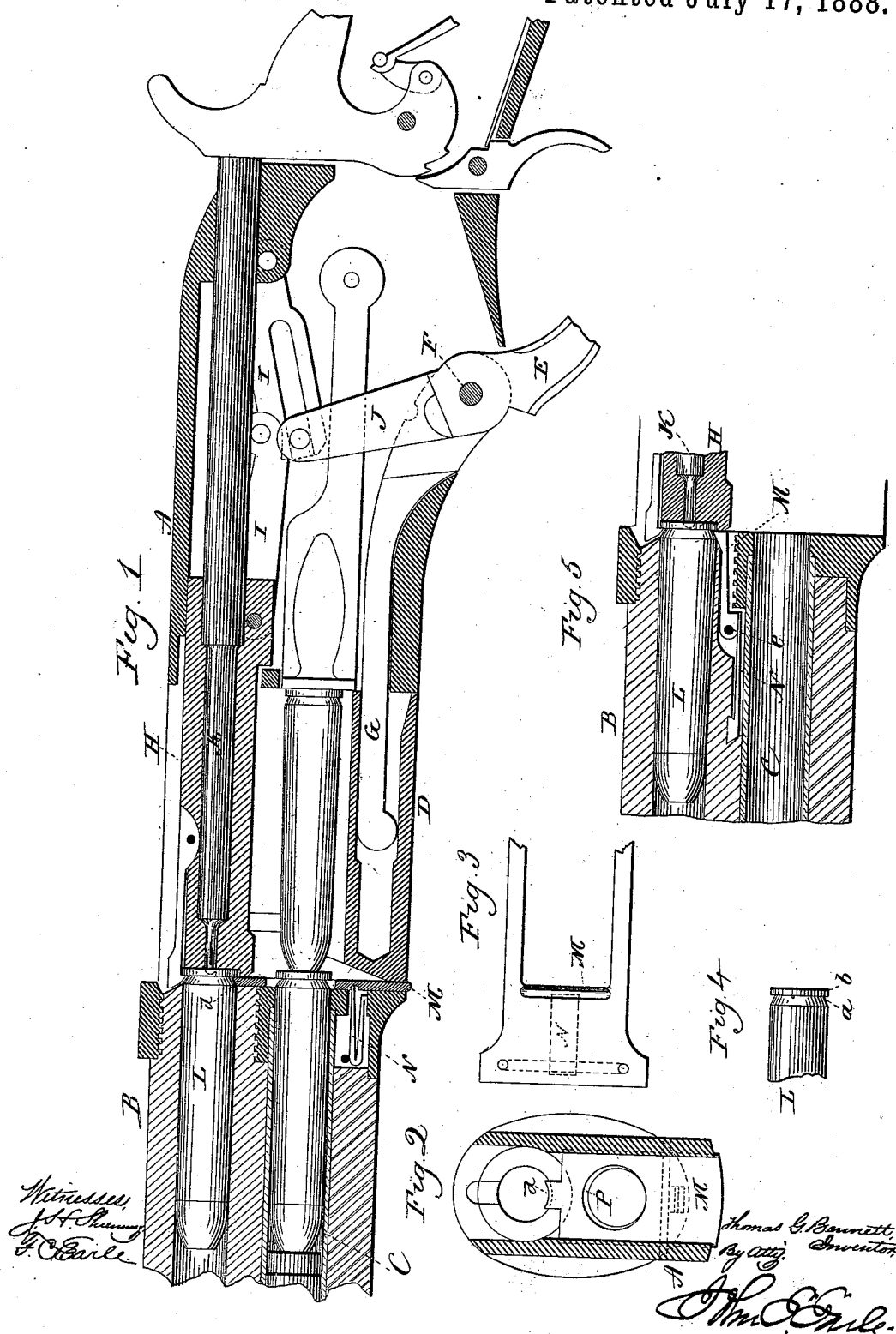


(No Model.)

T. G. BENNETT.  
MAGAZINE FIRE ARM.

No. 386,290.

Patented July 17, 1888.



# UNITED STATES PATENT OFFICE.

THOMAS G. BENNETT, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO THE  
WINCHESTER REPEATING ARMS COMPANY, OF SAME PLACE.

## MAGAZINE FIRE-ARM.

SPECIFICATION forming part of Letters Patent No. 386,290, dated July 17, 1888.

Application filed May 21, 1888. Serial No. 274,482. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS G. BENNETT, of New Haven, in the county of New Haven and State of Connecticut, have invented a new Improvement in Magazine Fire-Arms; and I do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a longitudinal sectional side view of the arm complete, the parts in the normal condition; Fig. 2, a transverse section through the receiver, cutting directly in rear of the cartridge-holding slide or dog; Fig. 3, an under side view of the receiver, showing the lower end of the slide; Fig. 4, a headless cartridge detached from the arm; Fig. 5, a modification in the construction of the cartridge-holding dog.

This invention relates to an improvement in that class of magazine fire-arms in which the magazine is arranged beneath the barrel, and in which both the barrel and magazine open into the receiver at the rear; but the invention is also applicable to single-loaders, and particularly to that class which are designed to employ cartridges commonly called "headless cartridges"—that is to say, metallic cartridges in which the shell is constructed without the enlargement at the rear end to form the flange or head. This class of cartridges are constructed with an annular groove near the rear end, so as to permit an engagement of the extractor therewith to withdraw the exploded shell, or the cartridge, if it be not exploded, from the cartridge-chamber. These shells are usually made of a diminishing diameter toward the forward end, dependence for the proper location of the cartridge in the cartridge-chamber being had upon this reduction in diameter of the shell, or upon a shoulder or contraction at the forward end of the cartridge-chamber, against which it is expected that the cartridge will stop; but in either case the support of the shell is uncertain. The diameter of shells and length of cartridge vary to a considerable extent; hence there is no certainty that the cartridge will rest against the forward end of the

breech-piece, which it is necessary that it shall do in firing. Again, if the cartridge-shell does not fit closely in the chamber, the blow of the hammer will simply impart a forward movement to the cartridge without producing the required explosion.

