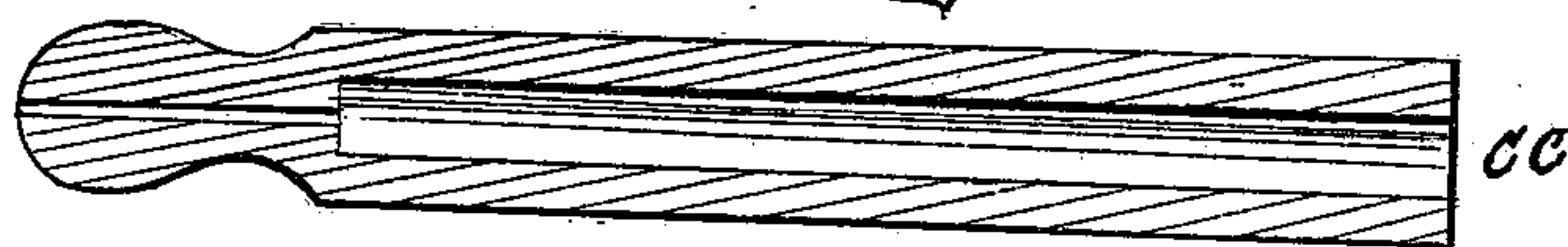


S. K. LOVEWELL.  
Muzzle-Loading Ordnance.

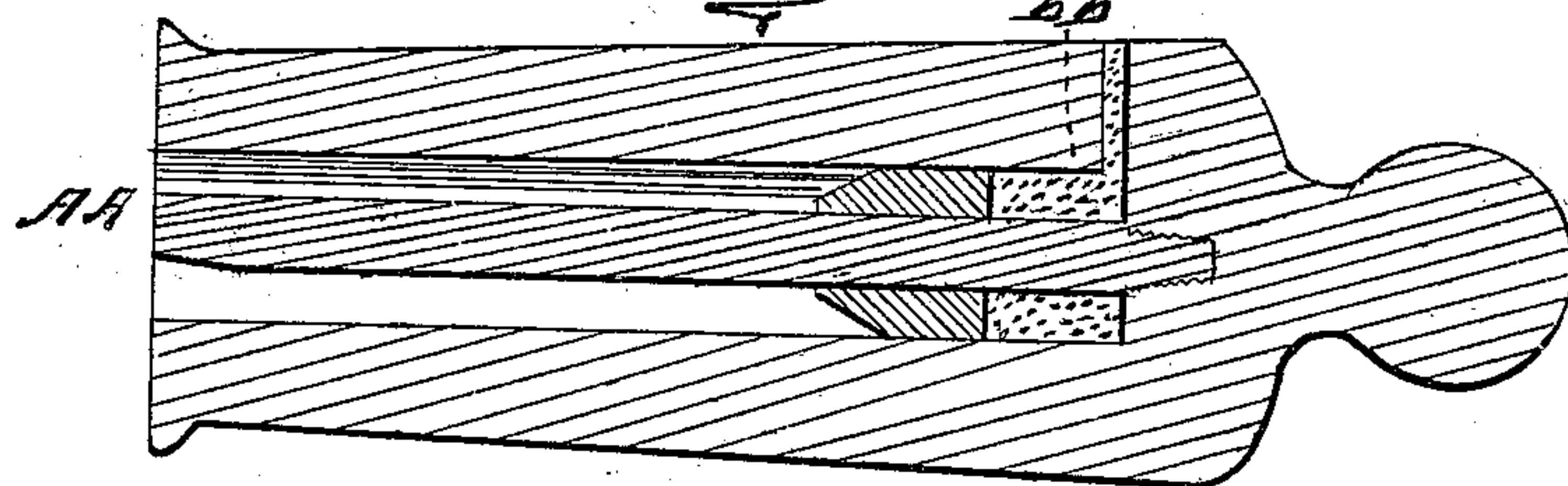
No. 16,846.

