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2,897,757

GUN CARTRIDGE

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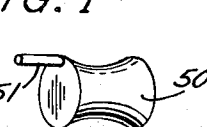
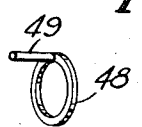
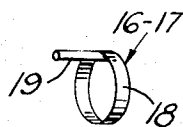
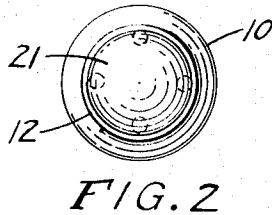
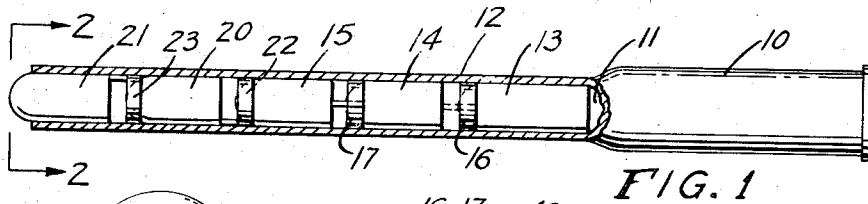


FIG. 10 FIG. 11 FIG. 12

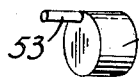
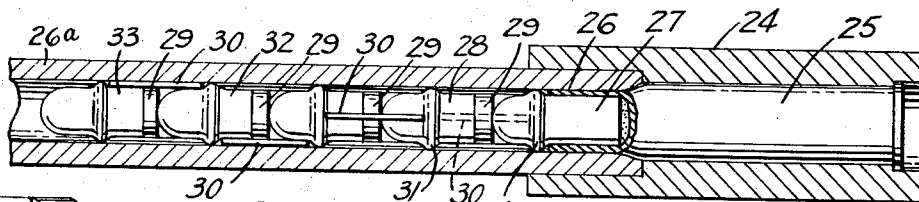


FIG. 3

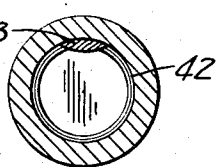
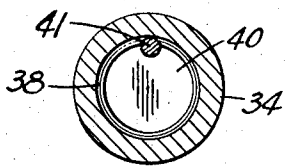
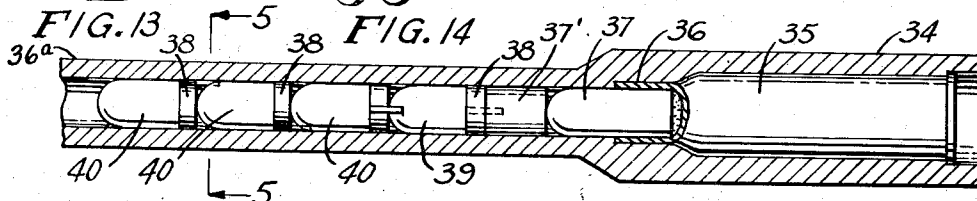


FIG. 4

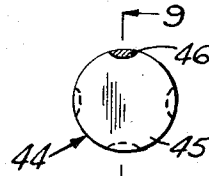
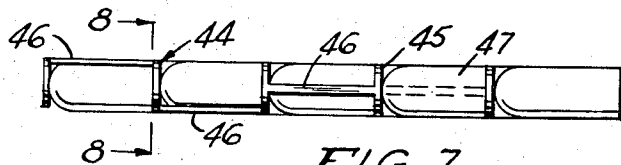


FIG. 8

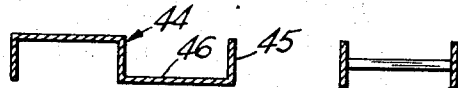


FIG. 9

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GUN CARTRIDGE

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3 Claims. (Cl. 102—38)

The present invention relates to a gun cartridge of the type having multiple bullets or projectiles.

An object of the present invention is to provide a gun cartridge having a plurality of bullets or projectiles arranged so that upon firing of the cartridge a single projectile will go to the center of the target and the other projectiles will go one each to the left and right sides of the center and above and below the center.

