

WASC 1847

'Powder & Shot in 1800'

I hope you find
the enclosed of
interest & once again
many thanks for
your help.

John

J. P. MILNE

Powder and Shot in 1800

Gunpowder

The Royal Powder Mills at Faversham, Hartford and Waltham Abbey were at that time the manufacturers of gunpowder. Gunpowder consists of a mixture of charcoal, sulphur and saltpetre. It was supplied in three forms, viz.

1. Priming powder-a fine powder for use in small arms and for priming large guns
2. Corned powder-wetted and formed into grains
- X 3. Cylindered powder-prior to mixing the charcoal was formed into cylinders.

Cylindered powder was more powerful than the others and had to be identified to prevent damage to the gun. This was done by marking the cylindered containers in red.

The powder was packed in 100lb lots in barrels made from well-seasoned oak with wooden or copper hoops. A 2-inch gap was left at the top of the barrel to allow movement of the powder, preventing caking. Delivery from the mill to the navy was always made by boat.

Handling and Issue

The ship's gunner was responsible for the storage and issue from the magazine. He was a senior wardroom warrant officer risen from the ranks after at least a year as a petty officer and have passed an examination. He would have been expected to keep accounts and to produce reports. Promotion could only be gained by posting to a larger ship, as there was no such rank as fleet gunner.

He would have been responsible for the service and maintenance of all guns and firearms on the vessel and associated equipment. On an 80-gun ship his staff would consist of 4 mates and on a third rate ship, 2 mates. Anything smaller would entail a single mate. There would also have been a quarter gunner for every 4 guns who was not employed full-time by the ship's gunner and could be employed on other duties when available.

The Magazine

This was a chamber located below the water line, away from the ship's side and forward of the hold. It was constructed to protect the contents from fire and damp. The floor and walls were covered with felt or rough frieze and they contained panels filled with charcoal as protection from damp.

There was a tank and piping built into the magazine chamber to enable the room to be flooded in case of fire. Lighting was provided from an adjacent room through double-glazed windows. This was called a light room.

The front section of the magazine was where powder was loaded into paper or linen cartridges. These were then stored in wooden tubs with lids.

The maximum powder loadings in the cartridges were as follows.

Corned Powder 42 pound shot 40%
18 pound shot 50%
9 pound shot 66%

Cylindrical 30% all weights.

Where shorter ranges were involved there would have been first and second reduced allowances. Where hot shot (see below) was being fired the charge was reduced to 75% of the above as the ball expanded and fitted tighter in the barrel.

On a 2-decker ship there would be a further small powder room aft and in a 3-decker there would be a further powder room amidships.

The magazine was reached via a narrow passage closed off by a copper door and entry required the ship's commander's permission. Anyone entering had to wear felt over-boots and carry no steel objects. All tools and utensils used therein were of non-ferrous metal like brass or of wood. When firing was taking place, the magazine and powder room hatches were protected by copper screens.

Cartridges were only brought up to the guns in lidded containers immediately prior to use. Forward of the powder room there was a hoist to carry the cartridges up to the decks. In smaller ships without a hoist the cartridges were passed through a hole in a thick water-soaked woollen screen.

The cartridges were carried in wooden containers with lids and would only reach the guns for immediate use.

They were collected by young boys called 'powder monkeys' who, in action, were assisted by quarter gunners and marines.

Shot

Shots were made of cast iron and they were of the following types.

1. **Round shot** of various weights were used to damage the hulls and mast of the enemy. For additional effect double shotting was also used.
2. **Hot Shot.** It could also be heated to very high temperatures in the hopes of causing fires on the enemy vessel. They would be delivered to the guns in metal containers carried by two men using a cross-bar.
3. **Grapeshot** consisted of small shot (as used in small arms), encased in containers, which burst on firing. It was used as an anti-personnel weapon.
4. **Chain shot**, consisting of two halves of a hollow ball, joined inside by a chain, was used to destroy rigging and sails. A bar shot, shaped like a dumbbell was used as an alternative to chain shot. In flight they would spin for maximum effect.

