This invention relates to a shotgun choke that is adjustable by means of a slidable grip. The grip is linked to the choke by screw means having two separate pitches. Linear movement of the grip rotates the screw means which in turn causes linear movement of the choke facilitated by the mechanical advantage obtained with the double pitch screw means.

This invention relates to a control for the choke of shotguns and particularly to a control which enables the shooter to change the choke with the gun in the shooting position.

The spread of the shot in shotguns is limited by the constriction of the muzzle, universally known as "choke." There are several models of devices for adaptation to the muzzle of single barreled shotguns and which regulate the choke. For example, shotgun chokes of the prior art must be set before shooting, usually by screwing a muzzle adapter by hand.

It is an object of this invention to provide a control for the choke of shotguns which may be changed with the weapon held to the shoulder.

The invention accomplishes these objects by providing a shotgun with either a barrel slotted longitudinally on the end or a slotted muzzle adapter placed on the end of the shotgun barrel. Over the slotted section there is placed a movable constricting means such as a cone frustum. The movable constricting means engages with screw means to force the constricting means back and forth along the slotted section. The screw means is activated by an operating rod having a helical section of long pitch. The operating rod is caused to rotate by engaging the helical section of the operating rod with a movable bar having an opening which matches the cross section of the helical section of the operating rod. The bar is caused to move along the helical section of the operating rod by rectilinear movement of a sliding grip attached to the barrel. The sliding grip is mounted under the forestock of the shotgun so that it is in contact with one hand of the shooter.

For a better understanding of the invention reference may be had to the accompanying drawings in which:

FIG. 1 is a partial front elevation of a shotgun employing the teachings of the invention;
FIG. 2 is an elevation of a muzzle adapter;
FIG. 3 is an elevation of a screw means for moving the constricting means of FIG. 4;
FIG. 3A is an end view of the screw means of FIG. 3;
FIG. 4 is a constricting means to be placed over the slotted adapter of FIG. 2;
FIG. 5 is an elevation of an operating rod; and
FIG. 6 is an elevation of the bearing plate which supports one end of the operating rod of FIG. 5.

In the drawings, where like numerals refer to like parts, there is shown an embodiment of the present invention. With particular reference to FIG. 1 there is shown a shotgun 10 with a barrel 12 and a forestock 14. A slotted

muzzle adapter 16 is rigidly attached to the end of barrel 12 by any suitable means such as screw threads. Muzzle adapter 16 is provided with a plurality of longitudinal slots 34. Muzzle adapter 16 may be provided with a plurality of transverse slots 36, as in chokes of the prior art. The bore of muzzle adapter 16 is at least as large as that of barrel 12. Muzzle adapter 16 is provided with a lateral extension 40. A movible constricting member 18 is slidably mounted over muzzle adapter 16. Constriciting member 18 is provided with a lateral extension 40. A screw means 20 is provided to secure movement of constricting member 18 over muzzle adapter 16. An operating rod 22 is provided having one end which fits non-rotatably in screw means 20. Operating rod 22 has a helical section 24 which is threaded through an opening (not shown) in a follower 54 of a movable bar 26. Moviable bar 26 is rigidly attached to a slidably mounted grip 28, that is carried under forestock 14. As stated, grip 28 is slidably mounted to forestock 14 so that grip 28 may slide along forestock 14. The means for so slidably mounting grip 28 to forestock 14 is well known to the gunsmith and no particular means, therefore, are shown. Follower 54 is bent substantially at a right angle to the rest of movable bar 26. The opening in follower 54 through which helical section 24 is threaded is substantially the same cross section of the helical section and has internally helical-shaped surfaces of the same long pitch as the helical section. A bearing plate 30 is provided to support the other end of operating rod 22. Bearing plate 30 is secured with a nut 32 to forestock 14.

With reference to FIG. 2, there is shown the detail of muzzle adapter 16. Longitudinal slots 34 are open ended, as at 34a, to define a plurality of muzzle adapter portions 35, so that the desired choke may be obtained by forcing portions 35 together at their free ends. Lateral extension 40 is provided with a circular opening 42, having its axis parallel to barrel 12 and serves as a bearing journal for rotatably holding screw means 20. As shown in FIG. 3, screw means 20 has an endless thread 21 of short pitch. A groove 23 is provided so that screw means 20 may fit and rotate in circular opening 42. As shown in FIG. 3A, the end of screw means 20 nearest groove 23 is provided with a slit 25 of a size to receive an end of operating rod 22. Silt 25 is of a sufficient depth so that in recoil operated shotguns operating rod 22 may move within slit 25. Sill 25 is so shaped as to prevent relative movement of screw means 20 and operating rod 22 when both are engaged. It should be noted, that in recoilless shotguns, the invention may be simplified by making screw means 20 and operating rod 22 in one piece.

With reference to FIG. 4, it will be seen that movable constricting member 18 has one end portion 17 which is substantially cylindrical and the other end portion 19 which is substantially that of a frustum of a cone. Cone frustum portion 19 is sized to choke muzzle adapter 16 when forced back upon it. The cylindrical portion 17 has an internal diameter slightly larger than the external diameter of muzzle adapter 16 to allow a sliding fit without effort. A lateral extension 36 is provided with an opening 39 threaded to match the thread of screw means 20. If muzzle adapter 16 has been provided with slots 36, then constricting member 18 is provided with windows 41 that are positioned so as to be over slots 36 when assembled.

In FIG. 5, operating rod 22 is provided with a straight section 27 and helical thread section 24. Straight section 27 is designed to be slightly longer than the recoil distance in an automatic shotgun to permit unimpeded action. Helical section 24 is of long pitch for ease of actuation as will be explained later in the operation of the invention. Near the end of helical section 29 a small shaft 31 is provided to support one end of operating rod 22.
as will be described later in reference to FIG. 6. The tip 33 of straight section 27 is adapted to fit into slot 25 of the barrel, omitting the transverse slots in the muzzle adapter, omitting the windows in the constricting means, using other than a cone frustum as the constricting means, making the operating rod integral with the screw means, or using a system of levers rather than screw threads to secure mechanical advantage. Because different embodiments of the invention may be made without departing from the spirit and scope thereof, it is intended that all matters contained in the foregoing description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

What is claimed is:

1. In a shotgun choke control for shotguns having a barrel and forestock and comprising a longitudinally slit section at the barrel muzzle, constricting means cooperating with the longitudinally slit section, and a sliding grip mounted on the shotgun, the improvement comprising: screw means having an endless thread of long pitch for actuating the constricting means; and, an operating rod having a helical thread of long pitch over at least a portion of its length for connecting the sliding grip with said screw means.

2. The shotgun choke control of claim 1, further comprising: means coupled to a portion of the sliding grip adapted to engage said helical thread of said operating rod.

3. The shotgun choke control of claim 2, further comprising:
   adapter means coupled to the constricting means having a threaded extension for receiving said screw means.

4. The shotgun choke control of claim 3, wherein the screw means is provided with an opening to receive said operating rod and permit separation of said operating rod from said screw means during recoil in recoil-operated shotguns.

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