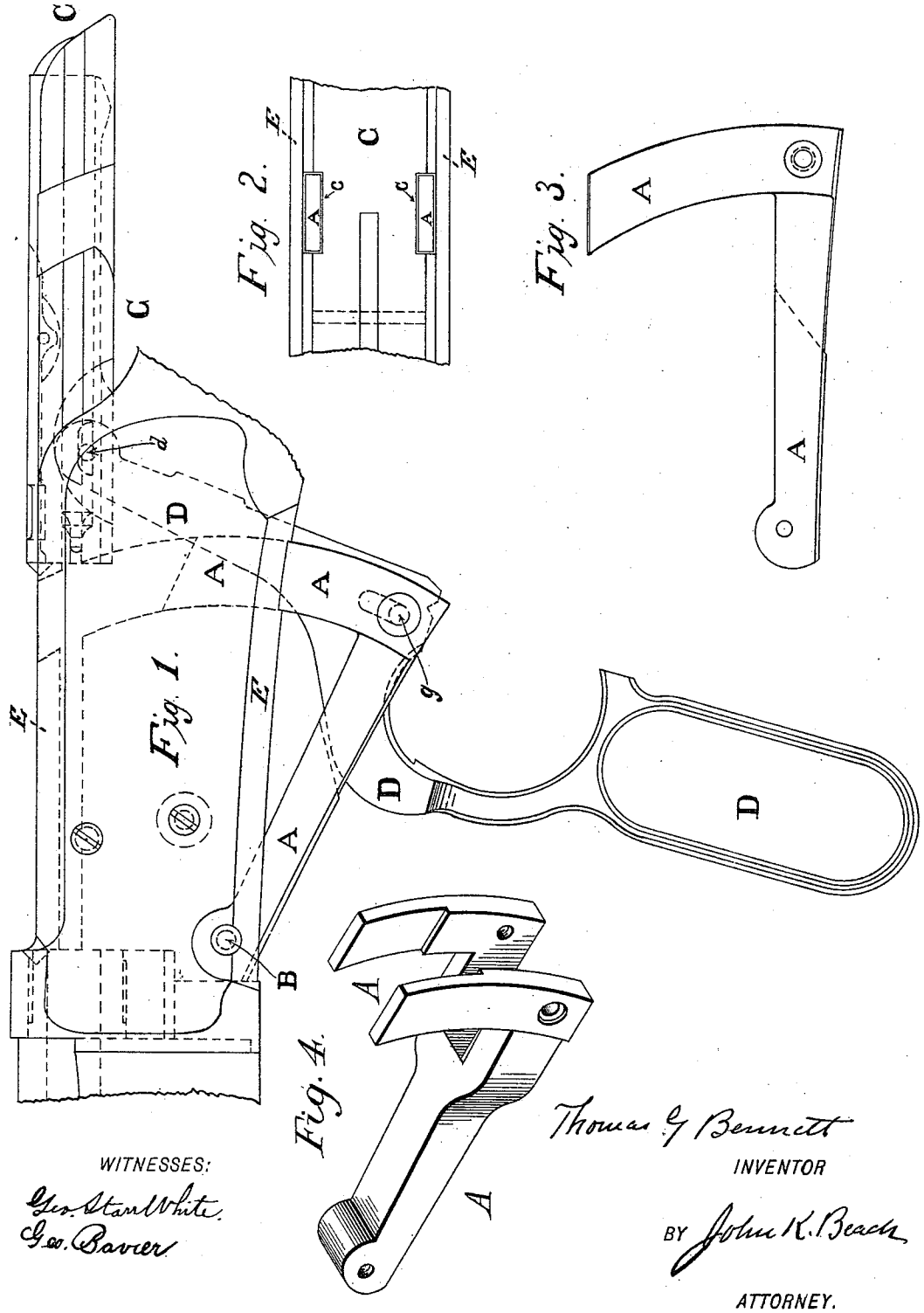
(No Model.)

# T. G. BENNETT.

## RECOIL LOCKING BAR FOR BOLT GUNS.

No. 537,598. Patented Apr. 16, 1895.




