

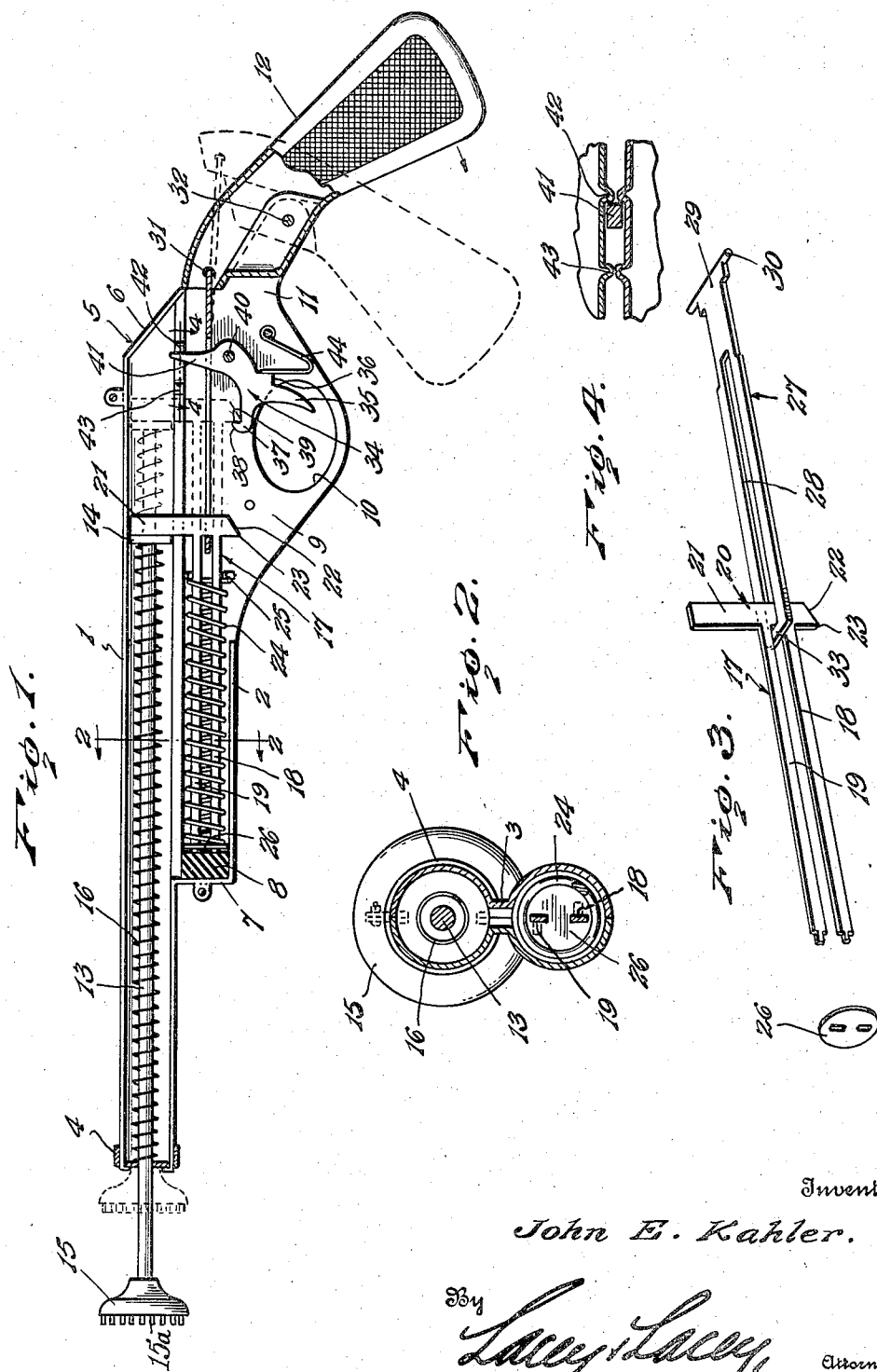
Dec. 20, 1938.

