

Oct. 25, 1938.

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2,134,238

VARIABLE CHOKE FOR SHOTGUNS

Filed Sept. 16, 1937

2 Sheets-Sheet 1

Fig. 1.

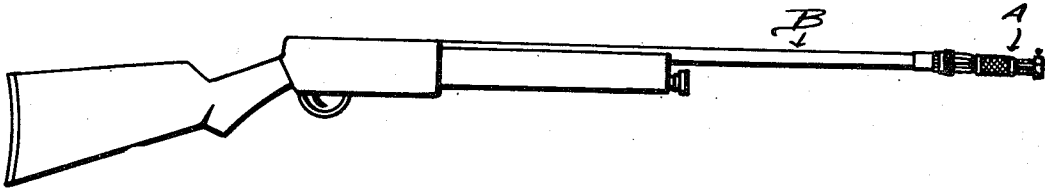


Fig. 2.

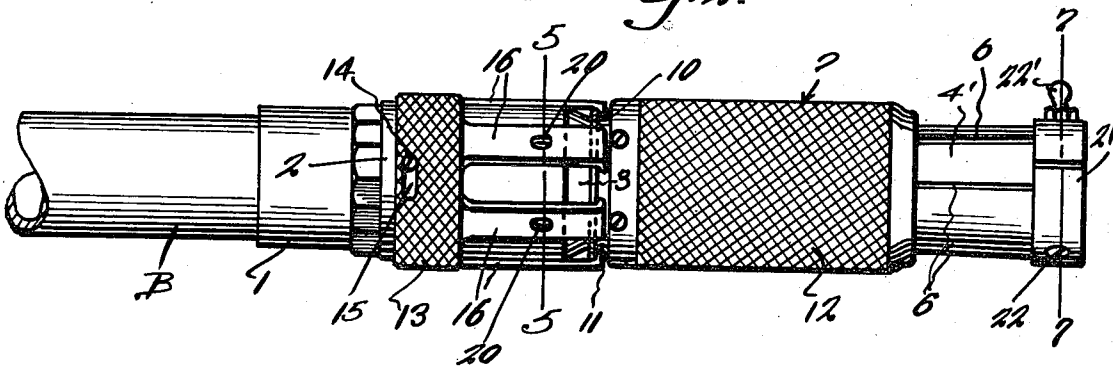


Fig. 3.

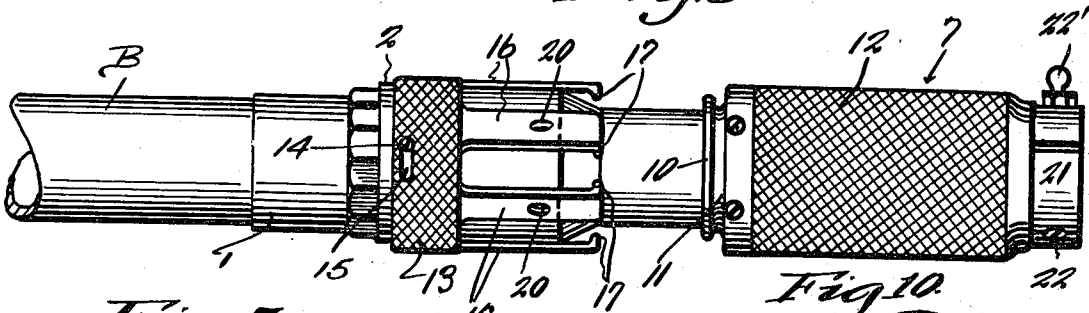


Fig. 5.

