of force on the trigger;

wherein the selector has three different rotational orientations, each corresponding to a respective one of the first, second and third positions; and

wherein the selector is a single element having the three different rotational orientations.

23. A trigger group for a firearm, the trigger group comprising:

a hammer movable between a cocked position and a striking position;

the hammer being biased toward the striking position;

the hammer having a first hammer hook;

the hammer having a second hammer hook;

a trigger element movable by a user between a rest position and an actuated position;

a movable sear responsive to movement of the trigger element and operable to engage the first hammer hook

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to restrain the hammer in the cocked position when the trigger element is in the rest position, and in response to pulling the trigger element to the actuated position to release the hammer to the striking position to discharge the firearm;

a selector movable between at least a first position, a second position, and a third position;

a disconnecter assembly operably connected to the selector and [having a hammer retention facility] *comprising a plurality of disconnecter hooks* configured to *selectably* engage the second hammer hook;

the disconnecter assembly operable when the selector is in the first position to retain the hammer in the cocked position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, *by engagement of the second hammer hook with one of the plurality of disconnecter hooks*;

the disconnecter assembly operable when the selector is in the second position to enable release of the hammer to the striking position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, *by release of the second hammer hook by another one of the plurality of disconnecter hooks*, such that the firearm discharges once per cycle of the trigger element when the selector is in the first position, and twice for each rearward-forward motion sequence of the trigger element when the selector is in the second position;

the [disconnecter assembly being operable] *selector operating* when [the selector is] in the third position to prevent discharge of the firearm in response to an application of force on the trigger; and

wherein the selector is constrained against movement except on a single rotational axis.

24. A trigger group for a firearm, the trigger group comprising:

a hammer movable between a cocked position and a striking position;

the hammer being biased toward the striking position;

the hammer having a first hammer hook;

the hammer having a second hammer hook;

a trigger element movable by a user between a rest position and an actuated position;

a movable sear responsive to movement of the trigger element and operable to engage the first hammer hook to restrain the hammer in the cocked position when the trigger element is in the rest position, and in response to pulling the trigger element to the actuated position to release the hammer to the striking position to discharge the firearm;

a selector movable between at least a first position, a second position, and a third position;

a disconnecter assembly operably connected to the selector and [having a hammer retention facility] *comprising a plurality of disconnecter hooks* configured to *selectably* engage the second hammer hook;

the disconnecter assembly operable when the selector is in the first position to retain the hammer in the cocked position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, *by engagement of the second hammer hook with one of the plurality of disconnecter hooks*;

the disconnecter assembly operable when the selector is in the second position to enable release of the hammer to the striking position in response to release of the

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trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, *by release of the second hammer hook by another one of the plurality of disconnecter hooks*, such that the firearm discharges once per cycle of the trigger element when the selector is in the first position, and twice for each rearward-forward motion sequence of the trigger element when the selector is in the second position; the [disconnector assembly being operable] *selector operating* when [the selector is] in the third position to prevent discharge of the firearm in response to an application of force on the trigger; and wherein the selector is displaced by a selected angle between the first and second positions and by the selected angle between the first and third positions.

25. A trigger group for a firearm, the trigger group comprising:

- a hammer movable between a cocked position and a striking position;
- the hammer being biased toward the striking position;
- the hammer having a first hammer hook;
- the hammer having a second hammer hook;
- a trigger element movable by a user between a rest position and an actuated position;
- a movable sear responsive to movement of the trigger element and operable to engage the first hammer hook to restrain the hammer in the cocked position when the trigger element is in the rest position, and in response to pulling the trigger element to the actuated position to release the hammer to the striking position to discharge the firearm;
- a selector movable between at least a first position, a second position, and a third position;
- a disconnector assembly operably connected to the selector and [having a hammer retention facility] *comprising a plurality of disconnecter hooks* configured to *selectably* engage the second hammer hook;
- the disconnector assembly operable when the selector is in the first position to retain the hammer in the cocked position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, *by engagement of the second hammer hook with one of the plurality of disconnecter hooks*;
- the disconnector assembly operable when the selector is in the second position to enable release of the hammer to the striking position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, *by release of the second hammer hook by another one of the plurality of disconnecter hooks*, such that the firearm discharges once per cycle of the trigger element when the selector is in the first position, and twice for each rearward-forward motion sequence of the trigger element when the selector is in the second position;
- the [disconnector assembly being operable] *selector operating* when [the selector is] in the third position to prevent discharge of the firearm in response to an application of force on the trigger; and wherein the second and third position are 180° apart from each other.