Another object of the present invention is to provide a gun cartridge having a plurality of projectiles and a means which can be adjusted so that while one main projectile will go to the center of the target the others can be made to go in any desired pattern to any side of the center of the target.

A further object of the present invention is to provide a gun cartridge having multiple projectiles which spread when fired so that a larger area of target may be hit, the gun cartridge being adaptable for use in rifles, anti-aircraft guns, naval guns, guns mounted in aircraft, and elsewhere.

These and other objects and advantages of the present invention will be fully apparent from the following description when taken in connection with the annexed drawings, in which:

Figure 1 is an elevational view partially cut away showing the gun cartridge of the present invention,

Figure 2 is an end view taken on line 2—2 of Figure 1,

Figure 3 is a side view in cross-section of a portion of a gun barrel showing another form of the gun cartridge partially broken away and installed in the gun barrel,

Figure 4 is a cross-sectional view of still another gun barrel showing another form of the present invention installed therein,

Figure 5 is an end view in cross-section taken on the line 5—5 of Figure 4,

Figure 6 is a view similar to Figure 5 but showing still another form of the present invention,

Figure 7 is a side view in elevation showing another embodiment of the projectile portion of a cartridge constructed according to the present invention,

Figure 8 is an end view in cross-section taken on the line of 8—8 of Figure 7,

Figure 9 is a side view in cross-section taken on the line 9—9 of Figure 8,

Figure 10 is an isometric view of a single connecting plug used in one embodiment of the present invention,

Figure 11 is an isometric view of another form of the connecting plug shown in Figure 10,

Figure 12 is still another isometric view of a third form of the plug of Figure 10,

Figure 13 is an isometric view of another form of the plug, and

Figure 14 is still another isometric view of still another plug constructed according to the present invention.

Referring in greater detail to the drawing in which like numerals indicate like parts throughout the several views,

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the gun cartridge of the present invention, as seen in Figure 1, consists in a casing 10 having an open end 11 adapted to receive an explosive charge. A barrel 12 is arranged in longitudinal alignment with respect to the open end 11 of the casing 10 and is secured to the open end 11 of the casing 10. A main projectile element 13 is positioned in the barrel 12 and has one end supported in the open end 11 of the casing. A plurality of subsidiary projectile elements are arranged in end to end spaced relation in the barrel 12 forwardly of the main projectile element 13 with a first subsidiary projectile element 14 adjacent the main projectile element 13 connected directly to the other end of the main projectile element 13 for movement in a direction at an angle to the longitudinal axis of the casing 10 upon ejection of the main projectile element 13 from the barrel 12 by the firing of the explosive charge in the casing 10.

A second subsidiary projectile element 15 is connected to the first subsidiary element 14 for movement in a direction at an angle to the longitudinal axis of the barrel opposite to the direction of the first subsidiary projectile element 14.

In the form of the invention shown in Figures 1 and 2, the connection between the main projectile element 13 and the first subsidiary projectile element 14 is a means engaging the main projectile element 13 and including a rod-like element offset from the longitudinal axis of the barrel engaging the first subsidiary projectile element 14. Specifically, such means embodies a first connecting plug which is indicated by the reference numeral 16 and is seen connecting the first subsidiary projectile element 14 to the main projectile element 13, and a second connecting plug indicated by the reference numeral 17 is seen connecting the second subsidiary projectile element 15 to the first subsidiary projectile element 14. In Figure 10, one of the connecting plugs 16 or 17 is shown and is seen to have a ring portion 18 and a post or peg portion 19, the ring portion surrounding and engaging the nose or forward end of the respective main projectile element 13 or the first subsidiary projectile element 14. The peg portion 19 of the plug 16 projects forwardly of the ring portion and engages the first subsidiary projectile element 14 on one side of the longitudinal axis of the barrel 12, and the peg portion 19 of the plug 17 projects forwardly of the ring portion and engages the second subsidiary projectile element 15 on the opposite side of the longitudinal axis of the barrel 12. As seen in Figure 1, third and fourth subsidiary projectile elements 20 and 21 are positioned in the barrel 12 forwardly of the secondary subsidiary projectile element 15, with spaces between them and with the peg portion of the third and fourth connecting plugs 22 and 23 which occupy the spaces respectively between the second and third subsidiary projectile elements 15 and 20 and the third and fourth subsidiary projectile elements 20 and 21, arranged below and above the longitudinal axis of the barrel 12, respectively.

