

**RIFLED FIELD PIECES. A SHORT
COMPILATION OF WHAT IS
KNOWN OF THE NEW FIELD
ARTILLERY OF EUROPE, WITH
SOME ACCOUNT OF OUR OWN**

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649233694

Rifled field pieces. A short compilation of what is known of the new field artillery of Europe, with some account of our own by Frank Taylor

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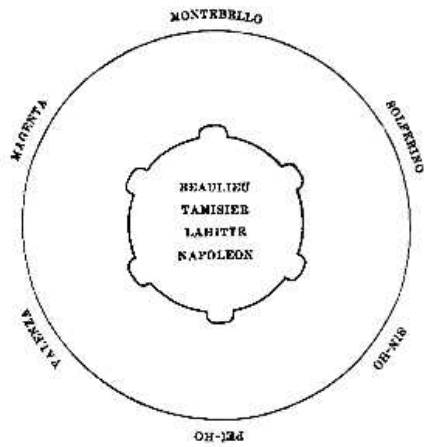
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FRANK TAYLOR

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COMPILATION OF WHAT IS KNOWN

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NEW FIELD ARTILLERY OF EUROPE,

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"The most philosophical method of determining beforehand what improvements an art or a science will undergo within a given time, is to study with care its past history, and to separate with discernment the principles which have triumphed from those which have failed, for the road of progress thus marked out in the past, indicates its own direction in the future."—(*Nouveau système d'artillerie de campagne de Louis-Napoléon Bonaparte.*)

WASHINGTON:
FRANCK TAYLOR.
1862.

PREFACE.

As great changes have been made in the field artillery of Europe within the last three years, the details of which are not to be found in any of the military text-books, it was thought that it might be useful to collect and publish such of them as can be most readily ascertained.

The following pages were accordingly prepared for the purpose of giving an outline of systems upon which we must to some extent model our own, and which have been themselves modelled upon the results of elaborate practical investigations in schools of artillery, and of instructive, although brief, experiences in actual warfare.

As far as practicable I have given my authorities for the various statements made, and where I have been compelled to draw inferences, in default of positive information, I have intimated as much, leaving it for the reader to make a more complete investigation for himself.

The works to which I most frequently refer are the following:—

- LES CANONS RAYÉS Étude Militaire, par J. Schmelzl, Lt.-Col. d'artillerie.
Traduit de L'Allemand, par E. Heydt, Sous-Lt. d'artillerie. Paris, 1860.
APPENDICE AUX CANONS RAYÉS, par Col. Schmelzl. Paris, 1860.
LE CANON RAYÉ PRUSSIEN—Comparison des Systèmes Français et Prussien
—par Capt. F. Fourcault. Paris, 1861.
LE CANON PRUSSIEN JUGÉ, par Les Allemands. Paris, 1861.
JOURNAL DES ARMES SPÉCIALES. 1860 & 1861.

I have drawn but little from English authorities, for this, among other reasons, that what they state is already more or less familiar to all those in this country who have taken an interest in the subject of rifled cannon.

RIFLED FIELD PIECES.

RIFLED field pieces are now in use in all European services, including that of Turkey, and, according to the statements of recent military writers, have, in France, totally displaced the smooth-bored cannon.*

The European rifled field artillery may be divided into two general classes, viz., the breech-loading cannon—including the Armstrong gun in England, and the Wahrendorff in Sweden and Germany—and the muzzle-loading cannon of Col. de Beaulieu, which has been adopted first by France, and shortly afterwards by Russia, Spain, Sardinia, Holland, Austria, and several other powers.†

The projectiles for the Armstrong and Wahrendorff guns are of cast iron coated with lead, and, being forced into the bore from behind, the lead enters and fills the grooves. For the Beaulieu gun, or, as it is sometimes termed, the French rifled cannon, the projectile has affixed to it, by means of small cavities made in the cast iron, knobs or buttons (*tenons-ailettes*) of zinc, which, in loading, are made to enter the deep and narrow grooves with which the gun is rifled. The grooves are, in France and Russia at least, and probably elsewhere, 6

* Le Canon Prussien Jugé, p. 15 ; Appendice aux Canons Rayés, p. 6.