26. A trigger group for a firearm, the trigger group comprising:

- a hammer movable between a cocked position and a striking position;
- the hammer being biased toward the striking position;
- the hammer having a first hammer hook;

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- the hammer having a second hammer hook;
- a trigger element movable by a user between a rest position and an actuated position;
- a movable sear responsive to movement of the trigger element and operable to engage the first hammer hook to restrain the hammer in the cocked position when the trigger element is in the rest position, and in response to pulling the trigger element to the actuated position to release the hammer to the striking position to discharge the firearm;
- a selector movable between at least a first position, a second position, and a third position;
- a disconnector assembly operably connected to the selector and [having a hammer retention facility] *comprising a plurality of disconnecter hooks* configured to *selectably* engage the second hammer hook;
- the disconnector assembly operable when the selector is in the first position to retain the hammer in the cocked position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, *by engagement of the second hammer hook with one of the plurality of disconnecter hooks*;
- the disconnector assembly operable when the selector is in the second position to enable release of the hammer to the striking position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, *by release of the second hammer hook by another one of the plurality of disconnecter hooks*, such that the firearm discharges once per cycle of the trigger element when the selector is in the first position, and twice for each rearward-forward motion sequence of the trigger element when the selector is in the second position;
- the [disconnector assembly being operable] *selector operating* when [the selector is] in the third position to prevent discharge of the firearm in response to an application of force on the trigger; and wherein the selector has an elongated lever portion that is horizontal in the second and third positions, and vertical in the first position.

27. A trigger group for a firearm, the trigger group comprising:

- a hammer movable between a cocked position and a striking position;
- the hammer being biased toward the striking position;
- the hammer having a first hammer hook;
- the hammer having a second hammer hook;
- a trigger element movable by a user between a rest position and an actuated position;
- a movable sear responsive to movement of the trigger element and operable to engage the first hammer hook to restrain the hammer in the cocked position when the trigger element is in the rest position, and in response to pulling the trigger element to the actuated position to release the hammer to the striking position to discharge the firearm;
- a selector movable between at least a first position, a second position, and a third position;
- a disconnector assembly operably connected to the selector and [having a hammer retention facility] *comprising a plurality of disconnecter hooks* configured to *selectably* engage the second hammer hook;
- the disconnector assembly operable when the selector is in the first position to retain the hammer in the cocked position in response to release of the trigger element to the rest position subsequent to discharge of the firearm

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by pulling the trigger element, *by engagement of the second hammer hook with one of the plurality of disconnecter hooks*;

the disconnecter assembly operable when the selector is in the second position to enable release of the hammer to the striking position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, *by release of the second hammer hook by another one of the plurality of disconnecter hooks*, such that the firearm discharges once per cycle of the trigger element when the selector is in the first position, and twice for each rearward-forward motion sequence of the trigger element when the selector is in the second position; the [disconnecter assembly being operable] *selector operating* when [the selector is] in the third position to prevent discharge of the firearm in response to an application of force on the trigger; and wherein the selector has a pointer that is horizontal in the second and third positions, and vertical in the first position.

28. A trigger group for a firearm, the trigger group comprising:

a hammer movable between a cocked position and a striking position;

the hammer being biased toward the striking position;

the hammer having a first hammer hook;

the hammer having a second hammer hook;

a trigger element movable by a user between a rest position and an actuated position;

a movable sear responsive to movement of the trigger element and operable to engage the first hammer hook to restrain the hammer in the cocked position when the trigger element is in the rest position, and in response to pulling the trigger element to the actuated position to release the hammer to the striking position to discharge the firearm;

a selector movable between at least a first position, a second position, and a third position;

a disconnecter assembly operably connected to the selector and [having a hammer retention facility] *comprising a plurality of disconnecter hooks* configured to *selectably* engage the second hammer hook;

the disconnecter assembly operable when the selector is in the first position to retain the hammer in the cocked position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, *by engagement of the second hammer hook with one of the plurality of disconnecter hooks*;

the disconnecter assembly operable when the selector is in the second position to enable release of the hammer to the striking position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, *by release of the second hammer hook by another one of the plurality of disconnecter hooks*, such that the firearm discharges once per cycle of the trigger element when the selector is in the first position, and twice for each rearward-forward motion sequence of the trigger element when the selector is in the second position;

the [disconnecter assembly being operable] *selector operating* when [the selector is] in the third position to prevent discharge of the firearm in response to an application of force on the trigger; and

wherein the selector has an elongated lever portion that extends in a first direction when in the first position, a

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second direction in the second position, and a third direction in the third position, and wherein the second and third directions are opposite from each other and perpendicular to the first direction.