WITNESSES:

Geo. Stanl White.

Geo. Bowers

Thomas G Bennett

INVENTOR

BY John K. Beach

ATTORNEY.

# UNITED STATES PATENT OFFICE.

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

## RECOIL LOCKING-BAR FOR BOLT-GUNS.

SPECIFICATION forming part of Letters Patent No. 537,598, dated April 16, 1895.

Application filed November 24, 1894. Serial No. 529,826. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS G. BENNETT, of New Haven, Connecticut, have invented a new and useful Improvement in Breech-Loading Firearms, of which the following is a specification.

My improvement relates to that class of breech-loading firearms in which the breech is opened and closed by a bolt, reciprocating in line with the barrel of the arm; and it consists in the construction of the locking bar A A, and the combination and arrangement of the parts hereinafter particularly described.

Figure 1 in the drawings is a side view of a breech mechanism embodying my invention, one side of the receiver being removed so as to show the mechanism. Fig. 2 is a top view of the breech bolt and receiver showing the relation of the locking bar thereto. Fig. 3 is a detailed view, showing the swinging locking-bar and fulcrum. Fig. 4 is a perspective view of the same device.

The parts are lettered alike in each of these figures.

A A A is a swinging locking-bar, pivoted at B, and preferably bifurcated, as shown in Fig. 2 at A A, so as to straddle the breech bolt.

C C is the breech bolt, supported in guides, and having insets or shoulders *c c*, behind which the locking-bar swings, as shown in Fig. 2, when the breech is closed.

D D D is the guard lever, pivoted to the breech bolt at *d*, and articulated with the swinging locking-bar at *g* by means of a slot and pin connection.

The rest of the breech mechanism may be of the ordinary construction.

The operation of the mechanism is as follows: Assuming the breech to be closed, the operation of opening it comprises the following movements: The downward movement of the handle of the guard lever operates first to swing the locking-bar A downward on its pivot B, the breech bolt being incapable of backward movement until the engagement of the locking-bar behind its shoulders *c c* is released. In this movement the guard lever operates as a lever of the second order, so-called. The slotted connection between the guard lever and locking-bar allows for a limited movement of this character sufficient to withdraw the locking-bar from behind the shoulders *c c*. When the locking-bar is wholly swung out of the path of the breech bolt, and the limit of loose motion allowed by the slot *g* is reached, the farther downward movement of the guard lever at the point *g* is checked, and the point *g* becomes the pivot or fulcrum of the guard lever, which then assumes the character of a lever of the first order and forces the breech bolt backward.

I am aware that the combination, in the breech-loading firearm, of a guard lever hinged by a slotted connection to a swinging fulcrum and to a reciprocating breech bolt, with a sliding locking-bar also hinged to the swinging fulcrum, and sliding in guides formed in the receiver, has been proposed; but such a combination is not only more complicated than that which I have described, in respect to the number of its parts, but is also mechanically different in at least two respects, first, in that the locking-bar of prior constructions has a sliding, and not a swinging, movement; and, second, that such a locking-bar has no capacity in itself of resisting the recoil of the breech bolt, because it swivels easily upon its connection with the swinging fulcrum, and for this reason requires to be backed up in its turn by guides and stops formed in the receiver, to control its motion and to prevent it from yielding to the recoil of explosion. My locking-bar, on the other hand, is rigid, because formed in one piece with the swinging fulcrum. Its motion is definite and fixed, independent of any guides, and it resists the recoil of the breech bolt by transmitting the strain forward to the fulcrum B, without support from behind, although such support may be provided, if desired, in the manner indicated in Fig. 2.

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

In a breech-loading firearm, the combination of parts for locking and unlocking the

breech mechanism, which consists of the reciprocating breech bolt C, provided with insets or shoulders *c c*, guard lever D pivoted thereto, and swinging locking-bar A pivoted to the frame of the arm, loosely articulated with the guard lever, and provided with a rigid arm extending upward so as to swing behind the shoulders *c c* when the breech is closed; all substantially as shown and described.

THOMAS G. BENNETT.

Witnesses:
DANIEL H. VEADER,
WILLIAM S. BALDWIN.