Interpretation of the Main Magazine at Fort Nelson

and the Restoration of the Shifting Room / Laboratory

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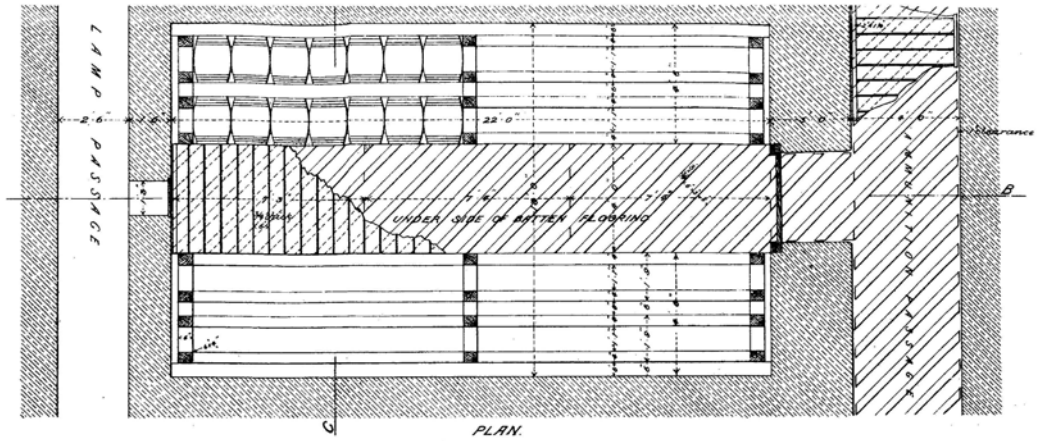

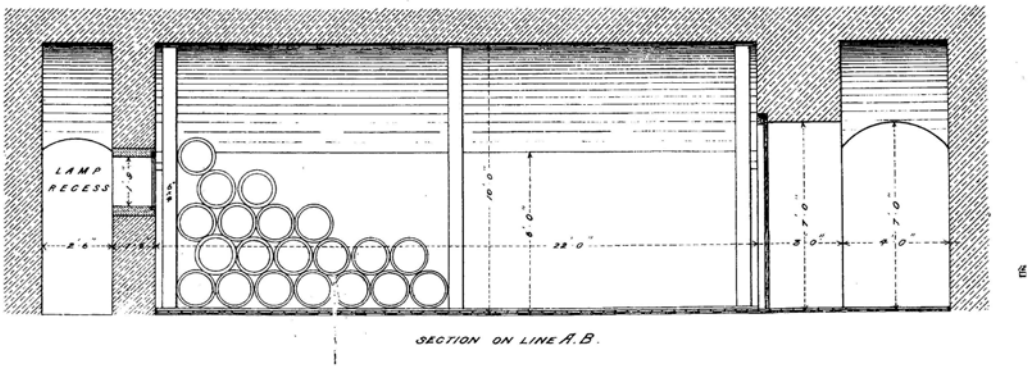

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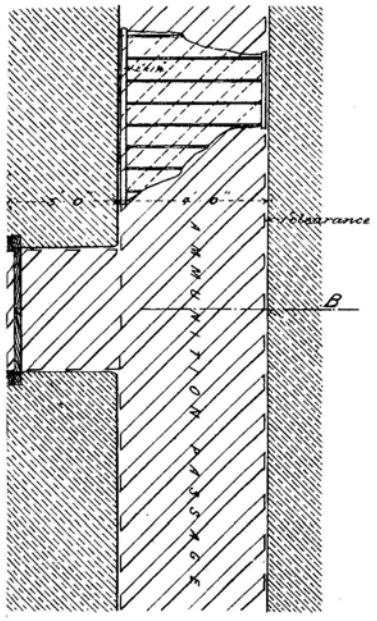
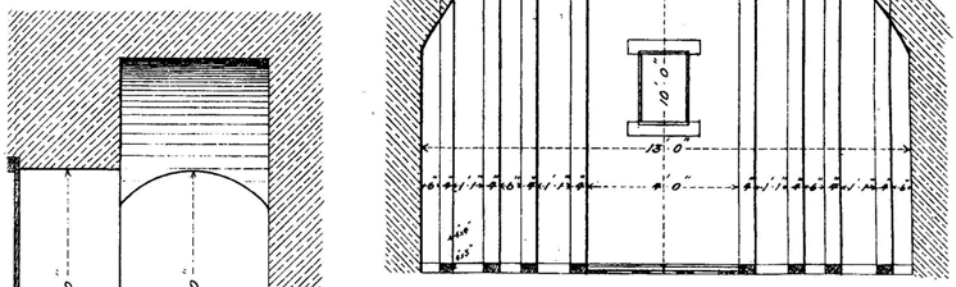
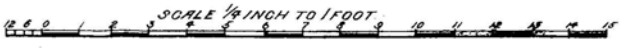
Plate XVII.