29. A trigger group for a firearm, the trigger group comprising:

a hammer movable between a cocked position and a striking position;

the hammer being biased toward the striking position;

the hammer having a first hammer hook;

the hammer having a second hammer hook;

a trigger element movable by a user between a rest position and an actuated position;

a movable sear responsive to movement of the trigger element and operable to engage the first hammer hook to restrain the hammer in the cocked position when the trigger element is in the rest position, and in response to pulling the trigger element to the actuated position to release the hammer to the striking position to discharge the firearm;

a selector movable between at least a first position, a second position, and a third position;

a disconnecter assembly operably connected to the selector and [having a hammer retention facility] *comprising a plurality of disconnecter hooks* configured to *selectably* engage the second hammer hook;

the disconnecter assembly operable when the selector is in the first position to retain the hammer in the cocked position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, *by engagement of the second hammer hook with one of the plurality of disconnecter hooks*;

the disconnecter assembly operable when the selector is in the second position to enable release of the hammer to the striking position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, *by release of the second hammer hook by another one of the plurality of disconnecter hooks*, such that the firearm discharges once per cycle of the trigger element when the selector is in the first position, and twice for each rearward-forward motion sequence of the trigger element when the selector is in the second position;

the [disconnecter assembly being operable] *selector operating* when [the selector is] in the third position to prevent discharge of the firearm in response to an application of force on the trigger; and

wherein the selector has a pointer that extends in a first direction when in the first position, a second direction in the second position, and a third direction in the third position, and wherein the second and third directions are opposite from each other and perpendicular to the first direction.

30. A trigger group for a firearm, the trigger group comprising:

a hammer movable between a cocked position and a striking position;

the hammer being biased toward the striking position;

the hammer having a first hammer hook;

the hammer having a second hammer hook;

a trigger element movable by a user between a rest position and an actuated position;

a movable sear responsive to movement of the trigger element and operable to engage the first hammer hook to restrain the hammer in the cocked position when the trigger element is in the rest position, and in response

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to pulling the trigger element to the actuated position to release the hammer to the striking position to discharge the firearm;

a selector movable between at least a first position, a second position, and a third position;

a disconnecter assembly operably connected to the selector and [having a hammer retention facility] *comprising a plurality of disconnecter hooks* configured to *selectably* engage the second hammer hook;

the disconnecter assembly operable when the selector is in the first position to retain the hammer in the cocked position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, *by engagement of the second hammer hook with one of the plurality of disconnecter hooks*;

the disconnecter assembly operable when the selector is in the second position to enable release of the hammer

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to the striking position in response to release of the trigger element to the rest position subsequent to discharge of the firearm by pulling the trigger element, *by release of the second hammer hook by another one of the plurality of disconnecter hooks*, such that the firearm discharges once per cycle of the trigger element when the selector is in the first position, and twice for each rearward-forward motion sequence of the trigger element when the selector is in the second position;

the [disconnecter assembly being operable] *selector operating* when [the selector is] in the third position to prevent discharge of the firearm in response to an application of force on the trigger; and

wherein the selector is rotatable about a horizontal axis perpendicular to a major axis of the firearm defined by a direction of trigger movement.

\* \* \* \* \*

# **EXHIBIT E**





**San Jose**  
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F. 408.998.4790

September 15, 2022

Jeffrey M. Ratnoff  
jratnoff@hopkinscarley.com  
T. 408.299.1336  
F. 408.938.6261

***Via E-Mail and Certified U.S. Mail (rkipfm@gmail.com)***

Ricky Kipfmiller  
Unk's Guns  
94 Oakwood Dr.  
Dahlonega, GA 30533-5889  
<https://unksguns.com/>

***Re: Notice of Violation of Franklin Armory's Intellectual Property Rights  
by Unk's Guns Demand for Immediate Cease & Desist***

Dear Mr. Kipfmiller:

This law firm represents Franklin Armory, Inc. and Franklin Armory Holdings, Inc. (collectively, "Franklin") in the protection of their intellectual property rights. Franklin has spent a considerable amount of time and money developing and protecting its patent and trademark rights related to its pull-release trigger products.

