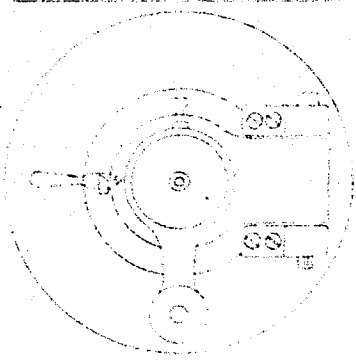


CONVERSION OF A
68 P^r CAST-IRON GUN INTO A
BRECH LOADING RIFLED GUN
AS PROPOSED BY SIR WILLIAM PALLISER
IN 1879.

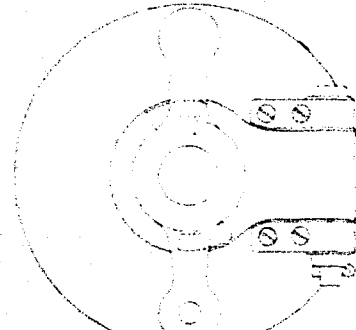
FIG 1.



3 1/2 TURNS RELEASE SCREW.

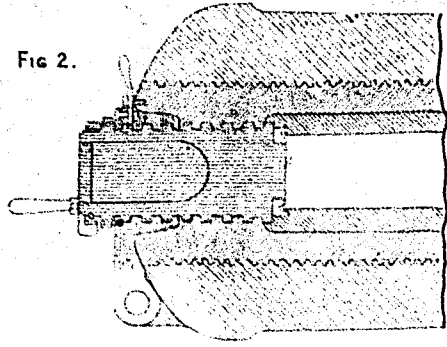
CONVERSION OF A
68 P^r CAST-IRON GUN
INTO A BRECH-LOADING RIFLED GUN
AS PROPOSED BY CAPT WILLIAM PALLISER.
TO THE LATE ORDNANCE SELECT COMMITTEE
ON THE 18 SEPTEMBER 1863.

MINUTE 9908
9953



4 1/2 TURNS RELEASE SCREW.

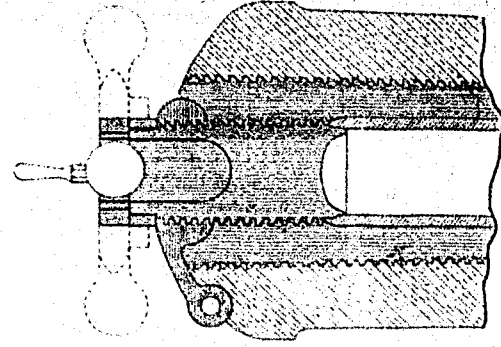
FIG 2.



The improvements in the gun of 1879 comprise (1) A Handle-Lock; (2) A Gas-Check Protector; (3) An Improved Gas-Check; (4) A Vent-Cover. The handle locks the breech-door until the plug is screwed back the full amount. The handle can then, but only when, be raised, and the breech-door be opened, as shown, Fig. 1. The act of raising the handle locks the breech-door, and prevents it from being screwed forward again until the breech-door is closed. Thus, as long as the breech is open, the gas-check is retained inside its protector, and the breech-plug is kept in the exact position for being again screwed up. As soon as the breech-door is shut, the handle falls into its catch, and the breech-plug becomes free, and can at once be screwed up. The gas-check overlaps externally the mouth of the bore of the gun. The seat, at the gun, of the gas-check is thus protected from injury during loading. The vent-cover, which stops the back flash from the vent, cannot be raised, and, consequently, the gun cannot be fired until the breech is screwed quite home.

Agents 3024, 1879.

W. PALLISER.



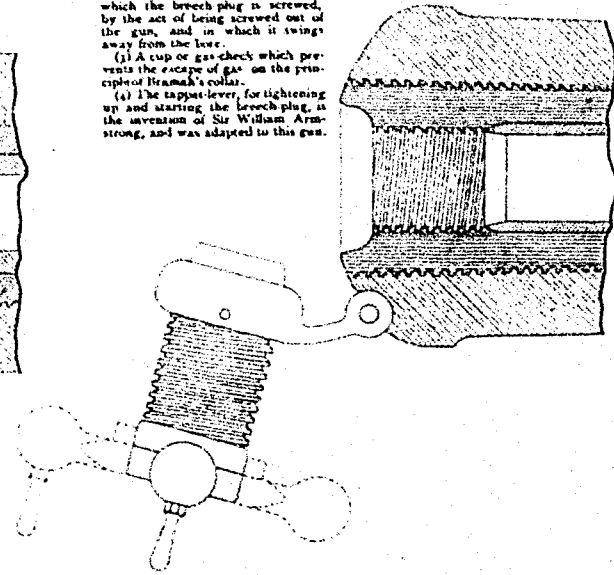
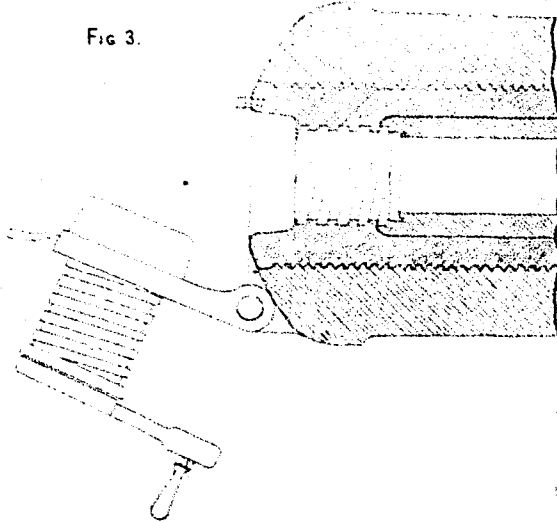
The chief features in the breech-loading gun of 1863 are (1) A relieved screw thread in the breech. This feature is essential, whether a gun be a breech-loader or a muzzle-loader, on account of the law which I was the first to notice and to enunciate; namely, that in guns and screw-balls longitudinal strains fall chiefly, in the one case, on the interior surface of the bore, and in the other, on that of the exterior surface of the ball. In either case, therefore, a screw thread would form a deep circular cut at the very place where the strain is greatest. It is worthy of notice that Sigurd Larvik and Herr Krupp, not being aware of this law, made all their guns, at one time, with a square wedge hole, which had rectangular corners. These guns frequently blew their breeches off. As soon as my investigation had been published, the corners of the hole were rounded off, and a little consideration will show that the rounded wedge hole, though different in appearance, involves the same principle as the relieved screw-thread.

(2) A hinged-collar or ring into which the breech-plug is screwed, by the act of being screwed out of the gun, and in which it swings away from the bore.

(3) A cup or gas-check which prevents the escape of gas on the principle of Bramah's collar.

(4) The tappet-lever, for tightening up and starting the breech-plug, is the invention of Sir William Armstrong, and was adapted to this gun.

FIG 3.



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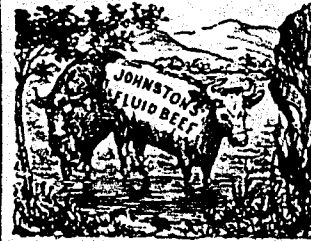
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