SMALL FORT MAGAZINE.

Shewing Skidding for Gunpowder Barrels or Metal Lined Cases, also Light Removable Batten Flooring.





Lewis: Permanent Fortification for English Engineers 1890

Main Magazines at Fort Nelson

General Layout
The main magazine area is located under the parade ground and is reached via a tunnel running northwards from the barrack block. The two magazine chambers are on the west of the main magazine corridor whilst on the east side are two small rooms labelled as “shifting room” and “examining room” on the original 1860’s plans. The two main powder magazine chambers and a smaller central chamber were all entered from a central lobby. The powder magazine was built to hold 2,400 barrels of powder with 100 pounds of powder in each barrel.

The original Layout. (stage 1)
The two main magazine chambers are entered through a central lobby.

There are indications in the vaulting of the roof where both magazine chambers were sectioned off into two bays each side. The partitions consisted of five wooden uprights let into the floor and ceiling forming a frame. These were covered with battens. A cross section dated 1871 with 1893 modifications shows these posts and also indicates that the southern section of the powder magazine had a floor which was lower than the rest of the magazine. The original floors were wooden and were replaced by the present concrete floor in 1893. The room between the two main chambers was part of the powder store and had a smaller section of skidding with three uprights.

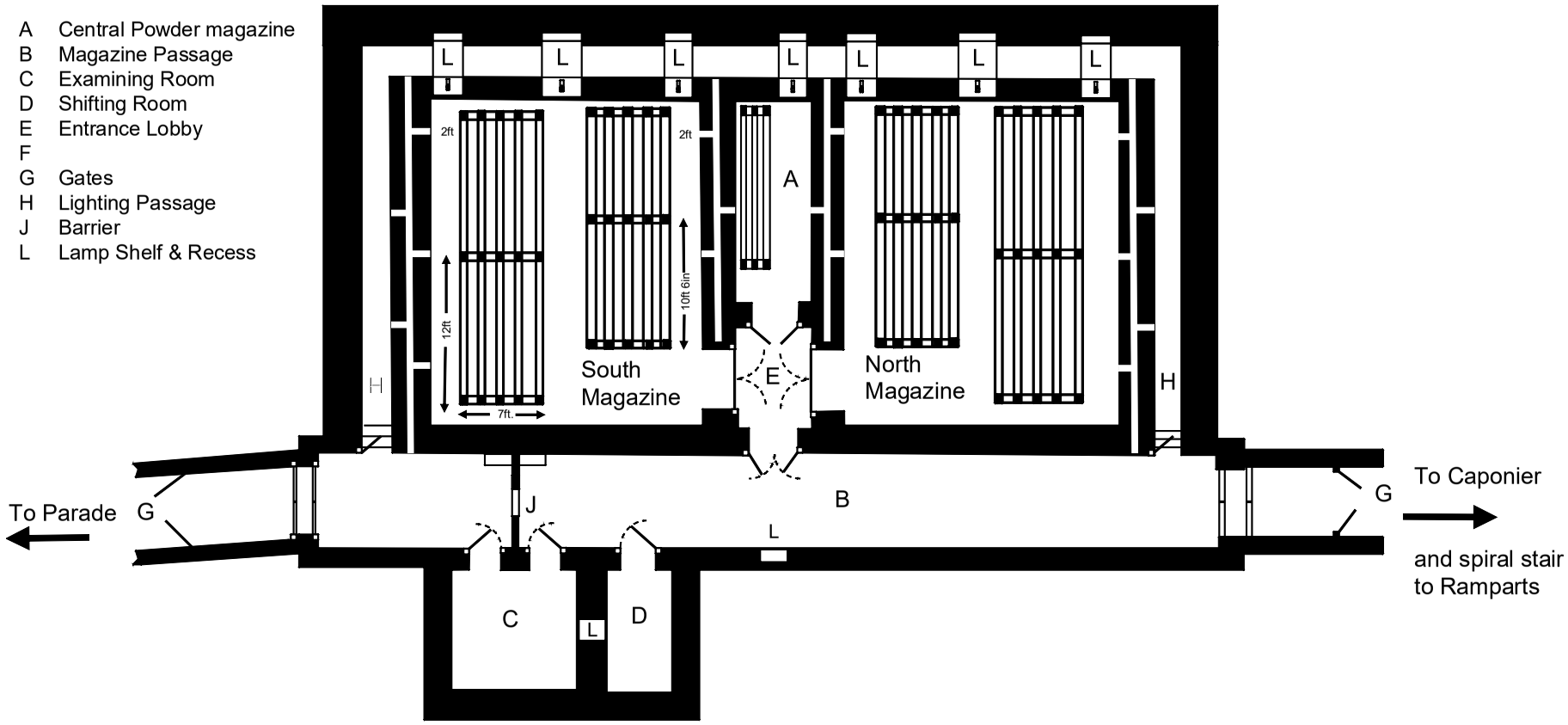
Running around the outside of these chambers is the lighting passage. This also gives access to the vents built into the walls which were used to keep the magazines cool and dry. Regulations stated the conditions under which the vents were to be opened or closed. The original entrances to the shell store and powder magazine were through the central lobby. The position of the doors and the direction in which they opened can be determined from an examination of the bricked up doorways. The width of the arches on the lobby side are a full foot greater than those in the magazine chambers. (The arches to the later doorways are identical in this respect leading to the conclusion that the original door frames and arches were used for the later door ways). This confirms that the door frames were on the lobby side and that the doors would have opened out onto the lobby. This would have made it difficult to open all the doors together as they would have snagged each other. A lamp recess opposite the entrance would have been of little use in illuminating this lobby as anyone entering the lobby would have eclipsed it. There seems to be no built in way of lighting the lobby. The outer doors would have to be closed before the inner doors were opened. The lobby would have been in darkness unless portable magazine lamps were employed or the doors left open to allow the lamp recess in the main corridor to light it.