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2,140,875

SWATTER GUN

Filed April 28, 1938



UNITED STATES PATENT OFFICE

2,140,875

SWATTER GUN

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Application April 28, 1938, Serial No. 204,854

6 Claims. (Cl. 43—135)

This invention relates to improvements in swatter guns and seeks, among other objects, to provide a device of this character wherein two barrels are employed which barrels are disposed in over and under relationship so that the gun will be shorter, easier to handle, more attractive and more durable in use than other guns for the purpose.

A further object of the invention is to provide a swatter gun wherein improved trigger mechanism is employed.

And as a still further object, the invention seeks to provide a swatter gun employing cocking means which is characterized by the utmost simplicity and efficiency.

Other and incidental objects of the invention will become apparent during the course of the following description.

My improved swatter gun is illustrated in the accompanying drawing, wherein:

Figure 1 is a longitudinal sectional view, partly in elevation, showing the construction of my improved swatter gun, the handle being shown in dotted lines in cocked position.

Figure 2 is a vertical sectional view on the line 2—2 of Figure 1, looking in the direction indicated by the arrows.

Figure 3 is an enlarged detail perspective view of a portion of the cocking mechanism.

Figure 4 is an enlarged fragmentary horizontal sectional view on the line 4—4 of Figure 1, looking in the direction indicated by the arrows.

Referring now more particularly to the accompanying drawing, the numerals 1 and 2 indicate the upper and lower barrels, respectively, of my improved swatter gun. The barrels 1 and 2 are preferably stamped in mating half sections from sheet metal and are connected to each other by ears 2a. A web 3 connects the upper and lower barrels. As will be seen in the drawing, the upper barrel 1 is considerably longer than the lower barrel 2 and said upper barrel is provided with an open outer end closed by a cap 4, which cap is adapted to be secured on the barrel by tongues 4a bent to overlie the cap. The inner end of the barrel 1 merges into the breech of my improved gun, which breech is shown generally at 5. That is to say, the inner end of the barrel is closed by a downwardly inclined breech wall 6. The barrel 2 is closed at its outer end by means of an end wall 7 which limits the outward movement of a stop 8. Ears 8a serve to prevent separation of the half sections. The stop 8 is formed of rubber or other suitable material and is for the purpose of cushioning the outward stroke of

the plunger which will be described hereinafter. It should be understood that the stop 8 may be dispensed with, if desired, in which event the plunger would be limited in its forward movement by the portion 7. It should also be understood that the outer end of the barrel 2 may be completely closed.

The inner ends of the barrels 2 and 3 merge into enlarged portions 9 defining a trigger guard 10, said trigger guard being a part of the breech 5. Formed on the breech 5 is a stock mounting portion 11 adapted to have swingingly connected thereto a handle, shown generally at 12. The handle may be of the pistol grip variety or of any other suitable formation. There is slidably mounted in the barrel 1 a stem 13 which extends throughout the major portion of the length of the barrel and has fixed on its inner end a head 14. The outer end of the stem 13 has mounted thereon a striking cup 15 which preferably has a flat outer face for engagement with an insect to be killed. Ribs 15a are mounted on the striking face of the cup. Coiled about the stem 13 within the barrel 1 is a relatively light spring 16. The spring is confined between the cap 4 and the head 14 so that, after the stem has been advanced in the barrel, the spring will serve to retract said stem to operative position with the head thereof near the breech portion 5. The head 14 is circular in formation and is adapted to slide freely within the barrel 1 throughout its length.

In the lower barrel 2 there is located the striking plunger 17. As best seen in Figures 1 and 3 of the drawing, the striking plunger 17 is formed with parallel spaced tines or body portions 18 and 19 connected at corresponding ends by a vertically disposed striking member 20 which has its upper portion 21 extending through the reduced portion or web 3 to be disposed in the upper barrel 1. The reduced portion or web 3 serves to guide the striking member 20 so that said member, as it travels within the barrels, will be prevented from shifting laterally out of position. The member 20 extends downwardly and is formed at its lower end with a forwardly and downwardly inclined wall 22 terminating in a latch point 23. As best seen in Figure 1 of the drawing, the striking plunger 17 has a relatively heavy spring 24 surrounding the tines 18 and 19 thereof. The spring 24 is limited against inward movement on the tines by means of inwardly struck portions 25 which are formed on the barrel 2 near its inner end. The spring is limited against outward displacement by means of

an end disc 26 which is fitted on tongues 50 at the ends of the tines 18 and 19. By bending one of the tongues 50 in one direction and the other tongue 50 in the opposite direction, the disc is securely clamped in position. It will now be seen that the spring 24 is properly mounted on the plunger 17 and is confined between the stops 25 and disc 26.

