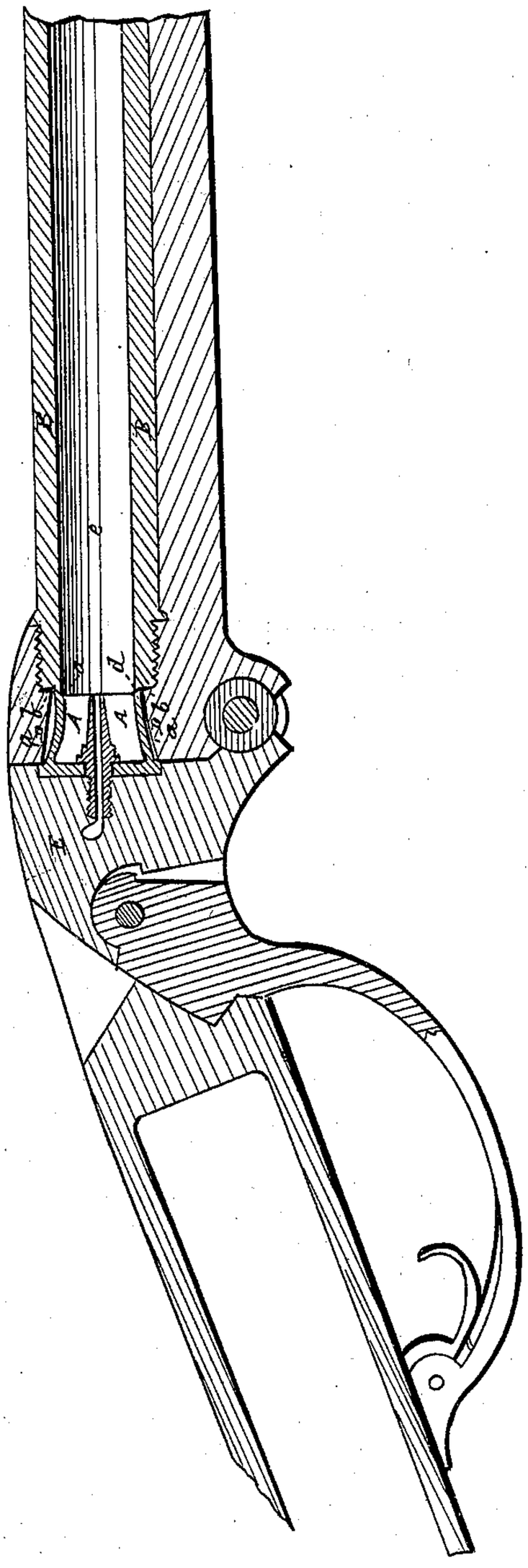
J. M. SEYMOUR.

Breech-Loading Fire-Arm.

No. 35,354. Patented May 20, 1862.




Witnesses

R. H. Eddy

F. R. Hale Jr.

Inventor

James M. Seymour

# UNITED STATES PATENT OFFICE.

JAMES M. SEYMOUR, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO EDWARD H. ASHCROFT, OF SAME PLACE.

## IMPROVEMENT IN GAS-CHECKS FOR BREECH-LOADING FIRE-ARMS.

Specification forming part of Letters Patent No. **35,354**, dated May 20, 1862.

*To all whom it may concern:*

Be it known that I, JAMES M. SEYMOUR, a citizen of the United States of America, and a resident of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Breech-Loading Fire-Arms; and I do hereby declare the same to be fully described in the following specification and represented in the accompanying drawing, which denotes, in longitudinal section, my improvement and that part of a fire-arm to which it especially appertains.

My invention consists in an improved construction of the expansive breech-plug and its recess or socket, the whole being substantially as hereinafter explained.

The object of my invention is to produce a gas or smoke tight joint between an expansive breech-plug and its seat in, or in rear of, the barrel of a fire-arm—a matter which heretofore it has been found very difficult, if not impossible, to accomplish.

In carrying out my improvement, the expansive breech-plug A, connected with the movable breech-block E, (see the drawing,) is to enter a conical socket, D D, formed at rear of the barrel B of the gun or fire-arm. The breech-plug at its front tapers down to a sharp or beveled edge, as shown at *b b*, and abuts against a shoulder, *d*, made in the barrel, or with respect to the bore *e* thereof, as shown in the drawing. This shoulder or abutment I prefer to make tapering, so as to lap on the breech-plug A, as shown. The front end of the breech-plug and that part of its socket against which it is to rest may be square to the axis of the barrel; but it is better to have them made as hereinbefore described, as a closer or tighter joint will be produced thereby during the expansion of the plug. The external surface of that portion of the breech-plug which is to enter the barrel does not conform in shape with the internal surface of its socket, but these two surfaces touch one another in circumferences of circles at or about their two extremes. While the socket is conical, the external surface of the breech-plug is curved lengthwise of the breech-plug, so that there may be a space, *a a*, surrounding the breech-plug, and bounded by it and the internal surface of its socket. The drawing exhibits such space in section on opposite sides of the breech-plug, each part of the space being in the form of a circular segment, or an approximation thereto.

The object of so constructing the breech-plug and its socket is not only to allow the breech-plug to be expanded laterally by the force of the explosion of a charge of the gun, but at the same time to cause the breech-plug to be elongated a little, so as to be forced firmly against the shoulder *d d* or into the angular space of the front part of the breech-plug socket.

The breech-plug should be constructed of steel or some other elastic metal, which will enable it to resume its normal condition after each discharge of the gun may have taken place.

From the above it will be seen that my peculiar construction of the breech-plug and its socket—viz., not only with a shoulder or angular abutment to operate with the front end of the plug, as explained—is calculated, and has been found in practice, to produce so nice and close a joint that little or no gas or smoke can escape out of the breech end of the barrel. Therefore,

What I claim as my improvement is—

The space *a* and the shoulder *d*, arranged and combined with the expansive breech-plug and its socket, substantially in manner and so as to enable the said breech-plug to operate as specified.

JAMES M. SEYMOUR.

Witnesses:

R. H. EDDY,

F. P. HALE, Jr.