The object of my invention is to combine with the arm a device which will firmly engage the cartridge and hold it in its proper position for firing, and with sufficient force to resist the blow of the hammer or firing-pin; and it consists in combining with the cartridge-chamber a spring-dog, which will permit the free introduction of the cartridge to the cartridge-chamber, but will automatically engage the groove of the cartridge when the cartridge is fully inserted, the said dog serving not only to locate the cartridge in proper relation to the face of the breech-piece, but also serve to support the cartridge and enable it to resist the blow of the hammer or firing-pin.

In illustrating the invention I show it as applied to a magazine fire-arm, and the arm in which I illustrate the invention is the arm known as the "Winchester repeating rifle;" but it is thus shown only as a convenience in illustrating, the invention being applicable to many magazine and breech-loading fire-arms of the present day.

A represents the receiver, to the forward end of which the barrel B is attached and opens into the receiver at the rear. Beneath the barrel is the magazine C, also opening into the receiver below the open rear end of the barrel.

D represents the carrier-block; E, the trigger-guard lever hung upon a pivot, F; G, the carrier-lever, which is actuated by the trigger-guard lever; H, the breech-piece; I I, the two links, which are operated by an arm, J, extending up from the trigger-guard lever; and K, the firing-pin, all of the common and well-known Winchester construction.

L represents the cartridge, one of such cartridges being shown detached in Fig. 4. The shell of the cartridge is a well-known form for headless cartridges. It is constructed with an annular groove, *a*, near its rear end, and so as to leave a flange, *b*, at the rear, which is of substantially the same diameter as the shell at

that end, so that no radial projection is produced on the body of the shell. As a means for engaging this annular groove in the cartridge when it is placed in the barrel, I introduce a dog in the form of a vertical slide, M, at the forward end of the opening in the receiver, and so as to work in the plane of the rear end of the cartridge-chamber. This slide is guided vertically by means of vertical grooves formed in the sides of the receiver, as represented in Fig. 3, or otherwise. It is supported by a spring, N, the tendency of which is to hold the slide in its up position. Upon the upper edge of the slide a projection, *d*, is formed, which in the normal position of the plate projects into or within the area of the cartridge-chamber, as seen in Figs. 1 and 2. An opening, P, is made through the slide corresponding to the magazine, so that cartridges may pass from the magazine through the slide into the carrier, as represented. As a cartridge is entered into the cartridge-chamber the tapering point of the bullet permits it to enter over the nose *d*, and, the entering movement of the cartridge continuing, the dog will be forced downward until the cartridge reaches its extreme forward position and brings the annular groove *a* of the cartridge into the plane of the nose of the dog. Then the dog, being free, will rise under the action of its spring until the nose enters the groove *a* of the cartridge, as represented in Fig. 1, and so that the nose of the dog will stand forward of the flange *b*, and, so standing, will prevent any further forward movement of the cartridge. It therefore locates the cartridge in its proper position in the cartridge-chamber, and the dog by such engagement of the flange also serves as a resistance against the force required to fire the cartridge. The extractor engages the flange *b* in the usual manner and as shown.

While I prefer the dog in the form of a vertical slide, which I have described, it may be of other forms—for illustration, such as seen in Fig. 5, where the dog M is hung upon a pivot, *e*, in a recess in the under side of the barrel, and so that the dog will swing in a radial plane to permit the insertion of the cartridge, and so that the nose of the dog will engage with the groove of the cartridge, as in the first

illustration, and as clearly seen in Fig. 5. In this modification the spring N is represented as a flat spring secured to the under side of the barrel, and so as to bear upon the dog, with a tendency to retain it in its holding position, yet permit it to yield for the introduction or withdrawal of the cartridge. In any case, as the cartridge withdraws, the rear movement of the cartridge under the engagement of the extractor will cause the dog to move out of its engagement with the cartridge to return to its position as soon as the cartridge shall have been withdrawn.

While illustrating this invention as applied to magazine-arms, to which it is peculiarly adapted, it is also applicable to breech-loaders generally in which it is desired to use a headless cartridge.

I claim—

1. In a fire-arm in which the barrel opens into the receiver at the rear, and which is adapted to employ headless cartridges, the combination therewith of a spring-dog arranged for radial movement with relation to the cartridge-chamber, the nose of the said dog standing in the path of entering cartridges and adapted to automatically engage the groove of the cartridge when the cartridge in the cartridge-chamber is in position for firing, substantially as and for the purpose described.

2. In a magazine fire-arm in which the magazine is arranged beneath the barrel and both the barrel and magazine open into the receiver at the rear, and which arm is adapted to employ headless cartridges, the combination therewith of a vertically-sliding spring-dog, M, arranged in the forward end of the receiver, and so as to move in a plane parallel with the plane of the rear end of the barrel and magazine, the said dog constructed with an opening through it corresponding to the opening in the magazine, and with a nose, *d*, which normally stands within the area of the cartridge chamber, substantially as described, and whereby said nose is adapted to engage the groove in the cartridge-shell.

THOMAS G. BENNETT.

Witnesses:

DANIEL H. VEADER,  
CHARLES I. SHEPARD.