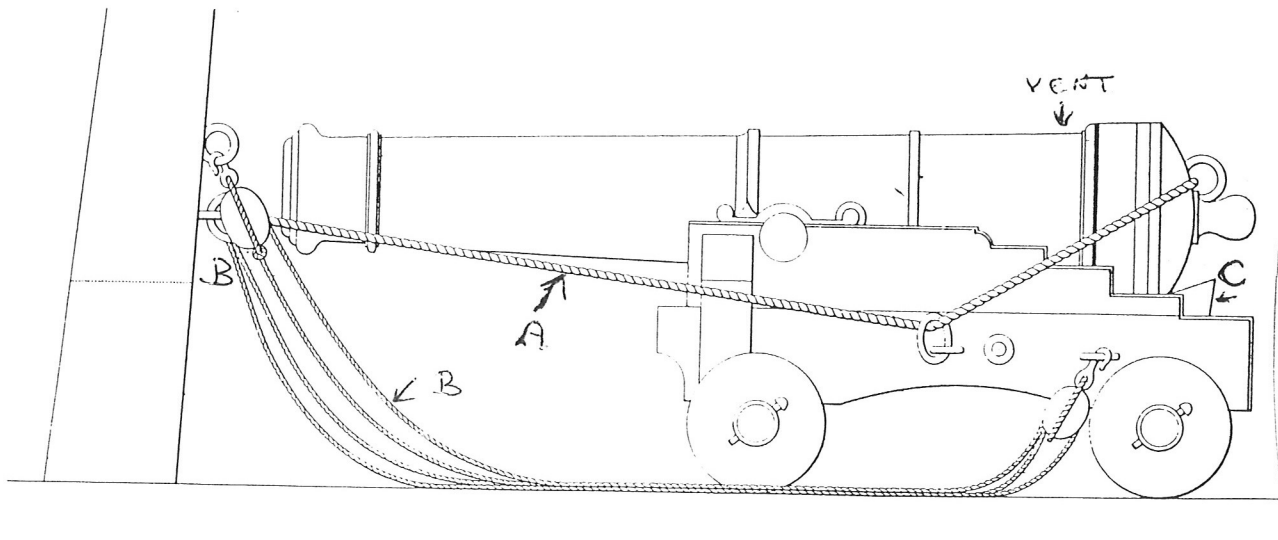
The shot was stored fore and aft of the pump well and aft of the main magazine. It was kept dry to prevent rust.

'Ready-use' round shot was kept on deck in holes in the coamings of the hatchways. Quantities of shot in ships' stores were

- a) round shot, 60 per gun
- b) grapeshot, 5 per gun,
- and c) bar/chain, 3 per gun.

Shot was brought to the guns, round by round, as needed, on commanders' instructions.

The Guns



The large-bore guns were situated on the gun decks on each side of the ship. The number of guns carried, or the number of decks defined ships' sizes. Big guns were fired through gun ports in the sides of the ship, closed by heavy, watertight doors, hinged at the top of the door.

Gun crews operating the guns consisted of 7 men for a 32-pounder gun and 6 for an 18 pounder. Each man was given a number related to the specific task when in action. The lower the number the higher the skill. When firing from one side only both gun crews were on that side.

The tools used by the gun crews were:

- 1) the sponge-a sponge on a pole.
- 2) The ram, (a rope coil) on the other end of the same pole.
- 3) The worm, a metal helical-headed pole.
- 4) The wad hook-a pole with a metal head like a corkscrew.

After firing the gun, it recoiled back according to and to the extent of the length of the rope fastened to the rear of the gun (A). The re-loading was carried out as follows. After every 3rd shot the worm was pushed down the full length of the barrel and twisted to remove all trace of material remaining from firing. The barrel was then cleaned out with the soaked sponge to ensure there was no burning residue. A cartridge was only then withdrawn from its box, inserted into the barrel, bottom first and seam up. It was then

rammed down hard, until the gun-captain, using the pricker, (see later), in the vent, was satisfied it was fully home.

This was followed by a wad and shot and a further wad, the ram being used between each item. The pricker (a wire) was then inserted in the vent to tear the cartridge wrapper and expose the powder. The vent was then filled with priming powder using a powder flask.

The gun was then ready to be aimed and fired. It was pulled forward to the open gun port using the pulleys and ropes (B), fastened to the gun carriage. A rough setting for the traverse was carried out using alternate pulleys. The final traverse setting was executed by levering the gun carriage with crowbars and handspikes. Elevation was by insertion or withdrawal of wedges between the rear of the barrel and the gun carriage (C). The gun would then be ready to fire.

The gun captain judged the time to fire, usually at the top of the roll of the ship, when movement ceases. Firing was by lighted slow match or gunlock (flintlock). The slow match was a length of cord soaked in saltpetre and dried, so that it would slowly burn away with a spark. It was kept in a container by the side of the gun. The smouldering slow match was blown on then placed near the vent to fire the gun. The match was not placed in the vent to prevent the explosion from extinguishing the match. To use the gunlock a long cord was fastened to the trigger to allow the gun captain to stand well clear of the recoil when firing.

The actions of the gun crew were laid down in great detail, even to the extent of where to place hands and feet when in action. Continued drilling enabled the gun to be reloaded in ninety seconds. If no firing took place after loading, the wads and cartridges were removed with the wad hooks.

When the guns were not in use, the guns' muzzles was sealed by a greased wooden tampon and the vent covered by a lead hood.

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**Comments on the U3A research project with the National Maritime
Museum**

My main problem with the above was with the time required to reach the museum from home. Total time taken was over 1 1/2 hours each way, and owing to health problems, this meant that my time available at the museum library was very restricted.

To find a relevant book by subject matter was almost impossible. However, the staff were most helpful. If you knew the title of the book, it was soon available if on site. I spent some time in the British Library where there was a huge selection available within one hour and the system was easier to use. The British Library is only one hour from home.

The visit to the model ship store was excellent and would have been of more use to me earlier in the process.

The following books were used to prepare my project-

Nelson's Navy ,by Brian Lavery

Guns ,by Dudley Rope

Exercise & Service of Great Guns & Shells on Board H.M. Ships ,dated 1864

I would also like to thank the author Mr Douglas Reeman, (Alexander Kent), & Mr. Richard Thomas an associate of the Waltham Abbey Powder Mill for their kind assistance in this work.