In Figure 3, it will be seen that a gun cartridge, indicated by the reference numeral 24, has within it a cartridge casing 25 with a stub barrel projecting and connected to the open end of the casing 25. The main projectile element 27 is secured in a stub barrel 26 with one end adjacent the charge of powder contained within the casing 25 and having its other end projecting outwardly of the stub barrel 26 and into a barrel 26a. The connecting plug in this form of the invention is indicated by the reference numeral 29 and is positioned in the space between the subsidiary projectile element 28 and the main projectile element 27 and has a rod portion 30 extending between the ribs 31 upon each of the subsidiary projectile elements 28 and the main projectile element 27 and bear-

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ing against those ribs 31, the main portion of the connecting plug 29 serving to support the rod portion 30 in its position on one side of the longitudinal axis of the barrel 26a. Other subsidiary projectiles 32 and 33 are positioned forwardly of the subsidiary projectile 28 and has similar connecting plugs 29 arranged so that their rod portions 30 are above and below the longitudinal axis of the barrel 26a.

In Figure 4 the gun cartridge 34 has a cartridge casing 35 therein also provided with a stub barrel 36 out of which projects the main projectile element 37 and into a barrel 36a. Forwardly of the main projectile element 37 is a plug or wadding 37' and forwardly of that is a first connecting plug 38 having its rod portion extending to the rear and contacting the wadding 37' on one side of the latter. Forwardly of the connecting plug 38 is a subsidiary projectile element 39 having its base contacted by and engaging the connecting plug 38. Other subsidiary projectile elements 40 are arranged forwardly of the subsidiary projectile element 39 in the barrel 36a, and are provided with connecting plugs 38 interposed between adjacent subsidiary projectile elements 40, the rod portions of each of the connecting plugs 38 being arranged so that they are pushed by the following projectile element in each of the cardinal points of direction and each at an angle to the longitudinal axis of the barrel 36a.

In Figure 5, it will be seen that the connecting plug 38 has a cylindrically-shaped rod portion indicated by the reference numeral 41. In Figure 6, the connecting plug 42 has a flattened rod portion 43. In each of the forms of the connecting plug shown in Figures 5 and 6, the ring portion is constructed of paper, thin metal, plastic, or suitable rigid material of such weight and strength as to support the respective rod portions in their position between and abutting the adjacent subsidiary and main projectile elements.

In Figure 7, an assembly of projectile elements is shown connected together by a skeleton form of connecting plug indicated by the reference numeral 44 consisting of a plurality of spaced disks 45 connected together by bars 46, the bars 46 being successively on each side of the disks and below and above the disks 45, the disks 45 being positioned within the spaces between the adjacent subsidiary projectile elements 47 in this form of the invention. In Figure 8, it will be seen that the bars 46 are oval in cross-sectional area.

In Figure 11 the connecting plug assumes the form of an annular ring 48 having a projecting rod 49 projecting from one face of the ring 48. In Figure 12 the connecting plug has a somewhat cylindrical body portion 50 having a reduced middle section with the rod portion 51 projecting from one end thereof adjacent to the periphery of the body portion 50. In Figure 13 the connecting plug has a cylindrical body portion 52 and a rod portion 53 projecting from one face of the body portion 52. In the last form of the connecting plug shown in Figure 14 the body portion is composed of a pair of disks 54 separated from each other and connected together by a short length of rod 55 centrally of the disks 54, there being a rod portion 56 projecting from the outer face of one of the disks 54.