**U.S. Trademark Registration Nos. 6,272,568 and No. 6,293,943**

This letter provides notice of Unk's Guns' infringement of U.S. Trademark Registration No. 6,272,568 for the word mark "BINARY" and U.S. Trademark Registration No. 6,293,943 for the word mark "BINARY FIRING SYSTEM" (collectively "the Binary® Marks"). Franklin has invested a substantial amount of money in the advertising and promotion of its pull-release triggers that it sells using the Binary® Marks. As a result, the Binary® Marks have generated substantial goodwill and market-recognition for Franklin's unique and innovative products.

Unk's Guns' initial use of "Binary Triggers" as a product constituted infringement of the Binary® Marks. As you know, our client contacted you and your company on August 19, 2022 to object to this unauthorized use of the Binary® Marks. Within hours of that telephone call, in which you expressed a willingness to abandon use of the designation "Binary Triggers," it appears that you proceeded to file a U.S. federal trademark application in your own name for BINARY TRIGGER. See, U.S. Serial No. 97556690. You further signed a declaration for that application, under penalty of perjury, that "To the best of the signatory's knowledge and belief, no other persons, except, if applicable, concurrent users, have the right to use the mark in commerce, either in the identical form

Ricky Kipfmiller  
Unk's Guns  
September 15, 2022  
Page 2

or in such near resemblance as to be likely, when used on or in connection with the goods/services of such other persons, to cause confusion or mistake, or to deceive.”

After your company refused to take steps to stop its infringement, Franklin set a deadline. Unk's Guns' response was not to comply with Franklin's request. Instead, Unk's Guns changed one letter in the Binary® Marks and began using the phonetic equivalent, Bynary. That minor spelling change does not mitigate Unk's Guns' violation of the Lanham Act. Federal courts recognize that such changes are immaterial and that the marks are still confusingly similar for consumers. For example, “Dreamwerks” was still confusingly similar to the registered mark “DreamWorks” despite utilizing different spelling and capitalization. *Dreamwerks Production Group, Inc. v. SKG Studio*, 142 F.3d 1127, 1130 (9th Cir. 1998). “[T]he obvious ‘perfect similarity of sound’ and ‘similarity of meaning’...[and] even the similarity of sight also weighed in favor of a finding of similarity, as consumers ‘might shrug off the difference in spelling and capitalization as an intentional modification.’” *Wreal, LLC v. Amazon.com, Inc.*, 38 F.4th 114, 132 (11th Cir. 2022) (citing same). Your actions, both in filing the trademark application and in then changing a single letter in the mark, do, however, underscore your bad faith and intent to infringe Franklin's trademark rights.

Unk's Guns' and your use of a competitor's registered mark in the promotion of a competing product constitutes trademark infringement under 15 U.S.C. § 1114(1) and unfair competition under 15 U.S.C. § 1125(a). Consequently, Unk's Guns and you must immediately:

- Cease all uses of the Binary® Marks, including the terms “Binary” and “Bynary,” in association with the marketing, sale, distribution, or identification of any products and/or services.
- Remove the Binary® Marks, including the terms “Binary” and “Bynary,” from all product packaging, videos, promotional materials and instructions on the manufacturing of these products.
- Remove the Binary® Marks, including the terms “Binary” and “Bynary,” from all webpages that you and/or Unk's Guns owns or controls, including at <https://unksguns.com/> and from any relevant search engine sites (such as, Google – \*AdWords);
- Remove the Binary® Marks, including the terms “Binary” and “Bynary,” from all social media accounts that you and/or Unk's Guns owns or controls, including but not limited to YouTube, Facebook, and Instagram.
- Destroy all printed materials and packaging with the infringing mark displayed thereon.

Ricky Kipfmiller  
Unk's Guns  
September 15, 2022  
Page 3

- Expressly abandon with prejudice the application under Serial No. 97556690, and provide proof of the same.

We trust that Unk's Guns and you still have an interest in preventing any possibility of consumer confusion, did not intend to mislead or deceive the USPTO, and that you will work with Franklin to resolve the foregoing. Thus, we ask that you individually and an authorized agent of Unk's Guns countersign and date this letter where indicated below confirming that each agree to undertake these remedial measures within ten (10) business days from the date of this letter. We also ask that you and Unk's Guns furnish adequate proof and certify in writing that both have completed the foregoing and ceased the use of the Binary® Marks and abandoned the application.

