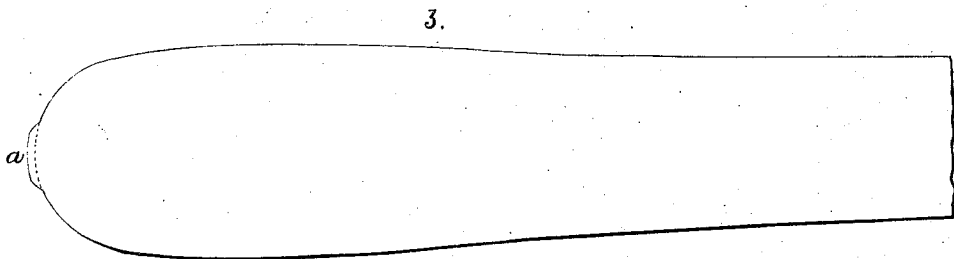
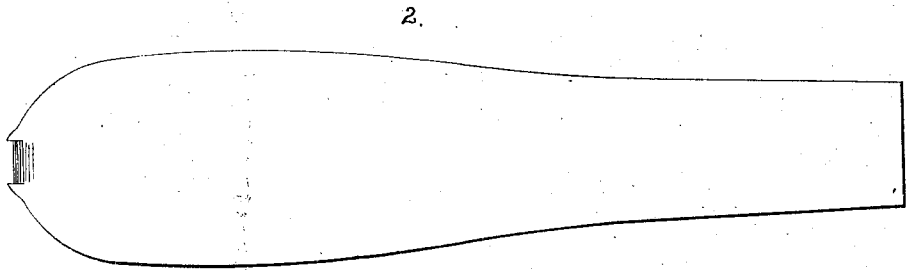
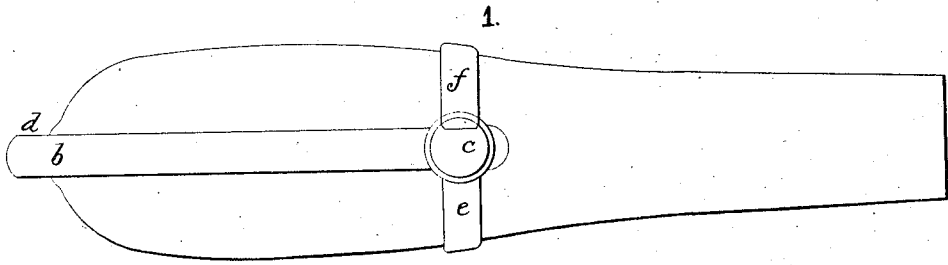


J. A. Dahlgren. Cast Iron Ordnance.

No 32,985

Patented Aug. 6. 1861.



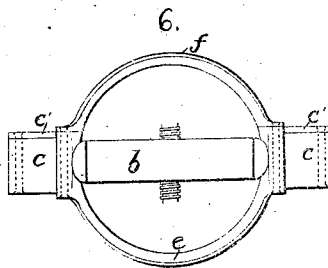
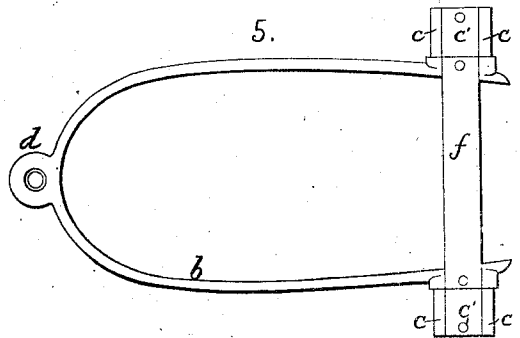
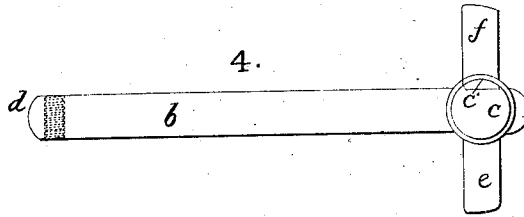
Witness
Jno. C. Grandly
Geo. S. Norton

Inventor:
Jno A. Dahlgren

J. A. Dahlgren. Cast Iron Ordnance.

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Witnesses:

Jno D. Brandt
W. S. Norton

Inventor:

Jos A Dahlgren

UNITED STATES PATENT OFFICE.