Patented Mar. 17, 1857

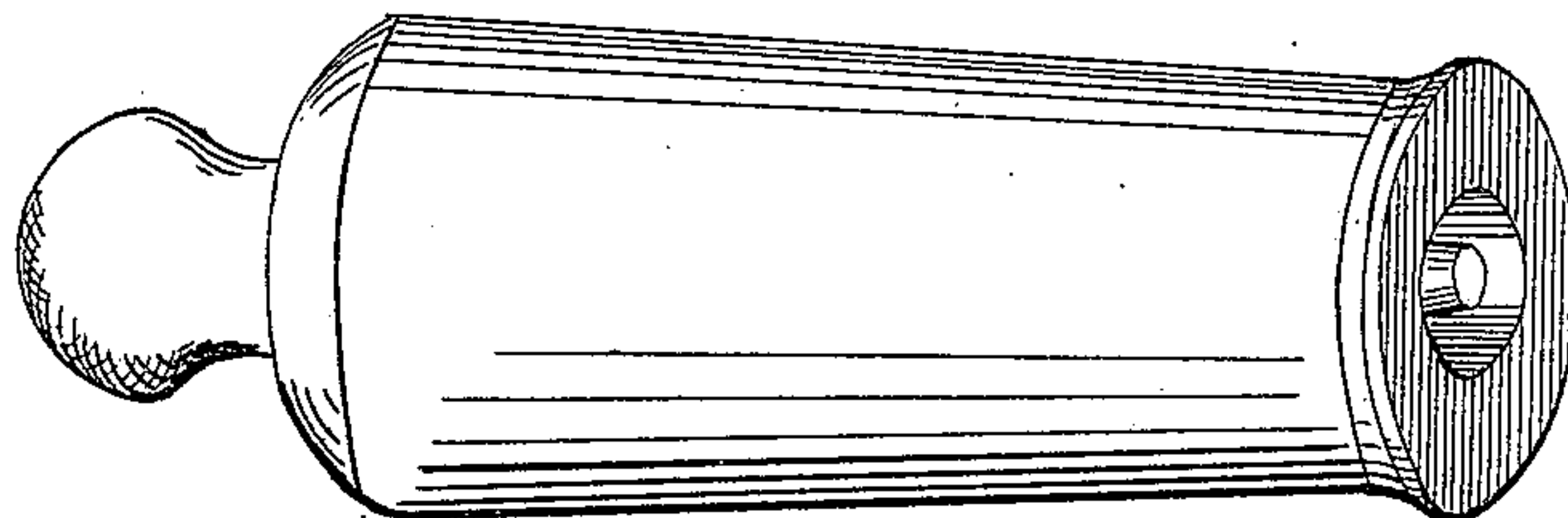
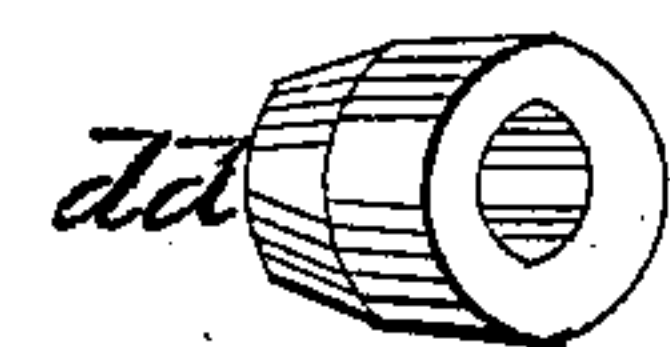
*Fig. 2.*



*Fig. 1.*



*Fig. 3.*



# UNITED STATES PATENT OFFICE.

SEWELL K. LOVEWELL, OF GARDNER, MASSACHUSETTS.

## IMPROVEMENT IN FIRE-ARMS.

Specification forming part of Letters Patent No. **16,846**, dated March 17, 1857.

*To all whom it may concern:*

Be it known that I, SEWELL K. LOVEWELL, of Gardner, in the county of Worcester and State of Massachusetts, have invented a new and useful Improvement in Fire-Arms, for giving greater length and precision to the range of the ball or slug; and I do declare the following to be a full and exact description thereof.

The nature of my invention consists in placing a spindle within the barrel of the gun and firmly attached to the breech, and in the use of a hollow cylindrical ball or slug adapted to the spindle.

In the construction of my improved fire-arm I insert a spindle of about two-fifths the diameter of the bore of the gun within the barrel, and attach the same firmly by screw or welding or other process to the breech-pin, (or breech,) so that said spindle shall occupy the center of the bore, as represented in drawing 1, A A. A hollow cylindrical cartridge is used, as represented in Figure 1, *b b*, in loading, and a ramrod, hollow in part, as rep-

resented in Fig. 2, *c c*. The slug or ball is a hollow cylinder, conical at one end, as represented in Fig. 3, *d d*, the diameter of the hollow of the cartridge, ramrod, and slug or ball to correspond with the diameter of the spindle, so that the spindle, when the gun is loaded, will be in and fill the hollow of the cartridge and slug, and the piece may then be discharged by any of the ordinary processes.

The advantage of this improvement consists in the less resistance the slug meets in passing through the air in consequence of the air passing through the hollow of the ball, and in the steadiness and precision of movement given by the spindle.

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

The use of the spindle as above described and in the manner above described, applied to guns of any size and caliber.

SEWELL K. LOVEWELL.

Witnesses:

J. W. MANDER,  
AMASA NORCROSS.