\* \* \*

This letter constitutes notice of Franklin's legal rights and is written without waiver of any rights and remedies that Franklin may assert to protect its intellectual property, reputation and business interests if an amicable business solution cannot be reached.

If you have already engaged counsel with regard to these issues, please provide contact information for your attorney so that we can deal with him or her directly. Otherwise, please contact me using the contact information provided above if you have any questions or wish to further discuss any of the foregoing.

Sincerely,

HOPKINS & CARLEY  
A Law Corporation

  
Jeffrey M. Ratinoff

JMR/cwt

Agreed and Accepted:

Agreed and Accepted:

\_\_\_\_\_  
By:

\_\_\_\_\_  
By: Ricky Kipfmiller

Title:

Date:

Company: Unk's Guns

Date:

# **EXHIBIT F**



**San Jose**  
70 South First Street  
San Jose, CA 95113  
T. 408.286.9800  
F. 408.998.4790

October 12, 2022

Jeffrey M. Ratnoff  
jratnoff@hopkinscarley.com  
T. 408.299.1336  
F. 408.938.6261

**Via E-Mail and Certified U.S. Mail (rkipfm@gmail.com)**

Ricky Kipfmiller  
Unk's Guns  
94 Oakwood Dr.  
Dahlonega, GA 30533-5889  
<https://unksguns.com/>

**Re: Second Notice of Violation of Franklin Armory's Intellectual Property Rights by Unk's Guns Demand for Immediate Cease & Desist**

Dear Mr. Kipfmiller:

We previously sent you a cease and desist letter on September 15, 2022 (copy attached.) Although we had set a September 29, 2022 deadline, you did not respond to our letter. However, it appears that some changes were made to Unk's Guns' website (<https://unksguns.com/>) and subpages based on our prior demands. These changes fall short of addressing the issues raised in the September 15th letter, and as a result, Unk's Guns continues to infringe on Franklin's trademark rights, including, U.S. Trademark Registration No. 6,272,568 for the word mark "BINARY" and U.S. Trademark Registration No. 6,293,943 for the word mark "BINARY FIRING SYSTEM" (collectively "the Binary® Marks"). This includes the following continuing and new infringement of those marks:

1. "BYE-NARRY TRIGGER" on <https://unksguns.com/>;
2. "Binary Trigger" referred to in the 4:40 video entitled "Trigger Installation Video" on <https://unksguns.com/>;
3. "BYNARY TRIGGERS" on <https://unksguns.com/ba-dass-page>;
4. "BINARISTIC TRIGGER", "BINARISTIC TRIGGERS", "BYNARY TRIGGER", "Binary", "Bynary Trigger", "BYNARY", "Bynary fire", "binary round", "BYNARY HAPPINESS" in the Owners' Manual on <https://unksguns.com/ba-dass-page>; and
5. "Bynary trigger", "Bynary kit" in the Installation Instructions on <https://unksguns.com/ba-dass-page>.

Ricky Kipfmiller  
Unk's Guns  
October 12, 2022  
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This letter provides further notice of Unk's Guns' continued intentional and bad-faith infringement of the Binary® Marks. Franklin has invested a substantial amount of money in the advertising and promotion of its pull-release triggers that it sells using the Binary® Marks. As a result, the Binary® Marks have generated substantial goodwill and market-recognition for Franklin's unique and innovative products.

As we have previously explained, Unk's Guns' initial use of "Binary Triggers" as a product constituted infringement of the Binary® Marks. As you know, our client contacted you and your company on August 19, 2022 to object to this unauthorized use of the Binary® Marks. Within hours of that telephone call, in which you expressed a willingness to abandon use of the designation "Binary Triggers," it appears that you proceeded to file a U.S. federal trademark application in your own name for BINARY TRIGGER (Serial No. 97556690). Since first receiving notice of Franklin's objections, your company has refused to stop its infringing conduct. Instead, Unk's Guns has repeatedly flouted Franklin's trademark rights and taken steps to continue and expand its efforts to trade on Franklin's goodwill and reputation. All of your actions to date only underscore your bad faith and intent to infringe Franklin's trademark rights.