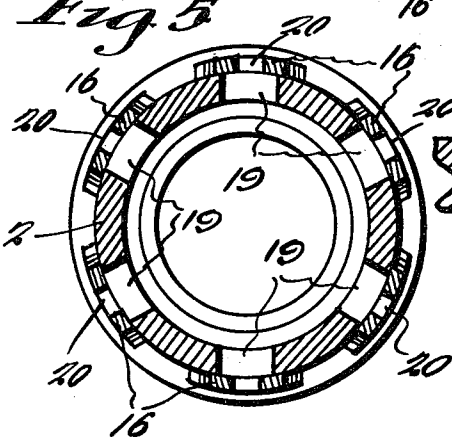
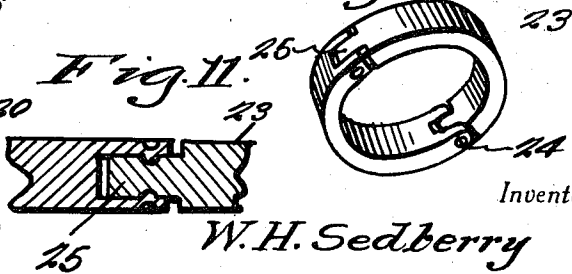


Fig. 11.



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Fig. 4

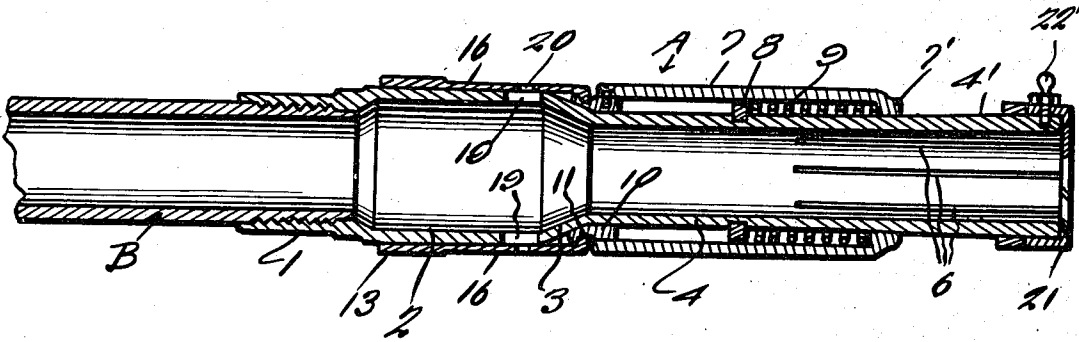


Fig. 8

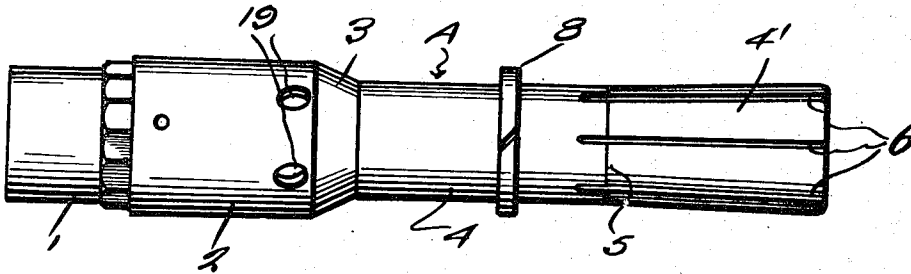


Fig. 6

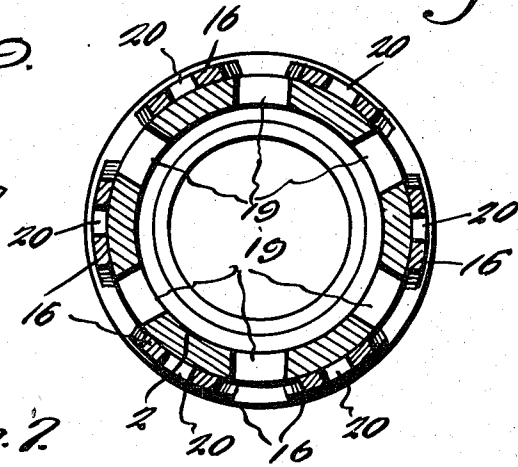


Fig. 9

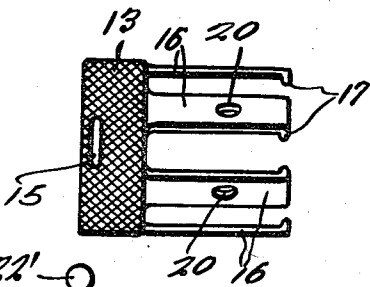
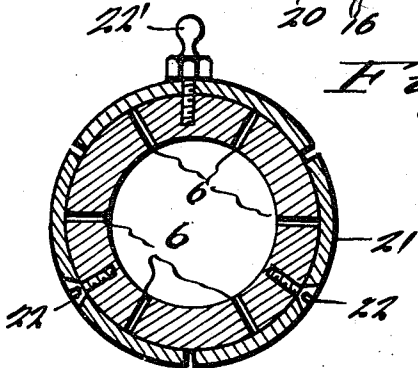