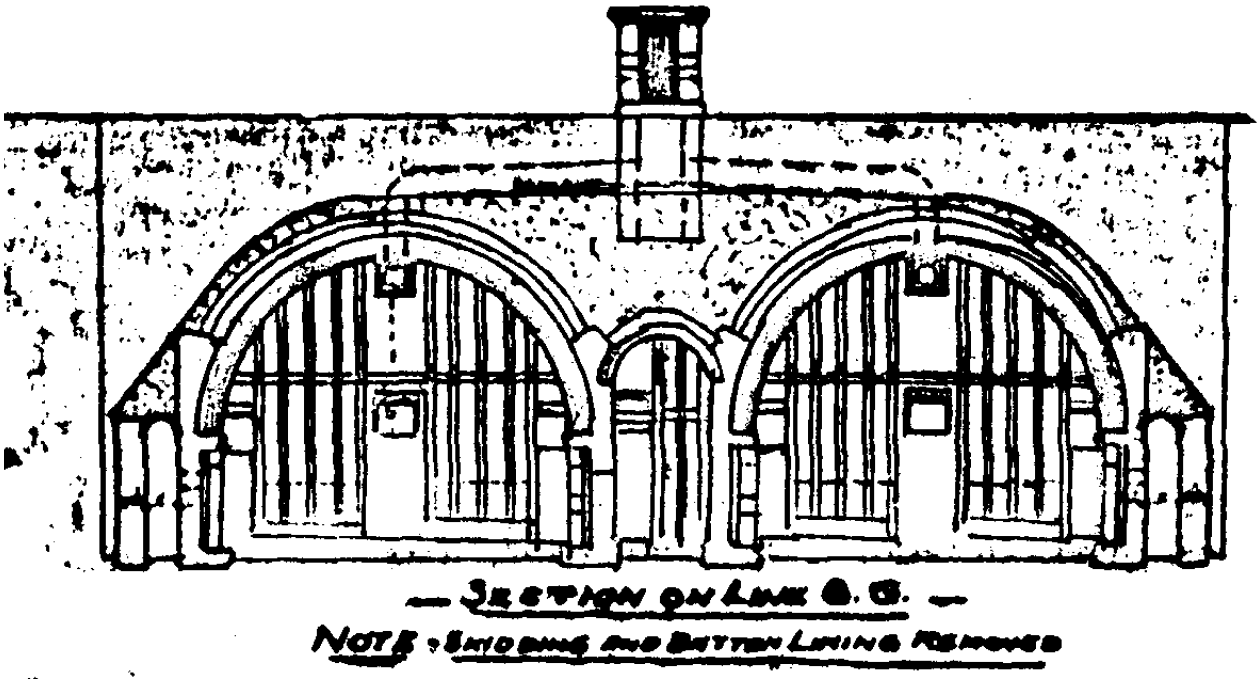
Leading off from this lobby was the central, smaller magazine chamber, the function of which is not known for sure but the presence of skidding would indicate that it was also used to store powder barrels, perhaps half barrels. The original plans show a door from this central chamber into the lighting passage and the intention may have been to use this room as a lamp room, the door making access to the lighting passage easier. The lampman would not have then had to carry the lamps along the narrow side passages. It is not certain if this doorway was ever constructed as an examination of the wall shows no sign of a doorway due to later alteration. The lamp recess was originally to the north half of the room and not in the centre as at present. This is verified by the presence of the original brick arch and an inlet and outlet vent built into the wall, which are still visible from the lighting passage. This was necessary as the skidding occupied the left side of the room. In order to construct the later, smaller and central lamp recess it was necessary to rebuild the whole wall as far up as the arch for the original lamp recess.

On the east side of the main magazine corridor are the two smaller rooms which served as the examining room and the shifting room. A lamp recess connecting the two allowed a lamp to be inserted from the shifting room side so that it shone into the examining room. It would also have