In each form of the connecting plug here shown and described, it will be noted that the rod portion projects forwardly of the ring or body portion along one side thereof so as to contact the projectile element ahead of it in the barrel of the casing or in the barrel of the gun adjacent the periphery of that projectile element while the ring or body portion of the connecting plug is contacted by the following projectile element, excepting in the form illustrated in Figure 3, in such a way that the following projectile element exerts its pushing force against the connecting plug evenly therearound. Due to the application of the pushing force to the periphery or rim of the projectile element forwardly of the connecting plug, that projectile element is caused to deviate from the longitudi-

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nal axis of the barrel of the casing to the side opposite to that of the application of the pushing force. This causes the projectile element to reach the target above or below or to one side or the other of the center of the target.

The connecting plug may be constructed of various materials such as rigid paper, plastic, lightweight metals, and may be of such weight and shape as to vary the results of the spread of the projectile elements upon the target as desired.

What is claimed is:

1. A cartridge comprising a casing having an open end adapted to receive an explosive charge, a barrel arranged in longitudinal alignment with respect to the open end of said casing and secured to the open end of said casing, a main projectile element positioned in said barrel and having one end supported in the open end of said casing, and a plurality of subsidiary projectile elements arranged in end to end spaced relation positioned in said barrel forwardly of said main projectile element and having a first subsidiary projectile element adjacent main projectile element, means engaging said main projectile element and including a rod-like element offset from the longitudinal axis of said barrel engaging said first subsidiary projectile element connecting said first subsidiary projectile element to said main projectile element for movement in a direction at an angle to the longitudinal axis of said barrel upon ejection of said main projectile element by the firing of the explosive charge in said casing, a second subsidiary projectile element being adjacent the first subsidiary projectile element, and means engaging said first subsidiary projectile element and including a rod-like element offset from the longitudinal axis of said barrel engaging said second subsidiary projectile element connecting said second subsidiary projectile element to said first subsidiary projectile element for movement in a direction at an angle to the longitudinal axis of said barrel opposite to that of said first subsidiary projectile element.

2. A cartridge comprising a casing having an open end adapted to receive an explosive charge, a barrel arranged in longitudinal alignment with respect to the open end of said casing and secured to the open end of said casing, a main projectile element positioned in said barrel and having one end supported in the open end of said casing, a plurality of subsidiary projectile elements arranged in end to end relation positioned in said barrel forwardly of and spaced from said main projectile element, a first connecting plug interposed in the space between said main projectile element and a first subsidiary projectile element and having means on one end engaging said main projectile element and having means on the other end engaging the first subsidiary projectile element on one side of the longitudinal axis of said barrel connecting said first projectile element to said main projectile element for movement in a direction at an angle to the longitudinal axis of said barrel upon ejection of said main projectile element by the firing of the explosive charge in said casing, a second connecting plug interposed in the space between a second subsidiary projectile element and the first subsidiary projectile element, a second connecting plug having means on one end engaging said first subsidiary projectile element and having means on the other end engaging the second subsidiary projectile element on the side of the longitudinal axis of said barrel connecting the second subsidiary projectile element to the first subsidiary projectile element for movement in a direction at an angle to the longitudinal axis of said casing opposite to that of the first subsidiary projectile element.

3. A cartridge comprising a casing having an open end adapted to receive an explosive charge, a barrel arranged in longitudinal alignment with respect to the open end of said casing and secured to the open end of said casing, a main projectile element positioned in said bar-

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rel and having one end supported in the open end of said casing, a plurality of subsidiary projectile elements arranged in end to end relation positioned in said barrel forwardly of and spaced from said main projectile element, a first connecting plug interposed in the space between said main projectile element and the first subsidiary projectile element and having a circular body on one end engaging said main projectile element and having a rod-like projection on the other end engaging the first subsidiary projectile element on one side of the longitudinal axis of said barrel connecting said first projectile element to said main projectile element for movement in a direction at an angle to the longitudinal axis of said barrel upon ejection of said main projectile element by the firing of the explosive charge in said casing, second connecting plug interposed in the space between a second subsidiary projectile element and said first subsidiary projectile element, said second connecting plug having a

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circular body on one end engaging the first subsidiary element and having a rod-like projection on the other end engaging the second subsidiary projectile element on one side of the longitudinal axis of said barrel connecting the second subsidiary projectile element to the first subsidiary projectile element for movement in a direction at an angle to the longitudinal axis of said casing opposite to that of the first subsidiary projectile element.

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