Fig. 7



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VARIABLE CHOKE FOR SHOTGUNS

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7 Claims. (Cl. 42—79)

This invention relates to a variable choke for shot guns, the general object of the invention being to provide means whereby the barrel of a gun can have its outer part adjusted from a cylinder to full choke and vice versa and to intermediate choke between cylinder and full choke.

Another object of the invention is to provide means whereby the invention can be used on a pump or automatic shot gun to provide a cylinder choke for the first shot and then the parts are automatically adjusted for a full or partial choke for the next shot.

This invention also consists in certain other features of construction and in the combination and arrangement of the several parts to be hereinafter fully described, illustrated in the accompanying drawings and specifically pointed out in the appended claims.

In describing the invention in detail, reference will be had to the accompanying drawings wherein like characters denote like or corresponding parts throughout the several views, and in which:—

Figure 1 is an elevation showing the invention applied to an automatic shot gun.

Figure 2 is an elevation of the muzzle end of the gun with the invention applied thereto and with the parts located for a cylinder or non-choke.

Figure 3 is a similar view but with the parts in a position to provide a full choke.

Figure 4 is a longitudinal sectional view through Figure 2.

Figure 5 is a section on the line 5—5 of Figure 2.

Figure 6 is a similar view but with the spring tongues in operative position to uncover the holes.

Figure 7 is a section on the line 7—7 of Figure 2.

Figure 8 is a view of the barrel extension with the finger carrying member and the wedge member removed.

Figure 9 is a view of the finger carrying member.

Figure 10 is a perspective view of an interchangeable ring for providing a partial choke when desired.

Figure 11 is a detail sectional view of the latch means of such ring.

In these views the letter A indicates an extension member for the barrel B of a shot gun, this member having one end threaded to the muzzle end of the barrel as shown at 1. Immediately in front of the threaded part the member A is

formed with a cylindrical part 2 of greater diameter than the threaded part and the front end of this part 2 is provided with a tapered front part 3 which joins the tubular part 4 which is of the same internal diameter as the internal diameter of the barrel B. However, from a point slightly in front of the lateral center of the part 4 the external diameter thereof gradually increases to the outer end of the part 4, this part starting at the line 5 and is indicated by the numeral 4'. Also longitudinally extending slits 6 extend from the outer end of the part 4' inwardly and slightly beyond the point or line 5 so that the part 4' is slightly resilient and the sections formed by the slits can be pushed inwardly so as to decrease the diameter of the bore of this part of the member A to provide a choke for the gun. The inherent resiliency of the sections formed by the slits 6 will cause this part 4' to assume its normal position with its interior of the same diameter as that of the barrel when the contracting member 7 is removed out of contracting engagement with said part 4'.

This member 7 is of cylindrical form but its front end is formed with an annular restricted part 7' which, when forced over the part 4' will force the sections thereof inwardly until the walls of the slits 6 will contact each other and thus the internal diameter of the part 4' will be reduced to provide a choke for the gun. A split ring 8 is placed in a groove in the part 4 and serves the double purpose of acting as a stop for limiting forward motion of the member 7 and also as an abutment for the spring 9 which has one end engaging the split ring and the other the part 7' of the member 7, the spring being placed in the forward portion of the part 7 and acts to move the member 7 forwardly to contract the part 4'.

The rear end of the part 7 is fastened to a grooved ring 10, the exterior annular groove of which is shown at 11 and said member 7 is roughened on its outer circumference, as shown at 12 to provide a hand hold so that said member can be moved forwardly or rearwardly by hand.