After we sent our first cease & desist letter on September 15, 2022, Unk's Guns did not immediately remove all infringing material from its website. Instead, Unk's Guns made further minor spelling changes like "Bye-narry", "Binaristic", and "Binary". Further, "Bynary" is still found in multiple places on the website. Again, **minor spelling changes do not mitigate Unk's Guns' intentional infringement of the Binary® Marks and violation of the Lanham Act.**

Unk's Guns' use of a competitor's registered mark in the promotion of a competing product constitutes trademark infringement under 15 U.S.C. § 1114(1) and unfair competition under 15 U.S.C. § 1125(a). Consequently, Unk's Guns must immediately:

- Cease all uses of the Binary® Marks, including the terms "Binary", "Bynary", "Bye-narry", "Binaristic", and "Binary" in association with the marketing, sale, distribution, or identification of any products and/or services.
- Remove the Binary® Marks, including the terms "Binary", "Bynary", "Bye-narry", "Binaristic", and "Binary" from all product packaging, **videos**, promotional materials and instructions on the manufacturing of these products.
- Remove the Binary® Marks, including the terms "Binary", "Bynary", "Bye-narry", "Binaristic", and "Binary" from all webpages that you and/or Unk's Guns owns or controls, including at <https://unksguns.com/> and from any relevant search engine sites (such as, Google – \*AdWords);

Ricky Kipfmiller  
Unk's Guns  
October 12, 2022  
Page 3

- Remove the Binary® Marks, including the terms “Binary”, “Bynary”, “Bye-narry”, “Binaristic”, and “Binarry” from all social media accounts that you and/or Unk’s Guns owns or controls, including but not limited to YouTube, Facebook, and Instagram.
- Destroy all printed materials and packaging with the infringing mark displayed thereon.
- Expressly abandon with prejudice the application under Serial No. 97556690, and provide proof of the same.

If Unk’s Guns did not intend to create consumer confusion, to file a deceptive trademark application, or to infringe Franklin’s established trademark rights, we trust that you will work with Franklin to resolve the foregoing. In that spirit, we again ask that Unk’s Guns agree to undertake these remedial measures within seven (7) business days from the date of this letter. We also ask that you and Unk’s Guns furnish adequate proof and certify in writing that both have completed the foregoing, permanently ceased all use of the Binary® Marks (and any similar designations), and abandoned the application. If you and your company refuse to promptly take all of these steps, we will have no choice but to recommend to our client that they take appropriate action to protect its rights.

\* \* \*

This letter constitutes notice of Franklin’s legal rights and is written without waiver of any rights and remedies that Franklin may assert to protect its intellectual property, reputation and business interests if an amicable business solution cannot be reached.

If you have already engaged counsel with regard to these issues, please provide contact information for your attorney so that we can deal with him or her directly. Otherwise, please contact me using the contact information provided above if you have any questions or wish to further discuss any of the foregoing.

Sincerely,

HOPKINS & CARLEY  
A Law Corporation



Jeffrey M. Ratinoff

JMR/cwt



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September 15, 2022

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***Via E-Mail and Certified U.S. Mail (rkipfm@gmail.com)***

Ricky Kipfmiller  
Unk's Guns  
94 Oakwood Dr.  
Dahlonega, GA 30533-5889  
<https://unksguns.com/>

***Re: Notice of Violation of Franklin Armory's Intellectual Property Rights  
by Unk's Guns Demand for Immediate Cease & Desist***

Dear Mr. Kipfmiller:

This law firm represents Franklin Armory, Inc. and Franklin Armory Holdings, Inc. (collectively, "Franklin") in the protection of their intellectual property rights. Franklin has spent a considerable amount of time and money developing and protecting its patent and trademark rights related to its pull-release trigger products.

**U.S. Trademark Registration Nos. 6,272,568 and No. 6,293,943**

This letter provides notice of Unk's Guns' infringement of U.S. Trademark Registration No. 6,272,568 for the word mark "BINARY" and U.S. Trademark Registration No. 6,293,943 for the word mark "BINARY FIRING SYSTEM" (collectively "the Binary® Marks"). Franklin has invested a substantial amount of money in the advertising and promotion of its pull-release triggers that it sells using the Binary® Marks. As a result, the Binary® Marks have generated substantial goodwill and market-recognition for Franklin's unique and innovative products.