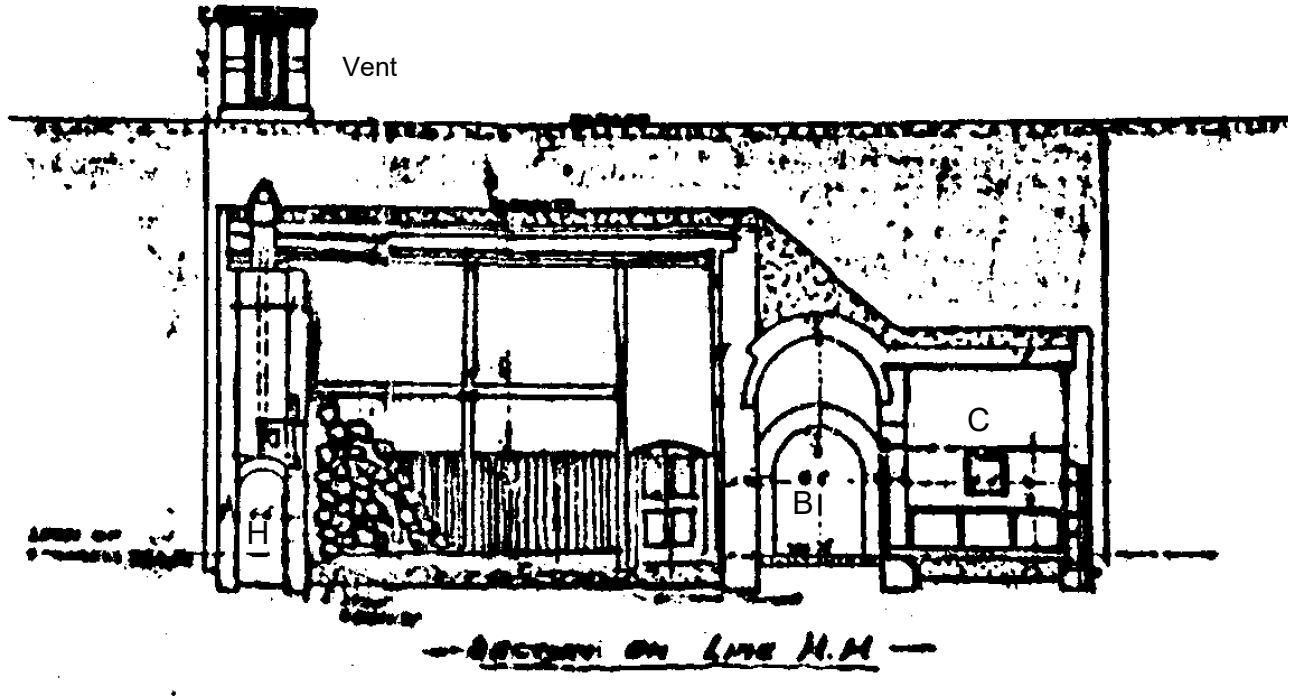
Fort Nelson Main Magazine
Stage 1 Layout

A Central Powder magazine
B Magazine Passage
C Examining Room
D Shifting Room
E Entrance Lobby
F
G Gates
H Lighting Passage
J Barrier
L Lamp Shelf & Recess





Fort Nelson
Transverse Section of Main Magazine 1893



Fort Nelson
Cross Section of Main Magazine 1893

illuminated the shifting room. This lamp recess was provided with a vent through the length of the partition wall to the main central corridor.

Whilst the original plans show the designation of the two smaller rooms as Shifting Room and Examining Room, later modifications to the magazine complex would may have altered their use, particularly when powder was no longer stored in barrels.

The original magazine layout gives no indication as to the location of a “Shifting Lobby” but in the floor of the main magazine corridor can be seen two marks where the uprights for a barrier were fitted. This barrier must therefore have been in place when the concrete floor was laid.

On the wall to the west is a wood block to take the peg board for hanging uniforms and magazine clothing.

The Shifting Room would need to be under magazine conditions, as would the powder magazine, that is they would need to be entered through a magazine Shifting Lobby.

The sequence of events when the magazines were stocked with powder barrels from the area magazine at Priddy's Hard was as follows:

Upon arrival the barrels would have been inspected in the examining room. All barrels that were damaged or suspect would be put into the shifting room. The rest would have been transferred into the main magazine chambers. In the shifting room the powder would be transferred to a new barrel.

The first alterations. (stage 2) 1893
An RA & RE Armament Return of 1891 states that Fort Nelson's Main Magazine (Cartridge Store) had a capacity of 4000 rounds but the content at that time was nil, whilst the Main Shell Store had a capacity of 26ft by 22ft but held nil shells at that time.

The expense magazines on the ramparts however held fifty rounds of shells and cartridges per gun. This suggests that the main magazines had not yet been altered to take the new style of storing ammunition as made up rounds in metal lined cases. One report suggests that there were problems with most magazines due to dampness and this was still to be resolved in the Portsdown forts.

The 1893 plans of Fort Nelson indicate the storage capacity of the main magazine, previously 2,450 barrels, to be 450 cases (metal lined cases to contain cartridges) in the cartridge store, 2000 shells, various, in the shell store. The metal lined case for the 7-inch RBL held 8 rounds of 10lb charge whilst that for the 64pdr RML held 14 rounds of 8¼ lb charge..

