

face, 11, of the breech-piece D bears against the base of the cartridge when the breech-piece is raised up, as in the drawings, and is slightly beveled to force the cartridge well home as the piece is raised. The rifle-grooves should be omitted at the rear end of the barrel, that the cartridge may fit snugly, and by its expansion prevent the escape of the gas.

After the gun has been fired, it is necessary to remove the empty cartridge from the barrel. To accomplish this I employ the following device: A steel bar or discharge, F, (seen detached in Fig. 3,) slides in a suitable recess beneath the barrel A, and has at one end a projection, *w*, which lies in a recess formed in the stock. A spiral spring, I, placed within this recess, bears at one end against the discharger F, and the other against the stock. The opposite end of the discharger is formed, as shown in Fig. 3, with a chisel-shaped projection, *x*, upon its upper surface and a shoulder, *y*, upon its under surface. A recess, 12, is cut in the barrel to allow the point of the projection *x* to come up to and lie in the line of the lower surface of the bore of the barrel, but not to project beyond the end of it. The point of the projection *x* is curved to accord with the circle of the bore, as shown at 13, Fig. 3, and is kept by the spring I back in the position shown in Fig. 2, out of the way of the cartridge when it is entered into the barrel, so that it shall be overlapped by the rim 10 of the cartridge *m*, that when the lever E is vibrated and the breech-piece D is drawn down below the line of the bore of the gun a still farther movement of this lever causes its end *g* to strike against the shoulder *y* of the bar F and slide it longitudinally against the resistance of the spring I. The projection *x* of the bar F, bearing against the rim 10 of the cartridge *m*, thrusts it out from the barrel, and it falls on top of the breech-piece D, whence it may be removed by hand if it is to be preserved, or, if not, a slight lateral motion of the gun will throw it out of the way. It will be perceived that thus a single movement of the hand will

draw down the breech-piece D to uncover the end of the barrel and discharge the empty cartridge preparatory to reloading.

A steel sight, L, is pivoted at a^2 to a projection rising from the part *o* of the stock. An arm, b^2 , attached to one side of the sight L, hangs down against the flat side of the portion *a* of the stock, the end of the arm forming an index to the graduated scale M on the stock. A friction-stop, c^2 , is attached to the arm b^2 to retain it in position when set. This spring c^2 is attached to the sight L by the screw a^2 , on which the sight pivots, and has at its outer end a pin, 14, which passes through a hole in the arm b^2 and bears against the face of the stock; or, in lieu of trusting solely to the friction of the pin against the stock, small indentations may be made to receive it. To adjust the sight to any required distance within the range of the gun, the index-arm b^2 is set to the mark on the scale M, which indicates the number of yards by which the required elevation is given to the front end of the sight which contains the notch 15.

The scale M shown in the drawings is given only as an example of its position, it being necessary to fix the scale for each pattern or class of rifle by actual experiment.

The spring 8 upon the striker *t* is not absolutely necessary, and may be omitted if the point of the striker be properly rounded, as the striker will then be thrust back into its recess by the cartridge as the piece D is raised.

The above-described adjustable sight here shown and described will form the subject of another application by me for patent.

What I claim as my invention, and desire to secure by Letters Patent, is—

In combination with the lever E, that moves the sliding breech, the discharger F, constructed and operating in the manner substantially as set forth.

ETHAN ALLEN.

Witnesses:

GEORGE W. FAIRFIELD,
JOHN A. BECKWITH.