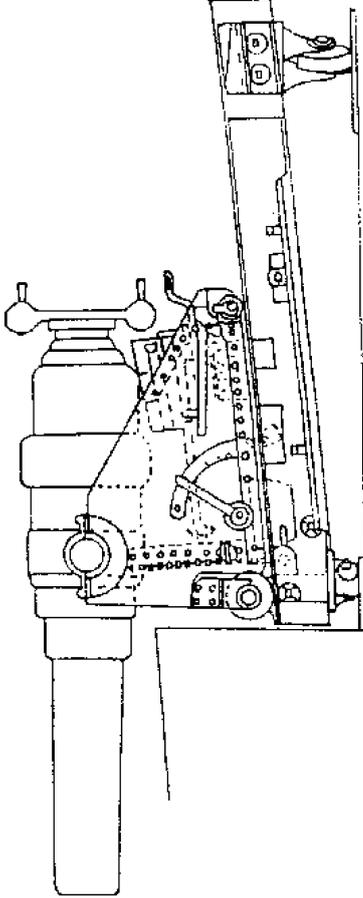


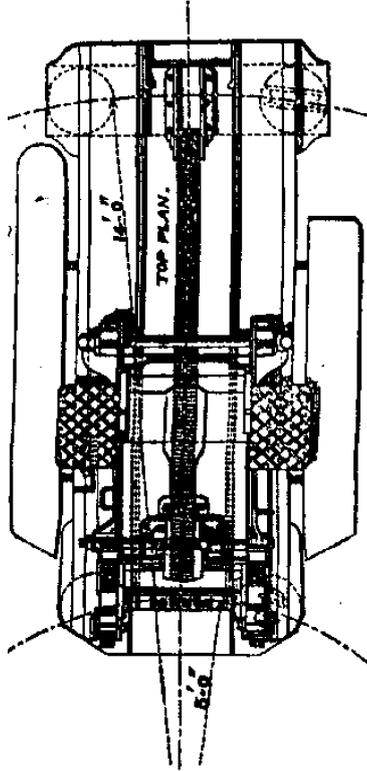
PLATFORM, WOOD, TRAVERSING, MEDIUM No. 13

Wood, for R.B.L. 7in. 82 cwt., R.M.L. 64 pr. 71 cwt.

for iron carriages Nos. 3 & 11 (11ft. long) 3ft. 6ins parapet. Height of slide 1 ft. 6 ins



Carriage, Medium, No.3 with 7-inch R.B.L. 82 cwt.



This extract is taken from 'Arming the Forts' by David Moore. ISBN 0 9523634 0 2 A Palmerston Forts Society publication. Copies can be purchased from the shop at Fort Nelson.

The 7-inch Rifled Breech Loader



The Portsdown Artillery Volunteers with the 7-inch R.B.L. in the West Haxo casemate at Fort Nelson

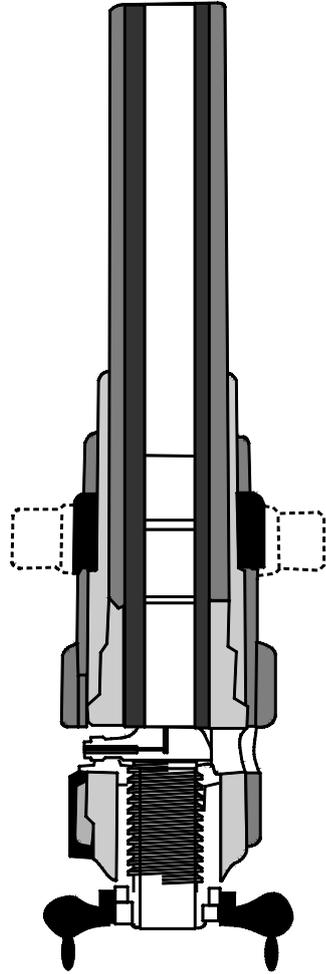
Armstrong guns

In 1854 Mr. William Armstrong, later Lord Armstrong, submitted to the Duke of Wellington a proposal for a rifled field piece of a revolutionary design. He also suggested that he might be permitted to construct it himself. Two years later the gun was ready for trial. After a long course of experiments six different natures of the gun were adopted for the service. These were the 7-inch, 40, 20, 12, 9 and 6-pounders. Armstrong's method of construction was to build up the gun in separate parts consisting of an A tube, or barrel; the breech piece; three to six different coils or jackets; the trunnion ring; the vent piece; tappet and lever rings; and with the 7-inch and 40 prs an indicator ring to show when the vent piece had been fully screwed home. In the A tube were the powder chamber, shot chamber and bore, which was rifled on the polygroove system.

7-inch R.B.L. of 72 cwt. and 82 cwt.

The Armstrong Breech Loading Rifled Gun had a movable vent piece (breech block) held in position with a screw turned by hand. It had problems with the vent piece, which was heavy and insecure, and the ammunition, which was an elongated shell with lead driving bands. This broke down partially because of an electrolytic reaction between the metals. The 82 cwt. gun was first issued in 1861 as a 100-pounder sea service gun. After February 1862 the weight of the shell was increased to 110 pounds and the gun was so designated the 110 pdr. After 1864 it was finally known as the 7-inch R.B.L. Length 120 inches (face of muzzle to rear of gun excluding breech screw); greatest diameter 27.7 inches; 76 rifling grooves each .06 in deep and .166 in wide, with a twist of one turn in 37 calibres. 883 of these guns were manufactured. The projectile charge was originally 14lb for distant shot, 12lb for full shell. In June 1863 the 14lb charge was withdrawn and in March 1865 the 12lb charge was reduced to 11lb.