A report entitled *Prècis of Correspondence relating to the Defences of Portsmouth and the IOW prior to January 1893* states :

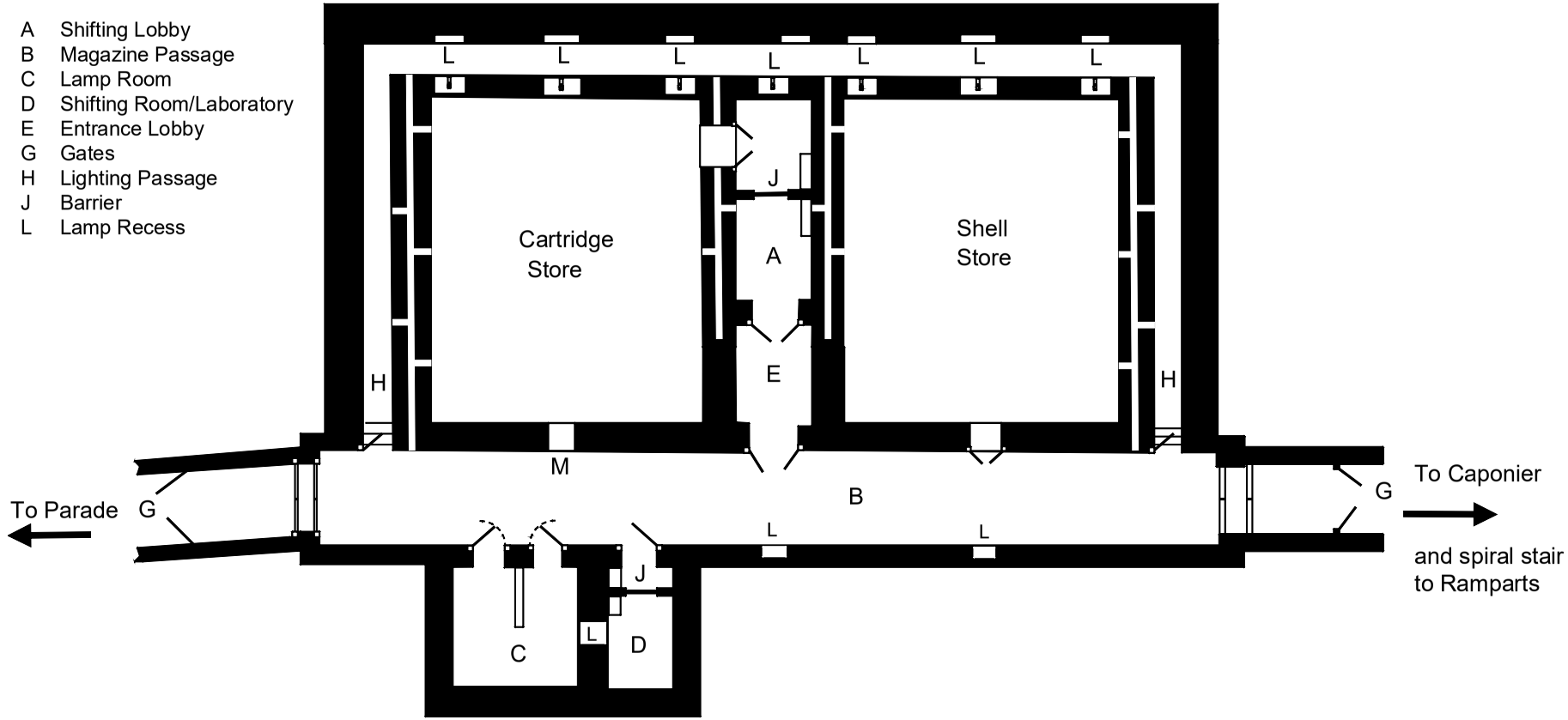
> *Secretary of State for War agreed to a discussion of Inspector General of Fortification's statement of services necessary for the defences of Portsmouth, Plymouth and the Thames, as soon as the Cabinet had decided what money could be voted.*
> *The Inspector General of Fortifications latest statement, which appears to have been submitted also to the consultative Committee in August 1887 for Portsmouth , stood thus ....*
>
> *Portsdown Forts.... £13,250 .... Mount armament and complete ammunition service.*

This was known as the 'Imperial Defence Loan' and it paid for the new concrete gun emplacements on the ramparts, the modifications to the expense magazines and the changing of the main magazine from two powder stores to Main Cartridge Store and Main Shell Store.

By 1893 the entrances to the powder magazine and the shell store from the central lobby were blocked off. The central smaller powder chamber was converted to the shifting lobby. This is indicated by the presence of two square holes in the floor where the uprights of the barrier stood and two wooden boards for pegs on the wall,

Fort Nelson Main Magazine
Stage 2 Layout 1893

A Shifting Lobby
B Magazine Passage
C Lamp Room
D Shifting Room/Laboratory
E Entrance Lobby
G Gates
H Lighting Passage
J Barrier
L Lamp Recess



one either side of the barrier. This shifting lobby served the Main Cartridge Store only. The shifting room had its own barrier so that the area immediately inside acted as a shifting lobby. This shows that it was still in use for magazine duties, possibly as a laboratory. The examining room would not have needed a shifting lobby. The holes for the barriers in the floor of the shifting lobby and the shifting room indicate that the concrete flooring throughout the whole magazine dates from this first alteration. Plans of Fort Wallington showing the 1893 alterations confirm that this is the most likely date for the alterations at all of the forts along Portsdown Hill. The replacement of the original wooden floor with a concrete one is indicated on a cross section of Fort Wallington's magazines.

The wood skidding to hold the barrels was removed at this time. There are no marks in the concrete floor where the uprights would have been, confirming that the floor was not laid around the uprights. The brick vaulting was repaired where the uprights were let into it.

A note beneath a cross sectional drawing of Fort Nelson's main magazine, dated 1893, states *"Skidding and Batten Lining Removed"*

In the Main Cartridge Store the cartridges were stored in metal lined cases stacked on the batten flooring.

An issue hatch was driven through the wall from the Main Cartridge Store to the central passage to facilitate the issuing of cartridges, still in their metal lined cases, for transport up to the ramparts where they were placed in expense magazines.

The shell store did not need to be under magazine conditions and its new entrance was directly from the central passage. The shells were not stored as filled shells. This conformed to regulations for coast batteries issued in 1860 which must have also been applied to land forts. They recommended that as a general rule shells should not be kept in store loaded. They would have been filled in bomb-proof shell filling rooms nearer to the guns. Such rooms are indicated on the original plans between the gun emplacements on the ramparts. Expense Magazines 3, and 8 were so designated. Where it was not practical to place the shell filling rooms near to the main magazine, small expense magazines to hold three cases per gun were also to be provided either in the traverses or in the rear of the parapet. Expense Magazines 2, 5, 7, and 10 served in this capacity, whilst numbers 4 and 9 served as fuse fixing rooms. This was to be done as close to the guns as possible.

In 1893 the terrepleins of each of the Portsdown forts was altered to accommodate the new updated armament and the use of the Expenses Magazines was changed at that time to Expense Cartridge Stores and Expenses Shell Stores.. This left Fort Nelson with no fuze fixing or shell filling rooms on the main ramparts. It is known that the magazines at Fort Wallington were altered at this date to provide a more efficient shifting lobby. Wallington's magazines were also re-allocated, the east chamber for the storage of shell, the west for the storage of cartridge. At Fort Nelson the South powder store became the Main Cartridge Store in 1893. The doors and frames of the shell store and powder magazine and those of the lobby are of an identical pattern and size. The hinges and fittings appear to be Victorian and are similar to others found on the Hilsea Lines. It is probable that the door frames and doors were retained from the original magazine doorways and used in the newly made doorways. It is possible however that all the doors were renewed at this date so explaining why they are mostly of the same design and pattern. At this time the lamp recesses were also altered. The original lamp recess opposite the central lobby to the magazine and shell store is early in pattern. It has an air inlet below and an outlet above. It also had a frame set into the wall to take a glazed door. It was clearly designed for an early pattern candle lamp, hence the vents. A similar lamp recess with its original frame can be found opposite the expense magazine in the tunnel to the West Mortar Battery. The lamp recess opposite the later entrance to the shell store has no such details. No frame is evident and it is lined with cement. This was most likely because

