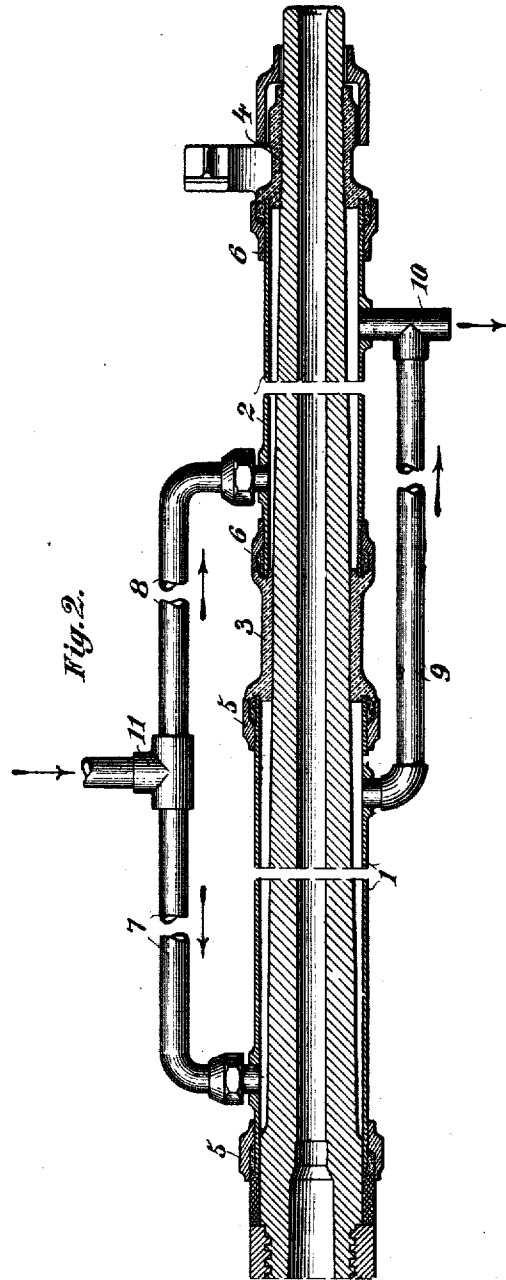
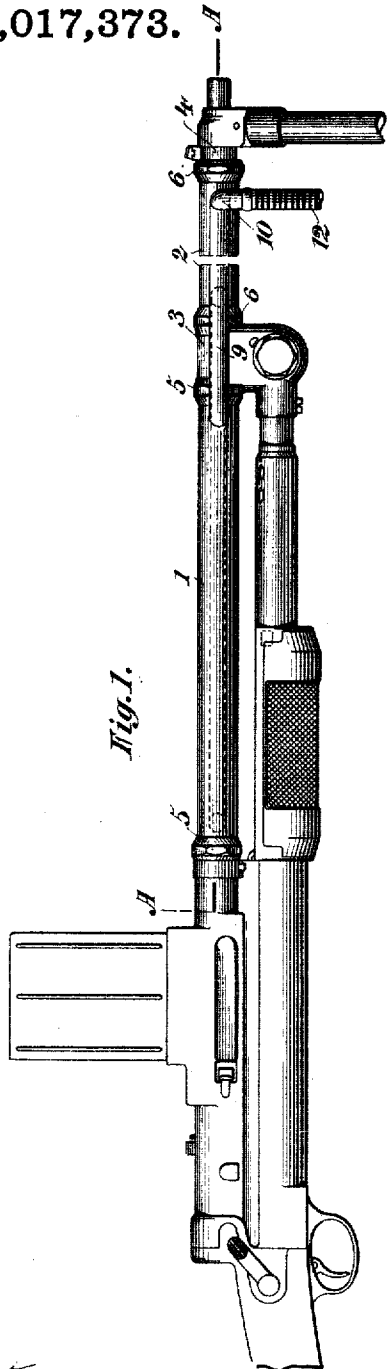


A. BERTHIER.
COOLING DEVICE FOR FIREARMS.
APPLICATION FILED MAR. 24, 1911.

1,017,373.

Patented Feb. 13, 1912.



