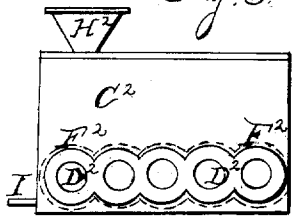
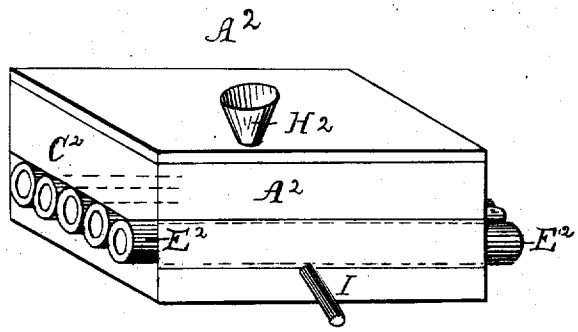
J. A. REYNOLDS.

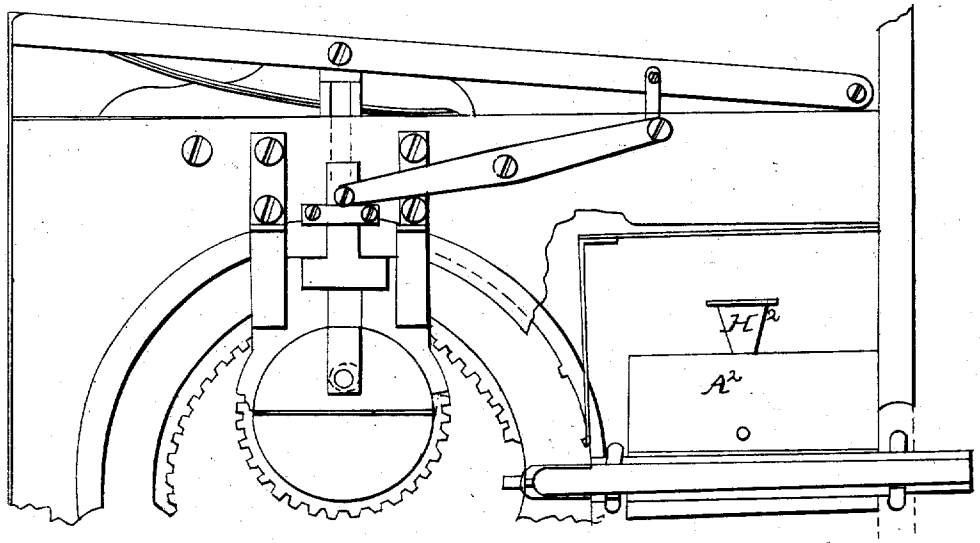
Machine Gun.

No. 13,294. Patented July 17, 1855.

Fig: 3.







UNITED STATES PATENT OFFICE.

JOHN A. REYNOLDS, OF ELMIRA, NEW YORK.

IMPROVED APPARATUS FOR COOLING REPEATING FIRE-ARMS.

Specification forming part of Letters Patent No. **13,294**, dated July 17, 1855.

To all whom it may concern:

Be it known that I, JOHN A. REYNOLDS, of Elmira, in the county of Chemung and State of New York, have invented certain new and useful Improvements in Refrigerators applicable to Fire-Arms; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, forming a part of this specification.

The nature of my improvement consists in so constructing and arranging a refrigerating-box as applicable to the cooling the tubes or barrels of fire-arms that while the full benefit of such refrigeration is obtained there shall be neither inconvenience from leakage or rust or oxidation of the barrels from moisture being in immediate contact with said barrels.

It consists of box A^2, constructed of metal, having its sides B^2, bottom and top, of plain surfaces, its ends C^2 perforated with openings D^2, corresponding as nearly as possible with the surface of the tubes or barrels, which pass from end to end of said box. E^2 indicates said tubes or barrels. Instead of attempting to make a water-joint by collars or packing I, by the addition of a corrugated sheet of metal, F^2, extending from end to end, conforming with and closely embracing the barrels, (which being united by soldering, lapping, or other suitable means) with the ends of the refrigerating-box A^2, I have obtained a perfectly tight water-box, wholly independent of the barrels or tubes, thus affording, if necessary, to remove the barrels without disturbing the box, and at the same time perfectly free from leakage consequent to other arrangements.

This improvement is peculiarly adapted to and applicable to the manifold fire-arm of which I am the inventor, rendering that improvement more valuable and efficient by this simple means of cooling the barrels or tubes, necessarily heated by the rapid and repeated discharges through them from the revolving chambers.

H^2 is an ordinary open funnel, by which water may be introduced, and I is a discharge pipe or faucet, for the purpose of withdrawing it from the box.

A red line in segments of circles (shown in Fig. 3) represents the corrugated sheet of metal forming the space or opening for the reception of the barrels or tubes.

The funnel serves the purpose of an escape or vent for any steam or vapor generated in the box by the heating of the barrels, and thus an explosion from a tight box is prevented.

I am aware that the application of a jacket to the breech of a cannon, in which the cannon itself forms a part of the jacket, is not new; but such an improvement would not be applicable to arms of a description I design using, as a device must be obtained for cooling the barrels or tubes in that case.

Having described the nature of my improvement, what I claim as my invention, and desire to secure by Letters Patent, is—

The application of a refrigerator, constructed as described, to the barrels or tubes of fire-arms, for the purpose of keeping said tubes from undue heating, substantially in the manner set forth in the foregoing specification.

In testimony whereof I have hereunto signed my name before two subscribing witnesses.

JOHN A. REYNOLDS.

Witnesses:
CHS. P. WANNALL,
W. I. CLARK.