Unk's Guns' initial use of "Binary Triggers" as a product constituted infringement of the Binary® Marks. As you know, our client contacted you and your company on August 19, 2022 to object to this unauthorized use of the Binary® Marks. Within hours of that telephone call, in which you expressed a willingness to abandon use of the designation "Binary Triggers," it appears that you proceeded to file a U.S. federal trademark application in your own name for BINARY TRIGGER. See, U.S. Serial No. 97556690. You further signed a declaration for that application, under penalty of perjury, that "To the best of the signatory's knowledge and belief, no other persons, except, if applicable, concurrent users, have the right to use the mark in commerce, either in the identical form



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or in such near resemblance as to be likely, when used on or in connection with the goods/services of such other persons, to cause confusion or mistake, or to deceive.”

After your company refused to take steps to stop its infringement, Franklin set a deadline. Unk's Guns' response was not to comply with Franklin's request. Instead, Unk's Guns changed one letter in the Binary® Marks and began using the phonetic equivalent, Bynary. That minor spelling change does not mitigate Unk's Guns' violation of the Lanham Act. Federal courts recognize that such changes are immaterial and that the marks are still confusingly similar for consumers. For example, “Dreamwerks” was still confusingly similar to the registered mark “DreamWorks” despite utilizing different spelling and capitalization. *Dreamwerks Production Group, Inc. v. SKG Studio*, 142 F.3d 1127, 1130 (9th Cir. 1998). “[T]he obvious ‘perfect similarity of sound’ and ‘similarity of meaning’...[and] even the similarity of sight also weighed in favor of a finding of similarity, as consumers ‘might shrug off the difference in spelling and capitalization as an intentional modification.’” *Wreal, LLC v. Amazon.com, Inc.*, 38 F.4th 114, 132 (11th Cir. 2022) (citing same). Your actions, both in filing the trademark application and in then changing a single letter in the mark, do, however, underscore your bad faith and intent to infringe Franklin's trademark rights.

Unk's Guns' and your use of a competitor's registered mark in the promotion of a competing product constitutes trademark infringement under 15 U.S.C. § 1114(1) and unfair competition under 15 U.S.C. § 1125(a). Consequently, Unk's Guns and you must immediately:

- Cease all uses of the Binary® Marks, including the terms “Binary” and “Bynary,” in association with the marketing, sale, distribution, or identification of any products and/or services.
- Remove the Binary® Marks, including the terms “Binary” and “Bynary,” from all product packaging, videos, promotional materials and instructions on the manufacturing of these products.
- Remove the Binary® Marks, including the terms “Binary” and “Bynary,” from all webpages that you and/or Unk's Guns owns or controls, including at <https://unksguns.com/> and from any relevant search engine sites (such as, Google – \*AdWords);
- Remove the Binary® Marks, including the terms “Binary” and “Bynary,” from all social media accounts that you and/or Unk's Guns owns or controls, including but not limited to YouTube, Facebook, and Instagram.
- Destroy all printed materials and packaging with the infringing mark displayed thereon.

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- Expressly abandon with prejudice the application under Serial No. 97556690, and provide proof of the same.

We trust that Unk's Guns and you still have an interest in preventing any possibility of consumer confusion, did not intend to mislead or deceive the USPTO, and that you will work with Franklin to resolve the foregoing. Thus, we ask that you individually and an authorized agent of Unk's Guns countersign and date this letter where indicated below confirming that each agree to undertake these remedial measures within ten (10) business days from the date of this letter. We also ask that you and Unk's Guns furnish adequate proof and certify in writing that both have completed the foregoing and ceased the use of the Binary® Marks and abandoned the application.

\* \* \*

This letter constitutes notice of Franklin's legal rights and is written without waiver of any rights and remedies that Franklin may assert to protect its intellectual property, reputation and business interests if an amicable business solution cannot be reached.

If you have already engaged counsel with regard to these issues, please provide contact information for your attorney so that we can deal with him or her directly. Otherwise, please contact me using the contact information provided above if you have any questions or wish to further discuss any of the foregoing.

Sincerely,

HOPKINS & CARLEY  
A Law Corporation



Jeffrey M. Ratinoff

JMR/cwt

Agreed and Accepted:

Agreed and Accepted:

\_\_\_\_\_  
By:

\_\_\_\_\_  
By: Ricky Kipfmiller

Title:

Date:

Company: Unk's Guns

Date: