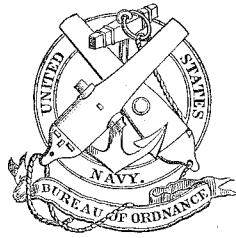


6.

REGULATIONS
FOR
POWDER MAGAZINES



AND
SHELL HOUSES.

1874.

*Library of
Hydrographic Office.*

NAVY DEPARTMENT,

January 1st, 1874.

The following Regulations are hereby established for the government of all persons connected with the service of Magazines and Shell Houses.

GEO. M. ROBESON,

Secretary of the Navy.

REGULATIONS
FOR
POWDER MAGAZINES
AND
SHELL HOUSES.

The officer in charge of magazines and shell houses shall have exclusive charge of all workmen, watchmen, and marines employed or stationed there. He will not absent himself from the grounds for a night without authority.

The keys of the magazines and shell houses must always be in the keeping of the officer in charge, and the buildings

must never be opened except in the presence of an officer.

The red flag must be hoisted and kept flying whenever a magazine is open.

No person whatever is to be allowed to enter the magazines, shell houses, or enclosures, without the authority of the officer in charge.

The magazines and shell houses must be opened and aired in clear, dry weather, and the ventilators kept free.

Trees and shrubs must not be allowed to grow so near as to shade the magazines from the sun. Grass must not be permitted to grow in the magazine yard, nor shall animals be permitted to enter it.

Neither loose powder nor open barrels

will be permitted to remain in a magazine, nor shall barrels, on any account, be opened in a magazine. Should a barrel-head start, the barrel must be immediately removed to the shifting-house, and the powder shifted into a serviceable barrel. Powder in magazines must be kept *only* in barrels.

Every spring an inspection of the barrels must be made, and the hoops swept with a brush, to remove the insects which deposit their eggs at this season.

The magazines and shell houses must be kept scrupulously clean in every part, and no debris of any kind, especially oil rags, cotton waste, oakum, or paint cloths is to be ever permitted in or near the buildings.

A small building, called the "Paint and

Tool House," at a proper distance from the magazines, shall be used for keeping paints, tools, &c.

Fire-plugs, fire-engines, hose, ladders, hooks, &c., must be kept in perfect repair and ready for use, and the men must be exercised with them once a week.

Where there are no fire-plugs, the cisterns must be kept full.

The lightning-conductors must be frequently examined and kept in order.

Magazines must never be open while there is thunder and lightning.

Smoking in magazine grounds shall be permitted only in the quarters.

Magazine dresses and shoes must always

be worn while working in magazines. The buildings are never to be entered without putting on the magazine shoes, which are never to be worn outside of the buildings.

Great care must be taken that persons entering a magazine have no iron, steel, or articles of a combustible nature about their persons.

Neither percussion caps, cartridges, nor any other article containing percussion matter, shall on any account be placed in a magazine.

Persons in charge of magazines and shell houses must know perfectly the arrangement of the powder and projectiles, so as to be able to find any kind at once in the darkest night, without lights.

Powder barrels should always be stowed on racks and chocked. Should there be no racks in a magazine, the barrels should be placed on their sides, with their marked ends towards the alleys, three tiers high, or four tiers, if necessary, with small skids on the floor and between the several tiers of barrels, using chocks at intervals on the lower skids to prevent the barrels from rolling. If it should be necessary to pile the barrels more than four tiers high, the upper tiers should be supported by a frame resting on the floor.

Each rack, or stack, must have a tally-board, showing the quantities and kinds of powder stowed in it.

Whenever practicable, the barrels should be arranged in double rows, with a pas-

sage-way between the rows so that the marks on each barrel may be seen at a glance, and any barrel easily reached.

Sufficient space must always be left between the barrels and the magazine walls to allow a free circulation of air, and to prevent injury from dampness.

Barrels must be carefully examined before putting them into the magazines to see that they are perfectly tight; that the hoops are not fastened with iron nails; that there is no iron or anything objectionable about the barrel. Should there be the least objection to a barrel the powder must be immediately shifted into a proper barrel.

Only wood or copper tools are to be used in any work connected with magazines.

In heading and unheading powder barrels a bare adze must never be used against a copper hoop. A wood setter must be applied.

The powder in barrels must be turned once in three months.

Powder in magazines must be kept in lots, and must also be classified as follows:

Class 1. New Powder.

Class 2. Powder returned from ships and other sources which has been found, after proof, to be up to the required standard for service.

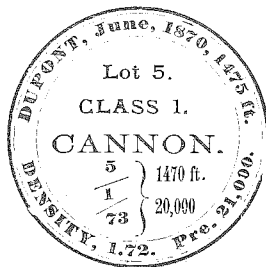
Class 3. Returned powder, fit only for filling projectiles. (Powder taken from projectiles shall be used again only for filling projectiles.)