In order to retract the plunger 17 within the breech 5, I provide a cocking yoke, shown generally at 27. The cocking yoke is formed with a longitudinally extending slot 28 and a connecting portion 29 having trunnions 30 thereon. The connecting portion is adapted to be disposed within the upper forward end of the handle 12 with the trunnions 30 located in openings 31 in the handle, the handle being effectually mounted on the stock mounting portion 11 by means of a pin 32. The forward end of the cocking yoke 27 is closed at 33 and, as best seen in Figure 3, the plunger 17 is disposed in engagement with the cocking yoke 27 in such a manner that the portion 33 will be normally disposed against the striking member 20 between the tines 18 and 19. Swinging of the handle 12 to the position shown in dotted lines in Figure 4, will effect the retraction of the cocking yoke 27 and the plunger 17 within the barrels and breech of the gun and against the tension of the spring 24. As the striking member 20 is retracted, the stem 13 will be retracted in the barrel 1 by the spring 16 so that the head 14 will be in constant engagement with the upper portion 21 of the striking member 20.

Pivottally mounted within the breech 5 is a trigger 34. The trigger 34 is preferably formed of light weight cast metal and is formed with a finger engaging portion 35 extending into the trigger guard 10. The trigger 34 is also formed, forwardly of the finger engaging portion 35, with a spring engaging shoulder 36 and upwardly of said spring engaging portion and forwardly of said finger engaging portion, the trigger is formed with a keeper 37 which has a round upper end portion 38 defining a shoulder 39. The trigger 34 is pivotally mounted in the breech 5 by means of a pivot pin 40. Formed on the trigger 34 above the pivot 40 is a movement limiting portion 41. As best seen in Figures 1 and 4 of the drawing, the portion 41 has its upper end slidably mounted between the walls of the reduced portion or web 3 and said walls are provided with inwardly struck depressions 42 and 43 so that the portion 41 will be retarded in its movement to between the portions 42 and 43. In order to retain the trigger 34 in proper operative position with the finger engaging portion 35 extending within the guard 10, I provide a substantially U-shaped spring 44 which is pivotally mounted within the breech and has its free end engaging the shoulder 36.

It is thought that the operation of my invention will be clearly understood from the foregoing. However, a short discussion thereof is not thought to be out of order. It is first desirable to place the gun in cocked position ready for a fly swatting operation. This is done by swinging the handle 12 to the position shown in dotted lines in Figure 1, when the cocking yoke will be retracted for withdrawing the plunger 17 and engaging the latch point 23 behind the shoulder 39 of the trigger 34. The inclined wall 22 co-operates with the round upper end portion 38 for permitting the striking member 20 to slide into operative position behind the keeper. The

handle 12 is then returned to operative position, as shown in full lines. It should be understood that the slot 28 receives therethrough the portion 41 of the trigger. The gun is now in cocked position. As heretofore stated, when the gun is in cocked position, the spring 24 will be under tension and the stem 13 will be in the full retracted position shown in dotted lines in Figure 1, with the head thereof in engagement with the portion 21 of the striking member 20. When the trigger is pulled, the spring 24, which, as stated, is relatively heavy, urges the stem 13 outwardly in the barrel for engaging the swatter disc thereon with an insect to be killed. Inasmuch as the spring 16 is relatively light, said spring will not offer a great deal of resistance to the outward movement of the stem. However, as soon as the insect has been killed and the gun is again cocked, the spring 16 will have sufficient tension to retract the stem 13 to operative position for another insect killing operation. It is believed further description is unnecessary.

