

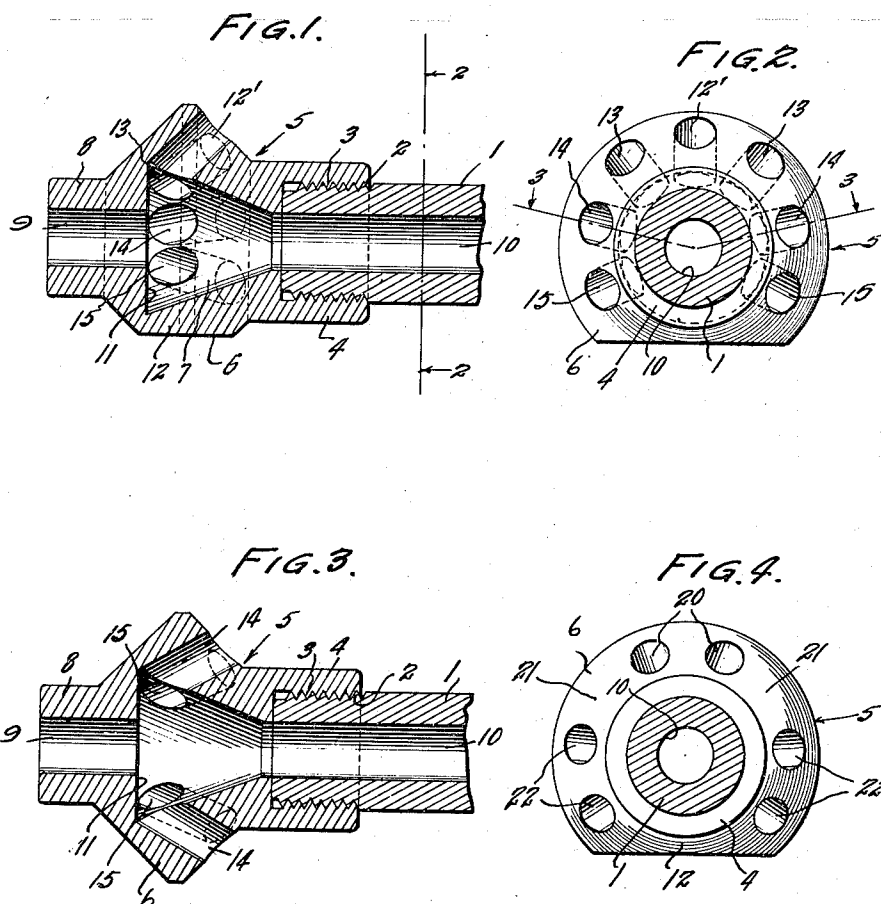
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APPARATUS FOR CONTROLLING RECOIL

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APPARATUS FOR CONTROLLING RECOIL

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2 Claims. (Cl. 89-14)

My invention relates to a device for controlling recoil and it is particularly adapted for use in controlling the recoil of firearms. In connection with the use of the device on firearms it is desirable to eliminate climb, since climb interferes with accurate shooting, in particular where the shots are delivered in rapid succession.

It is an object of my invention to eliminate, or minimize climb, as well as whip.

It is a further object of my invention to provide a recoil control which is simple in construction, light, durable, and cheap to manufacture.

With these and other objects in view, which may be incident to my improvements, the invention consists in the parts and combinations to be hereinafter set forth and claimed, with the understanding that the several necessary elements comprising my invention may be varied in construction, proportions and arrangements, without departing from the spirit and scope of the appended claims.

In order to make my invention more clearly understood, I have shown in the accompanying drawing means for carrying the same into practical effect without limiting the improvements in their useful applications to the particular constructions which, for the purpose of explanation, have been made the subject of illustration.

In the drawing:

Figure 1 is a longitudinal sectional view taken through the axis of the bore of the firearm and the axis of the bore of the gas seal of my device.

Figure 2 is a view taken along the line 2-2 of Figure 1 looking in the direction of the arrows.

Figure 3 is a view taken along the line 3-3 of Figure 2 looking in the direction of the arrows.