† Le Canon Rayé Prussien, p. 79, and Les Canons Rayés.

in number, and the knobs 12,^o although 6 knobs have been also used, so that only 1 knob should enter each groove.⁴

The Armstrong field gun is a cannon of considerable length and of narrow calibre (diameter of bore); 8 inches according to Capt. Benton ("Ordnance and Gunnery"), 74 millimetres (or 2.91 inches) according to Capt. Fourcault, of the Belgian army.^o The denomination of the gun, taken from the weight of its projectile, is that of a 12-pdr., but a number of 6-pdr. guns have been recently made, 49 of them having been finished and proved up to November, 1861.^f These latter pieces are possibly similar to the guns with which Sir William Armstrong made his earlier experiments, which had a calibre of 2 inches, a weight of about 500 lbs., and weight of projectile of 5 lbs.⁴

The weight of the Armstrong 12 pdr. is, for most of the guns, between 850 and 900, but 12 pdrs. of 6 cwt. have also been made.⁵ The projectile, in order that it may have a sufficient shell power, notwithstanding its bolt like figure, is made up of a number of pieces of cast iron soldered together.

The Continental Powers, even those which have imitated England by adopting the breech loading system, employ larger calibres (the calibres of their field guns lying between 3.4 and 3.8 inches as far as they are known) and, in the case of France and Russia at least, lighter guns.

The calibre of the French rifled field gun has been variously

^o Les Canons Rayés, p. 50; Journal des Armes Spéciales, July and Aug. 1860, p. 55, and Mars and Avril, 1861, pp. 237 and 242.

⁴ Les Canons Rayés, pp. 50, 55, and 122.

^o Le Canon Rayé Prussien, p. 43 (74 may, however, be a misprint for 76).

^f Mechanics' Mag., Nov. 29, 1861.

⁴ It is more probable, however, that the calibre of 3 inches would be retained and the weight put at about 400 lbs.

⁵ Mech. Mag., Nov. 1860.

stated at 85.5^{*} and 86.5¹ millimetres (3.366 and 3.405 inches), the latter being probably the correct calibre and the former the true diameter of the shot.

The weight of a French rifled cannon used in Italy is stated at 523 lbs. only,^m but elsewhere 716 to 727 lbs. is given as the weight of the rifled gun of the Italian war,ⁿ and a good authority gives the present weight of the French field cannon at 727 lbs. (330 kilogrammes).[†] There are probably in the French service a lighter and a heavier rifled field piece, one a little over 500, and the other a little over 700 lbs. in weight, the heavier gun being the one most commonly in use, and the lighter being employed where great mobility is required.

Rifled battalion guns drawn by two horses each are said to have been issued to the French infantry;^o these would probably be the lighter description of cannon.

The French have still another gun of the calibre of 3.4 inches, viz., their rifled mountain gun, which weighs 220 lbs. and is effective up to 1800 yards. This gun has been used in Kabylia, and is well spoken of.^p

The weight of the projectiles for the above mentioned guns is about 8 $\frac{3}{4}$ lbs.,^q but shells of over 12 lbs. weight seem also to have been used in Italy.^r

The charge of powder is about $\frac{1}{4}$ of the weight of the pro-

^{*} Les Canons Rayés, p. 52.

¹ Jour. des Armes Sp., Jull. and Août, 1860, p. 55. (It may be that the calibre of the gun was 85.5 mm. during the Italian war and has since been increased to 86.5).

^m Les Canons Rayés, p. 54.

ⁿ Appendice aux Canons Rayés, p. 5.

[†] Col. d'Herbelot, Jour. des Armes, Ju. 1860, p. 55.

^o Les Canons Rayés, p. 64.

^p Ibid., p. 53.

^q When loaded, Jour. des Armes, Ju. 1860, p. 55.

^r The account, however, seems rather to mean that a solid shot of the same size would weigh 12 lbs.