Having thus described the invention, what I claim is:

1. In a swatter gun, an upper barrel, a lower barrel connected therewith, a breech connecting the inner ends of the barrels, means closing the outer ends of the barrels, a stem slidable in the upper barrel, a plunger slidable in the lower barrel and having a striking member provided with an upper portion engageable with the stem, means on the plunger for urging the plunger forwardly, and a trigger carried by the breech and engageable for releasing the plunger whereby said plunger will be urged forwardly by said second mentioned means for contacting the striking member with the stem and advancing said stem in the barrel.

2. In a swatter gun, an upper barrel, a lower barrel, a reduced portion between the barrels and defining an opening between the barrels, a breech connecting the barrels at their inner ends, a stem slidable in the upper barrel and having a swatter disc thereon, a plunger in the lower barrel, said plunger having tines connected at their ends by a striking portion, said striking portion extending through the reduced portion between the barrels and into said upper barrel, a spring surrounding the plunger, a handle carried by the breech, means connecting the handle with the plunger for moving the plunger to a cocked position, a trigger in the breech and having a keeper engageable with the striking portion of the plunger, and means carried by the breech for retaining the trigger in operative position, said trigger being adapted for retaining the plunger in a cocked position and having a finger engaging portion shiftable for releasing the plunger and permitting the striking member to urge the stem forwardly of the barrel for an insect killing operation.

3. In a swatter gun, upper and lower barrels connected by a reduced portion defining an opening between the barrels, a breech connecting the barrels at their corresponding inner ends, a stem slidably mounted in the upper barrel, a relatively light spring on the stem and normally urging the stem inwardly, a plunger carried in the lower barrel and having a striking member extending through the opening between the barrels, said plunger having an upper portion adapted for engagement with the stem, a handle connected with the breech, a cocking yoke connecting the handle with the plunger, a trigger carried by the breech and having a keeper defin-

ing a shoulder, and means carried by the breech for limiting movement of the trigger, said keeper of said trigger being adapted to engage the striking member for retaining the plunger in cocked position, said trigger being depressible whereby the plunger will be urged forwardly for advancing the stem within the upper barrel and effecting an insect killing operation.

4. In a swatter gun, upper and lower barrels connected by a reduced portion defining an opening between the barrels, a breech connecting the barrels at their inner corresponding ends and having a trigger guard, a handle swingingly connected with the breech, a stem slidably mounted in the upper barrel and having a head, a cap closing the outer end of said upper barrel, a relatively light spring about the stem in the upper barrel, a plunger slidably mounted in the lower barrel and having a striking member provided with an upper portion, said upper portion projecting through the opening between the barrels for causing said upper portion to confront the inner end portions of the stem, said plunger having tines, a relatively heavy spring surrounding the tines of the plunger, struck in portions formed on the inner end portion of the lower barrel and limiting inward movement of the relatively heavy spring, a disc carried on the plunger at the free ends of the tines and confining the spring, said striking member having a latch point, a cocking yoke pivotally connected with the handle and having a slot receiving a portion of the plunger therein, said cocking yoke being adapted to retract the plunger against the tension of the relatively heavy spring, and a trigger carried by the breech and having a keeper formed with a shoulder adapted to receive the

latch point of the plunger in cocked position, said trigger having a finger engaging portion depressible for freeing the latch point from the shoulder whereby the relatively heavy spring will urge the plunger forwardly for engaging the striking member with the stem for advancing the stem in the upper barrel against the tension of the relatively light spring and effecting an insect killing operation.

5. A swatter gun as recited in claim 4, wherein the trigger is provided with a limiting portion movable between inwardly pressed portions on the barrel whereby swinging movement of the trigger will be limited.

6. In a swatter gun, an upper barrel, a lower barrel connected therewith, a breech connecting the barrels at their inner corresponding ends, said breech having a trigger guard, a stem slidably mounted in the upper barrel and having a head, means closing the upper barrel at its outer end, a relatively light spring carried about the stem between the head and said means and normally urging the stem inwardly to retracted position, a plunger having a striking member formed with an upper end portion confronting the head, a relatively heavy spring about the plunger, means for retracting the plunger against the tension of said second mentioned spring, said stem following said plunger to a cocked position, and a trigger for retaining the plunger in cocked position, said trigger being depressible for releasing the plunger whereupon the relative heavy spring will urge said plunger forwardly and advance the stem against the tension of the relatively light spring for effecting an insect killing operation.

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