A ring 13, also roughened on its outer circumference is supported for partial rotary movement on the part 2 through means of the screws 14 passing through the circumferentially extending slots 15 into the member 2. This ring 13 carries a plurality of forwardly extending spring fingers 16 which have their forward ends bent inwardly as shown at 17 to engage in the groove 11 to connect the member 7 with the fingers and, therefore, with the ring 3. The parts are so formed that when the member 7 is moved

rearwardly with a certain amount of force the ring 10 striking the bent ends 17 of the fingers 16 will cause the said bent ends to ride over the rounded part of the ring 10 and then enter the groove 11 which will fasten the member 7 to the ring 13. Of course, a force exerted on the member 7 in an opposite direction will pull the fingers out of the groove so as to separate the member 7 from the member 13. However, I provide means whereby the gases of an exploding charge in the gun will force the fingers outwardly so as to release the member 7 from the fingers and thus permit the spring 9 to move the member 7 forwardly to form a choke in the device. Such means includes a plurality of holes 19 in the forward end of the part 2 which will permit the escape of gases from the exploding charge and when the ring 13 is turned to a position where the holes will be covered by the spring fingers 16, this gas will force the fingers outwardly and thus cause the parts 17 to disengage the groove 11 so that the spring 9 can force the member forwardly. In some cases it might be necessary to provide holes 20 in the fingers 16 to permit some of the gases to escape from the holes 19 to prevent injury to the fingers by being pressed too far outwardly by the gases. As shown in Figure 5 the holes 20 are of smaller diameter than are the holes 19. When it is not desired that the gases release the member 7 from the fingers the ring 13 is moved to its other position which will place the fingers 16 to one side of the holes 19, as shown in Figure 6 and then, of course, the gases will not act on the fingers and the member 7 will remain in its rearward position, as shown in Figure 2 and this, of course, does not choke the barrel of the gun.

A flanged sectional ring 21 is placed over the outer end of the member A and the sections of this member are each connected to one of the sections of the part 4' by a screw 22 as shown in Figure 7. Thus this ring will not interfere with the contraction or expansion of the part 4'. One of the screws is made in the form of a sight, as shown at 22' and this screw, of course, is at the top of the ring to provide a sight for the gun. The flange of this ring fits over the outer circumferential edge of the part 4' as shown in Figure 4 and acts to protect the parts. The stop ring 8 is so placed as to stop outward movement of the member 7 before the end 7' strikes the inner edge of the ring 21.

The parts are so formed that when the member 7 is in its forward position it will contract the part 4' to produce a full choke and in order to provide means whereby partial chokes can be provided for, the invention includes two or more interchangeable rings, one of which is shown in Figure 10 at 23. This ring is adapted to be placed around the part 4' with one edge engaging the inner edge of the ring 21 and, of course, when the end 7' of the member 7 strikes this ring 23 further forward movement thereof is prevented and thus the part 7' will only partially contract the part 4'. These rings 23 are of different width so as to stop forward movement of the member 7 at different places on the part 4', in accordance with the width of the particular ring 23 being used. This ring 23 is formed of two sections hingedly connected together at one end as shown at 24 and having the spring latch means shown generally at 25 for connecting the opposite ends of the two sections together in a detachable manner.

From the foregoing it will be seen that the in-

vention can be attached to the muzzle end of a barrel by simply threading said end of the barrel to receive the threaded part of the member A. The member 7 can be adjusted by hand to provide a full choke or a cylinder at the outer end of the device and by using one of the rings 23 partial choke can be provided for. However, when the invention is used on a pump or automatic gun by adjusting the parts shown in Figure 2 the first shot will be at full cylinder but as the gases from this shot pass through the device they will lift the fingers 16 so as to release the member 7 to permit the spring 9 to move the member forwardly and thus contract the part 4' to provide a choke. Then the next shot will be choked. As will be understood this invention renders the use of a double barrel gun with one barrel choked unnecessary as it automatically makes the gun a choked one after the first shot has been fired and thus the second shot is choked. Of course, by using a ring 23 of suitable width the desired partial choke can be secured. It will also be seen that the gun can be used regularly as a choked one or as a non-choked one, by simply adjusting the parts so that they will remain in the position to which they are adjusted.

It is thought from the foregoing description that the advantages and novel features of the invention will be readily apparent.