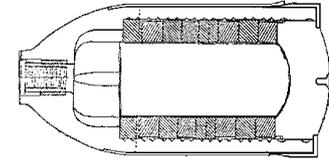
Wrought Iron R.B.L. gun 7-inch 82 cwt Mark I

All shot or shell were ogival-headed and lead coated. With a 14lb charge the range was 4000 yards. The muzzle velocity was 1,150 ft. per sec. and penetration of iron was 5 inches at 1,000 yards. This performance was a third less than that of the 68pdr. S.B. which it replaced as a pivot gun. This was insufficient for naval use and most of the forts in the Portsmouth area were to be re-modelled to take this gun as their primary armament. H.M.S. Warrior did receive 10 of these guns together with 26 x 68 pounders.

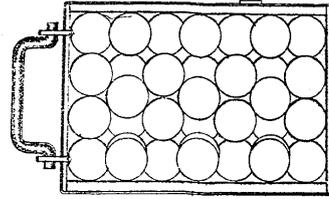
The lighter gun of 72 cwt. was of earlier construction although it was not completed and issued until 1863. From experience gained in the case of the 40 pounder it was decided to improve upon the original design and to add a strengthening coil over the

powder chamber. Before this was decided about 76 of the lighter guns had become too far advanced for the change. These were issued as 72 cwt guns for land service. One of these guns is mounted in the West Haxo casemate at Fort Nelson on a No.14 platform. It bears the date 1862 and the gun number 56B on the end of the left trunnion.

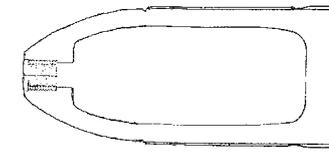
Designated in The Vocabulary of 1882 as 'Platform, wood, traversing, casemate, rifled and S.B. guns'. This platform is similar in all respects to the dwarf platform No.16 but is reduced in height to suit casemates. The rear block is dispensed with and the front flanges for trucks are of gun metal and are recessed onto the bottom of the platform. It has no pivot plate. The trucks are of wrought iron, hollow soled; the front are 47/8 inches in diameter formed in one piece with their axles and the rear 12 inches. This slide can be converted into a dwarf or blocked-up slide (nos. 16, 17 & 18) by the addition of suitable blocks and pivot plates with the necessary alteration of trucks.



Segment



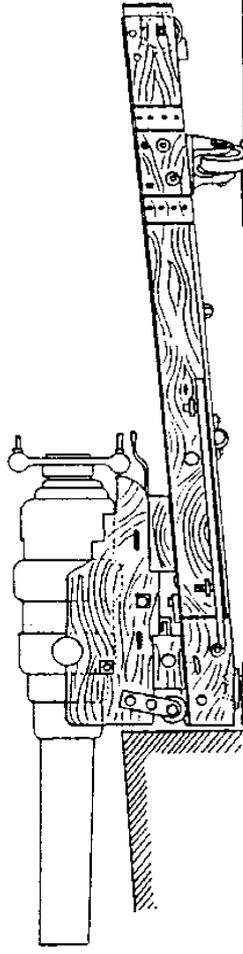
Case



Common

PLATFORM, WOOD, TRAVERSING, MEDIUM No. 14 (casemate)

wood, for 7-inch R.B.L. of 82 cwt., 40 pr. R.B.L., 80 pr. R.M.L., 64 pr. R.M.L. of 58 cwt and all S.B. guns for Wood carriages Nos. 15, 19, 21 & 25. 16 ft. long. Height of parapet 2ft. 7 in.



Carriage, Garrison, Sliding, Casemate, Medium No.15

The platform is made of teak and consists of two sides with cheeks, three transoms, one head block, four flanges and four trucks. The sides are 16ft. x 1ft. x 1ft. with the outer edges bevelled off, are placed 21 inches apart; their ends are hooped, and the upper surfaces shod with iron plates. The cheeks are nailed to the sides to give sufficient bearing for the flanged feet. The transoms are mortised into the sides and secured by five tie bolts, two through the rear, one through the centre, and one through the front transom and one at the back of the front transom. The head block is dove-tailed between the sides over the front transom, to which it is bolted, to form a stop for the carriage when run up. Four holes are bored through the sides to receive the bolts of the flanged feet, and behind the rear holes are nailed two half moon pieces to form bearings for the feet, and bring the platform to the required slope of 5 degrees. The fittings of the platform consist of four battens between the rear and centre transoms for men to stand on, a bollard for the preventer rope on the inner left side, iron stops to receive the carriage on recoil 15 inches from the ends of the sides,

eye-bolts for tackle (two on each side) a bent plate between the sides in rear with hole for the pintail of the transporting dilly, and axletree bands for the transporting axle.

Radii of racers front 5 feet rear 16 feet 6 inches
A pivot

This platform is the 16 foot wood slide, similar to No. 12, but is reduced in length to 11 feet, and has a slope of 5 degrees. the sides of the platform are strengthened inside by an iron plate to which is riveted a plate for the clips of the carriage. It is fitted with compressor bars and tripper for Elswick Ordnance Company compressor. The front trucks and flanges are special. The trucks are of wrought iron, the front are 6½ inches in diameter, and the rear 12 inches.

Radii of racers front 5 feet rear 14 feet
A pivot

The 7-inch R.B.L. could fire a common shell weighing 106lb to a distance of 3,500 yards at 10 degrees of elevation using a 10lb charge.