

B.T. Babbitt.

Muzzle Loader.

N^o 34472.

Patented Feb. 25. 1862.

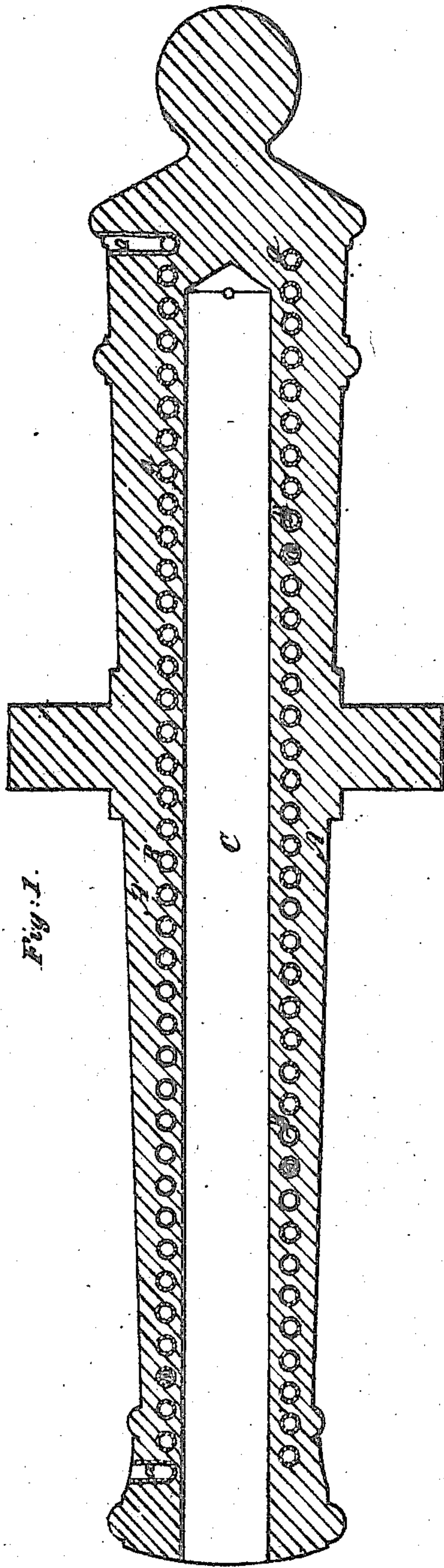


Fig. 1.

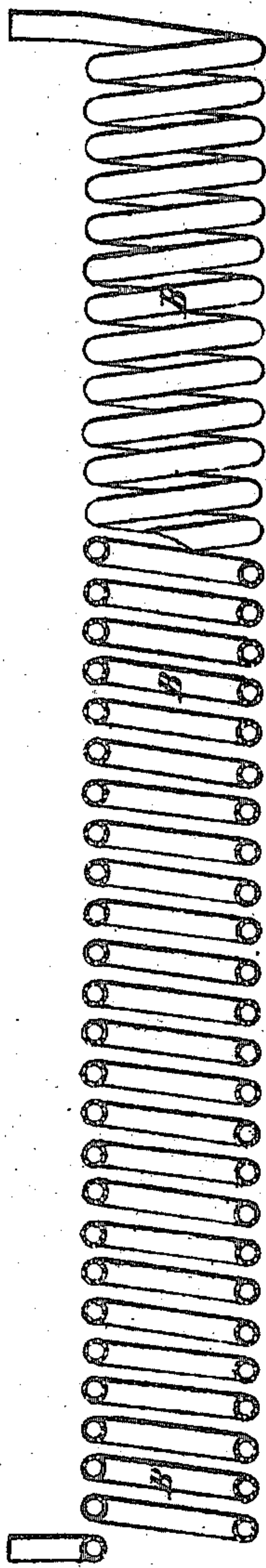


Fig. 2.

Witnesses.

Richardson Gawley

J. H. Babbitt

Inventor.

B.T. Babbitt

UNITED STATES PATENT OFFICE.

BENJAMIN T. BABBITT, OF NEW YORK, N. Y.

IMPROVEMENT IN THE CONSTRUCTION OF ORDNANCE.

Specification forming part of Letters Patent No. 34,472, dated February 25, 1862.

To all whom it may concern:

Be it known that I, BENJAMIN T. BABBITT, of the city, county, and State of New York, have invented a new and useful Improvement in Cannon and other Ordnance; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a central longitudinal section of a cannon having my improvement. Fig. 2 exhibits a longitudinal view, partly in section, of the coil of pipe which forms a spiral passage round the bore.

Similar letters of reference indicate corresponding parts in both figures.

This invention consists in the construction of a piece of ordnance with a passage winding spirally round the bore and within the walls thereof to serve for a circulation of water or air for the purpose of keeping the piece cool when in use, and for the purpose of cooling the casting in the manufacture of the piece.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A A are the walls of the gun. C is the bore, and B is a coil of small pipe, of and within which the spiral passage *a* is formed, said passage extending from the breech to near the muzzle of the gun and being open at each end, as shown in Fig. 1.

In a cast-iron gun the coil should be composed of wrought-iron; but in a brass or bronze gun it may be of wrought-iron or copper. It is formed by winding a pipe upon a mandrel of a diameter somewhat greater than the intended caliber of the gun, and on the mold in which the gun is to be cast having been prepared, it is inserted therein in a concentric

position. The metal of which the gun is cast shrinking round the coil causes the latter to be embedded within it as closely as though it were a portion of the casting. Water or air might be allowed to circulate through the coil during the casting process, to cool the metal from near the center of the casting.

When the gun is in use, a circulation of water through the spiral passage *a* within the coil C to keep it cool may be obtained by means of a natural flow from an elevated reservoir or by means of a pump. Air might be used instead of water, its circulation through the passage being produced by a pump or blower, or by means of a portion of the gas evolved at each discharge being permitted to escape in the form of a jet into the outlet of the coil, and so producing a partial vacuum and a draft through the coil; or a circulation of water through the passage might be induced by this last-mentioned means.

The ends of the coil may be so arranged as to have their inlet and outlet at the trunnions of the gun, which might in some degree facilitate the working of the gun in the use of water for cooling; but I believe that the necessary facilities may be obtained by making a connection of flexible pipe at one or both ends of the coil.

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

The construction of a piece of ordnance with a passage, *a*, winding spirally round the bore and within the walls thereof, substantially as and for the purposes herein specified.

B. T. BABBITT.

Witnesses:

RICHARDSON GAWLEY,
J. W. COOMBS.