Class 4. Returned powder fit only for saluting.

Class 5. Powder unfit for use.

The oldest serviceable powder must be issued first, except by special order to the contrary, and when issued to a vessel, should be selected as far as practicable from deliveries made by the same person, and at the same time or date.

Barrels must be marked on the head with maker's name, date of manufacture, initial velocity when manufactured, density, pressure, kind of powder, lot, class. Last initial velocity and pressure obtained, thus:



A careful and correct history of all powder on hand must be kept at the magazines in the prescribed books.

A correct history of all powder issued must accompany it.

In filling cartridges at least ten measures shall be weighed at each filling, and allowance made for different densities.

A regular daily entry must be kept of all receipts and issues of powder and projectiles, and the tally-boards must be altered to correspond.

A careful inventory of all stores on hand shall be taken, as a check, on the 30th of each June.

When powder is handled in magazines

or shifting houses, the baize cloths must be spread.

Powder barrels must never be opened except when required for use. Samples must be taken from the bung.

When powder is shifted from one barrel or tank to another, care must be taken to remove all old marks, and to mark the barrel correctly for its contents.

All powder emptied from bags must be sifted, if there are any signs of dust, before being put into barrels. Small lots of powder of same kind, and same maker, shall, as far as possible, be massed and well stirred, in lots of not less than five barrels each.

Powder barrels and tanks are on no account to be rolled, but carried.

When avoidable, powder is not to be moved in wet weather.

Before shipping powder by a vessel, the hold must be examined to see that all iron boltheads, &c., are covered with sheet-lead, leather, or old canvas; that the hold is clean swept and free from grit or dust.

Before shipping or landing powder, the wharf or landing place, the platform in the hold of the vessel, the gangways, and the combings of the hatchways must be covered with old canvas, and every care taken to prevent the barrels from coming in contact with sand or gravel.

A cushion (stuffed with oakum) covered with leather, is to be used for landing all powder barrels or tanks upon, whether in

the hold of a vessel or on a wharf, when loading or discharging powder.

No leaky or badly coopered barrel shall ever be put on board of a vessel.

No combustible material shall be shipped in a vessel conveying powder, except by special authority.

All vessels, boats, wagons, or carts carrying powder shall carry a red flag.

When powder is being conveyed in wagons, carts, or cars, the barrels or tanks must rest on old canvas.

Projectiles in boxes must be stowed in tiers, with thin battens of wood between the tiers, so that there may be free circulation of air.

Projectiles not in boxes shall be piled with their fuze holes down and clear.

Projectiles should be under cover, if possible. Those in the open air should be on platforms of iron, wood or masonry.

All projectiles must be kept free from rust, and shall be painted as follows: shot, black; shell, red; shrapnel, white. Covers of boxes containing projectiles must be painted the same color as their contents, and the length of the fuze of a loaded projectile must be stencilled in black on the box.

Each kind and size of projectiles must be stowed in separate tier or pile.

Each tier or pile of projectiles must have a tally-board, showing the size, kind, and number of projectiles stowed in it.

Projectiles not in boxes should be examined every June.

Empty shell and shrapnel must be closed tightly with a plug of soft wood, the end of which will be allowed to project sufficiently for the wrench to take hold.

Projectiles must never be emptied, filled, or fuzeed in the shell-house. This work must always be performed in the filling or shifting-house.

Before shells are filled, the interior must be carefully cleaned.

Shell powder only shall be used in filling projectiles, except in cases of emergency.

A funnel, the end of which passes below the screw thread in the tap, or bouching,

must always be used in filling a projectile, and only the prescribed charge of powder put in. The charge must be shaken down, and a light coat of oil put over the screw thread before screwing in the fuze. The fuze must be screwed in tight with a wrench, care being taken to have the proper leather washer under the head.

Projectiles must be fuzed as soon as filled.

No projectile shall be fuzed until it has been filled.

All 15-in. shell must have three fuze holes, and be fuzed with the navy $3\frac{1}{2}$'s, 5's, and 7's time fuzes. All other spherical shell shall be fuzed with the navy 5's time fuze.

Shrapnel shall be fuzed with the Bor-mann fuze.

The date when projectiles are filled and fuzed must be written legibly, signed with the initials of the officer superintending the operation, and pasted on the projectile.

Projectiles shall be filled *only* as required for ships fitting for sea.

Projectiles returned from cruising ships shall be emptied, cleaned, and plugged. All powder taken from projectiles must be sifted, and all dust and particles of dirt removed before putting it into barrels.