Witnesses:
M. Schmid
C. Heymann

Inventor:
André Berthier
by B. Singer atty.

UNITED STATES PATENT OFFICE.

ANDRÉ BERTHIER, OF PARIS, FRANCE.

COOLING DEVICE FOR FIREARMS.

1,017,373.

Specification of Letters Patent.

Patented Feb. 13, 1912.

Original application filed September 16, 1909, Serial No. 518,013. Divided and this application filed March 24, 1911. Serial No. 616,648.

To all whom it may concern:

Be it known that I, ANDRÉ BERTHIER, general, a citizen of the Republic of France, residing at Paris, France, 90 Rue de Grenelle, have invented certain new and useful Improvements in Cooling Devices for Firearms, being a division from my United States application, Serial No. 518,013, as filed on September 16, 1909, and of which the following is a full, clear, and exact description.

The cooling means usually consists of a water jacket surrounding the barrel to which water is supplied through a hole situated in the rear part of the casing and discharged through another hole in the muzzle end thereof.

The cooling device according to my invention comprises a casing formed in two parts which may either be smooth or provided with transverse seams. The casing is also provided with additional tubes hereinafter described which are furnished with a flexible tube which is carried to the ground and adapted to carry away the steam generated in the casing.

The invention is illustrated in the accompanying drawing, in which—

Figure 1 is an elevation of the firearm and Fig. 2 is a horizontal section on the line A—A in Fig. 1.

In the case illustrated the cooling device is constituted by two steel tubes 1 and 2. It may, however, consist of one tube only when the part 3 is arranged at the end of the barrel. The steel tubes are either smooth or provided with transverse seams in order to permit of the increase of length due to the heating. The tubes are fixed between conical cavities in the breech casing by means of rings or stuffing boxes and screws. The part 3 and the sight ring 4 likewise constitute a part of the cooling device. The cooling tubes are held in place by nuts 5, 6 with the interposition of asbestos or other packing. The tube 1 is held to the barrel at the end which is turned to the breech case by a nut 5 while at the opposite end it is placed against the ring 3 and held in place by a nut 5. The tube 2 is placed at one end against the sight ring 4 screwed

onto the barrel, at the other end against the ring 3 and is held by the nut 6. The sight ring is screwed onto the barrel. This method of connection permits of taking the cooling device apart when desired for examining it or replacing its parts. On the left hand side of the cooling device two tubes 7 and 8 (Fig. 2) are arranged; they are united at a place 11 within reach of the marksman or of the second server who is intrusted with placing the fixed or portable water reservoir in communication with the flanged socket 11 of the cooling device. On the right hand side of the cooling tubes 1 and 2 two additional tubes 9 and 10 are provided; these are furnished with a flexible tube 12 which is carried to the ground and through which the steam generated by the cooling of the barrel escapes. If only one cooling tube is used, then also only one tube for the introduction of the water and only one tube for carrying away the generated steam will be required. The discharge tube may also open into one of the legs of the shooting support.

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

1. In a cooling device for fire-arms the combination of a jacket surrounding the barrel and being but slightly larger in diameter than the barrel and formed in two parts communicating with one another by tubes on the exterior of the jacket, and a feed device supplying only so much cooling water as will be vaporized, when it enters the cooling jacket, substantially as described.

2. In a cooling device for fire-arms the combination of a jacket surrounding the barrel and being but slightly larger in diameter than the barrel and formed in two parts communicating with one another by tubes on the exterior of the jacket, one of the said tubes being furnished with means adapted to carry away the steam generated in the jacket, and a feed device supplying only so much cooling water as will be vaporized when it enters the cooling jacket, substantially as described.

3. In a cooling device for fire-arms the combination of a jacket surrounding the

barrel and being but slightly larger in diameter than the barrel and formed in two parts communicating with one another by tubes on the exterior of the jacket, one of the said tubes being furnished with a flexible tube adapted to carry away the steam generated in the jacket, and a feed device supplying only so much cooling water as will be va-

porized when it enters the cooling jacket, substantially as described. 10

In testimony whereof I affix my signature in presence of two witnesses.

A. BERTHIER.

Witnesses:

H. A. JOHNSON,

A. PENDLETON CRUGER.