It is to be understood that changes may be made in the construction and in the combination and arrangement of the several parts provided that such changes fall within the scope of the appended claims.

Having described the invention, what is claimed as new is:—

1. In a gun, a barrel, a contractible slitted cylindrical part at the outer end of the barrel, said part being normally of an internal diameter the same as that of the barrel, a member for contracting said part to provide a choke, means for holding said member in retracted position out of engagement with the contractible part, means for moving the member forwardly, means for releasing the holding means by the gases of an exploding charge passing through the barrel.

2. In a gun, a barrel, a contractible slitted cylindrical part at the outer end of the barrel, said part being normally of an internal diameter the same as that of the barrel, a member for contracting said part to provide a choke, means for holding said member in retracted position out of engagement with the contractible part, means for moving the member forwardly, means for releasing the holding means by the gases of an exploding charge passing through the barrel, and means for rendering the last means inactive when desired.

3. In a gun, a barrel, a contractible slitted cylindrical part at the outer end of the barrel, said part being normally of an internal diameter the same as that of the barrel, a member for contracting said part to provide a choke, means for holding said member in retracted position out of engagement with the contractible part, means for moving the member forwardly, means for releasing the holding means by the gases of an exploding charge passing through the barrel, and means for rendering the last means inactive when desired, and means whereby the holding means can be engaged or released manually.

4. An attachment for a gun barrel comprising an elongated tubular member, means for attaching one end thereof to the muzzle end of a barrel, the major portion of the member having an in-

- ternal diameter the same as that of the internal diameter of the barrel, the outer end of the member having longitudinally extending slits therein and said portion having an exterior diameter which gradually increases to the outer end of the member, a sleeve fitting over the intermediate part of the member and having a portion for engaging the slitted part for contracting the same when the member is moved forwardly, a spring for moving the member forwardly, holding means for holding the spring actuated member in retracted position and means whereby the gases of an exploding charge will cause the holding member to release the spring-pressed member.
5. An attachment for a gun barrel comprising an elongated tubular member, means for attaching one end thereof to the muzzle end of a barrel, the major portion of the member having an internal diameter the same as that of the internal diameter of the barrel, the outer end of the member having longitudinally extending slits therein and said portion having an exterior diameter which gradually increases to the outer end of the member, a sleeve fitting over the intermediate part of the member and having a portion for engaging the slitted part for contracting the same when the member is moved forwardly, a spring for moving the member forwardly, holding means for holding the spring actuated member in retracted position and means whereby the gases of an exploding charge will cause the holding member to release the spring-pressed member, and interchangeable stop members for encircling the slitted part for limiting contracting motion of the spring-pressed member.
6. An attachment for a gun barrel comprising an elongated tubular member, means for attaching one end thereof to the end of the barrel, said member forming a continuation of the barrel, the

outer end of the member having longitudinally extending slots therein and the slotted part tapering from its outer end to its inner end, a sleeve slidably arranged on the member and having its front end turned inwardly to engage the tapered portion for contracting the same as the sleeve moves forwardly, a spring for moving the sleeve forwardly, a ring supported for partial rotary movement on a part of the member, spring fingers carried by the ring and the sleeve having a groove therein for engagement by the fingers for releasably connecting the sleeve with the fingers to hold the sleeve in retracted position, means whereby the fingers are forced outwardly to release the sleeve by the gases of an exploding charge in the gun, said means being rendered inactive when the ring is turned from one position to another.

7. In a gun including a barrel, a member connected with the muzzle end of the barrel and forming a continuation thereof, the outer end of the member having longitudinally extending slits therein and said outer end tapering inwardly from its outer end, a sleeve slidably arranged on the member and having a part engaging the tapered portion for contracting the slitted part when the sleeve moves forwardly, a spring for moving the sleeve forwardly, a ring supported for rotatable movement on the member, spring fingers carried by the ring and the sleeve having a groove therein for engagement by the fingers, said member having holes therein for the passage of the gases of an exploding charge which act upon the fingers to move them outwardly to release them from the groove, said ring when turned spacing the fingers from the holes and interchangeable means for limiting outward movement of the sleeve.

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