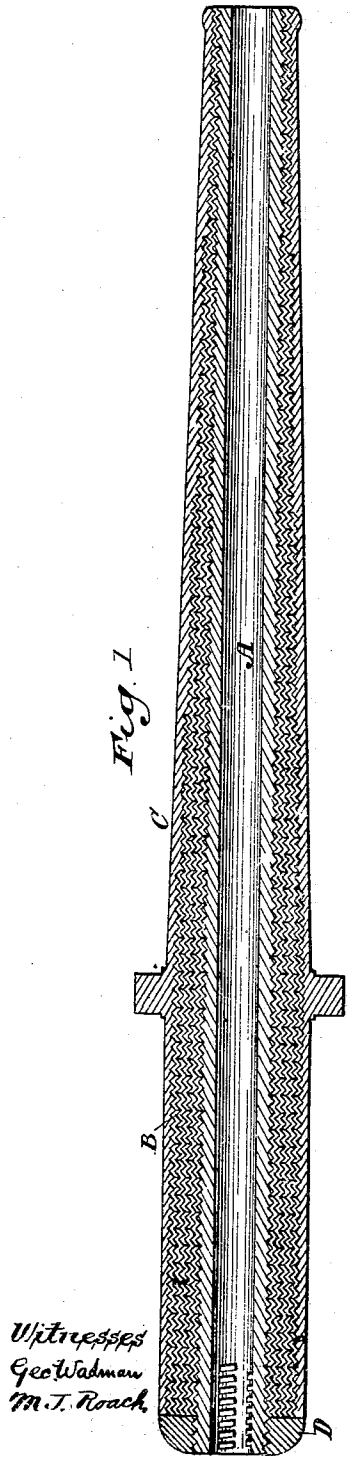
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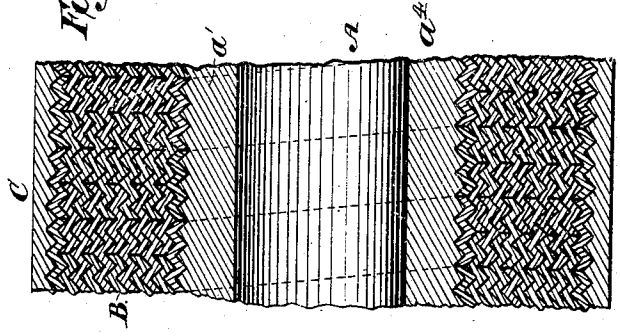
J. H. BROWN.

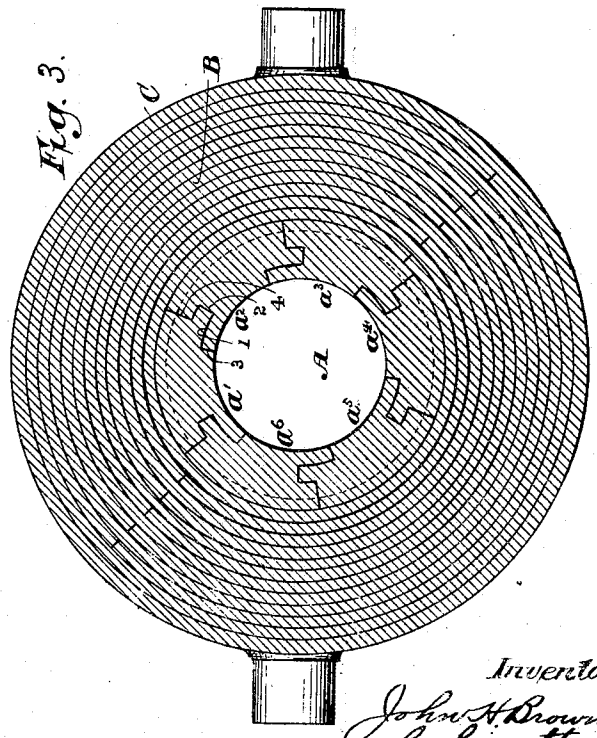
ORDNANCE.

No. 412,363. Patented Oct. 8, 1889.









Witnesses
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UNITED STATES PATENT OFFICE.

JOHN H. BROWN, OF NEW YORK, N. Y.

ORDNANCE.

SPECIFICATION forming part of Letters Patent No. 412,363, dated October 8, 1889.

Application filed February 14, 1887. Serial No. 227,551. (No model.)

To all whom it may concern:

Be it known that I, JOHN HAMILTON BROWN, of New York, in the county and State of New York, have invented a certain new and useful Improvement in Ordnance, of which the following is a specification.

My improvement relates to ordnance generally, but it is specially applicable to a cannon.

I will describe in detail a piece of ordnance embodying my improvement, and then point out the novel features in the claims.

In the accompanying drawings, Figure 1 is a central longitudinal section of a cannon embodying my improvement. Fig. 2 is a central longitudinal section of a portion thereof drawn on a very much larger scale. Fig. 3 is a transverse section of the same drawn to the same scale as Fig. 2. Fig. 4 is a perspective view of a portion of wire or ribbon which is used in the cannon.

Similar letters of reference designate corresponding parts in all the figures.