Figure 4 is a view similar to Figure 2 of a modification of my device showing a series of gas ports arranged in groups.

Referring to the drawing I have shown a muzzle 1 of a firearm provided with screw threads 2 adapted to mesh with screw threads 3 formed on the inside of a collar 4, of my recoil control which I have generally indicated by the numeral 5.

The recoil control comprises a body portion 6 formed with a combustion chamber 7. The body is formed with a forward extension 8 having a seal port 9 extending therethrough from the combustion chamber and with an annular shoulder 11 extending from the inner end of the seal port to the side wall of the chamber, and also with discharge ports, leading rearwardly and outwardly from the forward part

of the chamber adjacent the shoulder, the prolongation of the outer sides of said ports substantially coinciding with the periphery of said shoulder. These ports, 12', 13, 14, 15, as shown in Figs. 1 and 2, are arranged in an arcuate series, around the top and sides of the device, but there are no ports in the lower part 12 of the body.

In order to eliminate climb as much as possible, the ports at the top of the recoil control make a larger angle with the axis of the bore of the firearm than do the ports lower down the sides of the recoil control. In general the construction is such that the ports make a progressively smaller angle from the top to the bottom. Referring to Figure 2, for instance, the construction is generally such that the port 12' makes a greater angle with the axis of the bore of the firearm than the ports 13. The ports 13 make a greater angle than do the ports 14; and the ports 14 make a greater angle than do the ports 15.

This arrangement provides a large downward thrust by reason of the relatively great angle of the ports at the top of the recoil control. The greater the angle of the ports at the top of the recoil control the less these ports contribute to the elimination of recoil against the shoulder of the user of the gun, in case a shoulder arm is used; but also the greater the angle the upper ports make with the axis of the bore of the firearm, the more climb is eliminated.

Referring to Figure 4 I have shown a modification in which ports are grouped in series. At the top of the device, I have shown two ports which are shown grouped together. Below these there is on either side considerable space in which there are no ports, and then there are two ports 22 on the other side. This arrangement permits the recoil control to be used under conditions where a recoil control having equally spaced ports all around the body could not be used. The grouping of ports, for instance as is shown in Figure 4, is of particular value in using the device on guns mounted on shipboard where a stanchion of the ship, or other parts of the gun or ship might interfere with the free flow of gases from the ports.

While I have shown and described the preferred embodiment of my invention, I wish it to be understood that I do not confine myself to the precise details of construction herein set forth by way of illustration, as it is apparent that many changes and variations may be made therein, by those skilled in the art, without de-

parting from the spirit of the invention, or exceeding the scope of the appended claims.

I claim:

1. A recoil controlling device for guns adapted
5 to fire projectiles, comprising a body adapted
for attachment to the muzzle of a gun barrel,
said body having a gas chamber therein and
having an inlet port and a seal port at the rear
10 and forward ends of said chamber, respectively,
and a shoulder extending laterally from the inner
end of the seal port to the side wall of the cham-
ber, said device having an arcuate series of dis-
charge ports extending rearwardly and outwardly
15 from the forward part of the chamber, the pro-
longation of the outer sides of the several ports
substantially coinciding with the periphery of
said shoulder, the axes of the discharge ports
in the upper part of the device being at a greater
20 angle to the axis of the seal port than are the
axes of the discharge ports in the sides of the
device.

2. A recoil controlling device for guns adapted

to fire projectiles, comprising a body adapted for
attachment to the muzzle of a gun barrel, said
body having a gas chamber therein and having
an inlet port and a seal port at the rear and
forward ends of said chamber, respectively, and
5 a shoulder extending laterally from the inner
end of the seal port to the side wall of the
chamber, said device having an arcuate series
of discharge ports extending rearwardly and out-
wardly from the forward part of the chamber, 10
the prolongation of the outer sides of the sev-
eral ports substantially coinciding with the pe-
riphery of said shoulder, the axes of the discharge
ports in the upper part of the device being at
a greater angle to the axis of the seal port than 15
are the axes of the discharge ports in the sides
of the device, and the axes of the discharge ports
progressively making a smaller angle with the
axis of the seal port from the top of the body
downward.

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