JOHN A. DAHLGREN, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN CAST-IRON ORDNANCE.

Specification forming part of Letters Patent No. 32,985, dated August 6, 1861.

To all whom it may concern:

Be it known that I, JOHN A. DAHLGREN, of the city and county of Philadelphia, in the State of Pennsylvania, have invented certain new and useful Improvements in the Manufacture of Cast-Iron Ordnance, of which the following is a full, clear, and exact description, reference being had to accompanying drawings, which make part of this specification, in which—

Figure 1 represents a side elevation of a gun embracing my improvement. Fig. 2 represents a similar view of the body of the gun, the trunnions, cascabel, and their supports being detached. Fig. 3 represents the pattern for casting the gun, which is both longer and of greater diameter than the finished gun. Fig. 4 represents a side elevation of the breech-strap, band, trunnions, and cascabel detached from the gun. Fig. 5 represents a top view of the same. Fig. 6 represents a view of the same, looking at the front of the trunnions and band.

The improvement which is claimed under this patent consists in casting the cannon without cascabel or trunnions, the object being thus to secure, as far as a symmetrical form free from protuberances will attain such objects, uniformity in the texture and strength of metal throughout the whole mass of the gun, which should therefore be cast of a symmetrical form without any angles and as nearly as may be of equal diameters, but if not of equal diameters, then of gradual taper, that it may cool simultaneously and regularly throughout, and thereby avoid the inequalities of texture and strength that result from irregular cooling and contractile strains. The pattern for casting is made after the form shown in Fig. 3, and is molded in the usual manner, except that the patterns for the cascabel and trunnions are omitted. When the gun has been reduced to the proper proportion and bored, the slight swell *a* at the base of the breech is notched, as seen in Fig. 2, so as to receive the trunnion-strap *b*. This notch prevents the rotation of the gun in the straps from the reaction of the projectile when it receives its rotary motion from the rifle of the bore. This strap embraces the rear of the

cannon from the base of the breech to the locality of the trunnions *c c*, which, as well as the cascabel *d*, I prefer to make in one piece with the trunnion-strap, together with a semicircular band, *e*, to encompass the lower half of the gun. A section is omitted from the upper side of the trunnions *c c*, which is supplied by separate pieces *c' c'*, attached to a semicircular band, *f*, intended to clasp the upper half of the cannon. The parts *c' c'*, being adjusted so as to fit the lower parts, *c c*, of the trunnions, are secured to them by stout bolts passing through both the parts. The trunnions and their strap should be made of the best bronze gun-metal. The cascabel is to be pierced, and a screw-thread cut to receive the elevating-screw. The lock and back sight are to be attached by small straps or brackets of metal to the trunnion-strap. These small straps or brackets may be connected to the trunnion-strap by screws or rivets.

In the making of wrought-iron ordnance, the trunnions have been applied by forging them to a band, which was then shrunk upon the body of the gun, which it compressed with great force, to produce the requisite adhesion for a firm connection of the trunnions to the gun; but this differs from the improved mode herein described, which secures the trunnions in place independently of any adhesion of the band to the surface of the gun, or any compression of the gun by the band that would interfere with the waves of expansion or vibration produced in the gun by the explosion of its charge.

What I claim as my invention is—

A gun having a body cast without trunnions or cascabel, so as to obtain the condition of metal most favorable to strength, the trunnions and other accessories required for operating the gun being secured to its surface by means of a trunnion-strap and band or the equivalent thereof, substantially as described.

In testimony whereof I have hereunto subscribed my name.

JNO. A. DAHLGREN.

Witnesses:

A. B. NORTON,
JNO. D. BRANDT.