Before shipping projectiles, examine lashings and becketts of boxes, and see that they are in proper order.

In emptying projectiles, great care must be observed. Before attempting to remove the fuze, the projectile should be tapped lightly on the side with a wooden mallet, to shake off any grains of powder which may be about it. The fuze must be very carefully turned with the wrench, but not forced. If it does not yield at once to an ordinary effort, the projectile must be set aside for use in practice, or to be thrown overboard in deep water. When the fuze has been removed, the projectile will be inverted on a bench with a hole in it, and emptied into a vessel placed for that purpose. Should the powder have become caked, so as not to be easily removed, it shall be washed out. After being emptied, shells must be rinsed out with hot water and a handful of small iron shot, thor-

oughly dried and plugged before being put in store or piled.

Shrapnel plugs must be replaced as soon as the shrapnel have been emptied. Shrapnel do not require washing out.

FOR MAGAZINE OUTSIDE DOOR.

Keys to be kept by officer in charge.

To be opened only in presence of an officer.

Hoist red flag.

No admittance except by authority of officer in charge.

No grass to grow in yard.

No animals to enter yard.

Magazine not to be shaded by trees.

Examine lightning conductors.

Exercise fire apparatus once a week.

Never to be open while there is thunder and lightning.

Smoking permitted only in quarters.

Examine all barrels before putting in building, to see that there is no iron about them, and that they are correctly marked.

FOR MAGAZINE INNER DOOR.

Put on magazine dress and shoes before entering.

Never pass outer door with magazine shoes on.

Remove all iron, steel, and combustible matter from person.

FOR MAGAZINE.

No loose powder nor open barrel to remain in building.

Barrels and tanks never to be opened in building.

Inspect barrels and brush hoops every spring.

Keep building scrupulously clean.

Percussion matter never to be put in this building.

Store powder on racks or in stacks.

Tally-boards must always show quantities and kinds in tiers or stacks.

Never put barrels or tanks against wall.

Classify and issue powder as designated.

Mark barrels as directed.

Spread baize cloths before handling powder.

Never roll a barrel or tank.

Turn powder every third month.

Enter daily in ledger all receipts and issues.

Powder must not be moved in wet weather if avoidable.

Take inventory 30th of June.

FOR SHELL-HOUSE DOOR.

Keys to be kept by officer in charge.

No admittance except by authority of
officer in charge.

FOR SHIFTING OR FILLING HOUSE DOOR.

Keys to be kept by officer in charge.

No admittance except by authority of officer in charge.

**TO BE POSTED IN CONSPICUOUS
PLACES ABOUT GROUNDS.**

Smoking is positively prohibited in
these grounds.

FOR SHELL-HOUSE.

Keep building scrupulously clean.

Enter daily in ledger all receipts and issues.

Never fill, fuze, or empty a projectile in this building.

Projectiles in boxes must be stowed in tiers.

Projectiles not in boxes to be piled.

Tally-boards must always show number and kinds of projectiles in tiers or piles.

Projectiles in piles must have fuze-holes down and clear.

Paint shot, black ; shell, red ; shrapnel, white.

Paint covers of boxes same color as contents.

Loaded projectiles must have length of fuze stencilled in black on box.

Paste on loaded projectiles the date when loaded and fuzed.

Put only one kind and size of projectile in a tier or pile.

Examine projectiles not in boxes every June.

Put plug of soft wood in fuze-hole of all empty projectiles.

Fill projectiles only as needed for ships.

Examine lashings and beackets of boxes before shipping.

Take inventory 30th of June.

FOR SHIFTING AND FILLING HOUSE.

Keep building scrupulously clean.

Only wood and copper tools to be used in this building.

Never use a bare adze against a copper hoop.

Weigh ten measures at each filling.

Spread baize cloth before handling powder.

Before putting powder in a barrel or tank, remove all old marks.

Mark all barrels and tanks correctly for contents.

Clean interior of all projectiles before filling.

Use only shell-powder in filling projectiles.

Always use funnel in filling projectiles.

Never put more than prescribed charge in a projectile.

Shake projectile charge down.

Screw fuze in tight with wrench.

Be sure to put proper leather washers under head.

Fuze projectiles as soon as filled.

Never fuze a projectile unless it is filled.

XV-inch shell to have a 3½'s, 5's, and 7's fuze.

All other spherical shells to have a 5's fuze.

Shrapnel to have the Bormann fuze.

Tap projectiles lightly with wooden mallet before removing fuze.

Never force fuze, if it does not yield to an ordinary effort with the wrench, set projectile aside.

Empty projectiles through the hole in the bench.

Rinse out emptied shells with hot water and shot.

Replace shrapnel plugs as soon as shrapnell is empty.