A designates an internal piece, consisting of a number of sections made in the form of segments of a circle fitted together laterally. They extend throughout the length of the cannon. As shown, there are six of these sections a' a^2 a^3 a^4 a^5 a^6. The laterally-meeting edges or sides of these sections may extend in the direction of the axis of the cannon, or, in other words, may be straight from end to end of the cannon; or they may have a slight spiral extension. Preferably they will be made as last suggested, and then the joints formed by the contact of their meeting edges or sides may advantageously correspond to the spiral of the rifling of the cannon, if there be any rifling in it. These sections may be made of any suitable material—as, for instance, what is known as "gun-metal" or steel. Preferably each section will be provided along one of its sides or lateral edges with a tongue 1, and at the other of its sides or lateral edges with a groove 2. Then the tongue 1 of each section will enter the groove 2 of the next adjacent section. It will also be advantageous to make the sides or lateral edges irregular. I have shown them made irregular. As shown, the portions 3 of the meeting edges or sides which are close to the internal arc-shaped surfaces of the sections are radial and are out of line with portions 4 of such meeting edges or sides also radially disposed and which are located on the external arc-shaped surfaces of the sections, and the tongues and grooves are intermediate of the portions 3 4 of the meeting edges or sides. When thus constructed, the joints will serve as gas-checks, or, in other words, will preclude the discharge of gas between the sections.

B designates wire or ribbon, preferably made of spring-tempered steel. It is shown as comparatively flat in the transverse section; or, in other words, it is considerably wider than it is thick. It is wound around the exterior of the internal part A spirally, and serves to bind the sections of said internal part together.

As shown, the internal part A is externally screw-threaded or ribbed, and the wire or ribbon B is internally screw-threaded or ribbed. The screw-thread or rib on the interior of the wire or ribbon engages with the screw-thread or rib on the exterior of the internal piece of the cannon. The wire or ribbon is so wound that the convolutions of each coil fit closely together side by side, and therefore cover the internal piece at every point.

I have shown several coils of wire or ribbon wound around the internal part, and I have shown the wire or ribbon as screw-threaded or spirally ribbed on both sides, so that the interior of the second coil will engage with the exterior of the first coil. The interior of the third coil will engage with the exterior of the second coil, and so on. The different coils of wire or ribbon are so wound that the convolutions of the second coil will be out of line with the convolutions of the first coil. The convolutions of the third coil will be out of line with the convolutions of the second coil, or approximately in line with the convolutions of the first coil, and so on. Thus they will break joints and protect the internal piece the better.

As the cannon is tapered, the different coils of wire or ribbon terminate at different distances from the muzzle of the cannon.

C designates an outer shell, which may be made of any suitable metal, preferably steel. It extends from end to end of the cannon, covering the wire or ribbon B, and it, as shown, engages with the external screw-

threads of the wire or ribbon adjacent to it. It may be formed upon the wire or placed thereon in any other suitable manner. It is provided with trunnions.

A breech-cap D is shown as arranged rearward of the wire or ribbon B and the shell C. As shown, it is secured upon the rear extremity of the internal part A.

The breech of the cannon may be made in any suitable manner. As it forms no feature of my present improvement, I have not shown any manner of securing it.

When the sections of the internal piece are made with overlapping joints, serving as gas-checks, they may expand or move transversely to a slight degree, so that the strain to which they will be subjected may be transmitted to the wire or ribbon and shell, and therefore partially borne by the wire or ribbon and shell. This will be advantageous, because then all parts of the cannon will contribute to resist the strain.

I do not claim, broadly, herein a cannon provided with a series of spirally and concentrically wound plates having grooves and projections on opposite sides thereof, the grooves and projections on each plate receiving and fitting into the projections or grooves on the next preceding and succeeding plates.

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

1. A gun having its core formed in longitudinal sections, and its body formed of wire wound around the said longitudinal sections, substantially as set forth.

2. A gun having a core formed of longitudinal sections, a body portion formed of wire wound around the said core-sections, and an exterior jacket to protect the wire, substantially as set forth.

3. A piece of ordnance having a core-section composed of sections fitted together laterally, and a wire or ribbon wound around the same and externally screw-threaded or spirally ribbed, substantially as specified.

4. A piece of ordnance having a core-section composed of sections fitted together laterally and screw-threaded circumferentially, and a wire or ribbon screw-threaded or spirally ribbed and wound around the same, substantially as specified.

5. A piece of ordnance having a core-section composed of sections fitted together laterally, and several coils of wire or ribbon which is screw-threaded or ribbed upon contiguous surfaces, said coils of wire or ribbon being so disposed as to break joints, substantially as specified.

6. A piece of ordnance having a core-section composed of sections fitted together laterally, a screw-threaded wire or ribbon wound around the same, and an external screw-threaded outer shell engaging with the said wire or ribbon, substantially as specified.

7. A piece of ordnance having a core-section composed of sections fitted together laterally and screw-threaded circumferentially, a wire or ribbon wound around said inner part and screw-threaded or spirally ribbed, and an outer shell engaging with the screw-thread or rib of the wire or ribbon, substantially as specified.

JOHN H. BROWN.

Witnesses:
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