it was designed for a later more efficient magazine wall lamp. The lamp recesses in the shell store and the powder magazine have also been altered in this way. The original ones were much larger. Their size can be ascertained by a close look at the brick work. The central recess in each room was a full 1 metre in width whilst the smaller ones were 70 centimetres. All have vents issuing into the lighting passage. The inlets underneath were removed when the lamp recesses were re-modelled at the first alteration. Opposite each lamp recess in the wall of the lighting passage is a recess into which the end of a shelf was fitted. This stone shelf allowed the heavy lamps to be more easily serviced by the lampman. They were high enough to allow him to walk under them with ease. He would require a set of steps to reach them. The recesses had doors in the lighting passage side so that the lamps were completely enclosed inside them, hence the need for the air vents. The lamps would have also illuminated the lighting passage. The lamps themselves were candle lamps, as recommended by the 1860 Committee, because they needed no trimming. They were for large candles an inch in diameter, with three wicks. Great care was taken to ensure that the candles were of different lengths so that they did not all burn down and go out at the same time plunging the magazine into darkness. These large lamps were placed into the recesses so that they shone through a thick plate glass window separating the recess from the magazine chamber. The magazine side of the glass was covered with a heavy protective copper mesh.

The later recesses are smaller, all of them being 46 centimetres in width, probably because they were for lighter, more efficient magazine wall lamps. The recess in the central room, which later served as the shifting lobby, was rebuilt in the centre of the chamber All of these recesses resemble recesses found in Browndown Battery, Number Two Battery and Gilkicker which date from the 1880 to 1900 modifications. It is probable that the light recess shelves and doors into the lighting passage were removed at this stage leaving the lamps open to the air on the lighting passage side. The new recesses have no air vents.

Some of the alterations may have been carried out when the magazine regulations came into force, for the original magazine layout does not conform to the required safety regulations. The 1869 Committee was very concerned about the magazine arrangements in the forts under construction and additional funds were urged and eventually voted in 1888 under the Imperial Defence Loan, and the magazines of every work were either built to or altered to the desired standard.

Alterations to the examining room probably date from this period. Some early plans show one central doorway but now there are two. There are signs that the room had a barrier or partition part way across the room. The room may have been divided into two separate rooms or simply one room with an entrance and an exit. It has two wooden shelves supported by metal brackets running around three sides of the room.

The shifting room was fitted with its own shifting lobby suggesting that it was used as a filled cartridge store (unlikely) or as a cartridge and shell filling room. As the opening lamp recess is on the shifting room side this suggests the latter as it would not be possible to carry a lighted lamp through a filled cartridge store. If used as a filling room (laboratory) it would not be in use when the lamp was inserted.

A similar room in the same location at Fort Southwick was used as a lamp room and has rows of numbered hooks for hanging the lamps. Another room in a similar location at Fort Widley was also used as a lamp room.

The final alterations. (stage 3) 1938/39

In 1938 Fort Nelson was altered for use as an area magazine. Ten shell storage sheds were constructed on the parade of the fort and a new gateway driven through the west gorge wall of the fort to allow lorries to enter. At this time it has been suggested that the old Victorian magazine served as a shell store for Bofors shells.

It has been suggested that the later WWII use of the Examining Room was as a store for fuses for the Bofors shells. The shelves

in the room may date from this period as they have metal brackets not allowed in Victorian magazines.

At some time the door for the shifting room was replaced. The present doors are of the same pattern as the other two single skinned doors to the Examining Room but are double leaf. The original door was a single leaf door opening northwards. The fastening hook is set into the wall 80cms. away from the door post, not close enough for fastening back the existing door. A search both in the Public Records Office Kew and at Fortress House have not revealed any detailled plans showing the magazine area and the date of these alterations cannot be verified accurately.

Ammunition Hoist

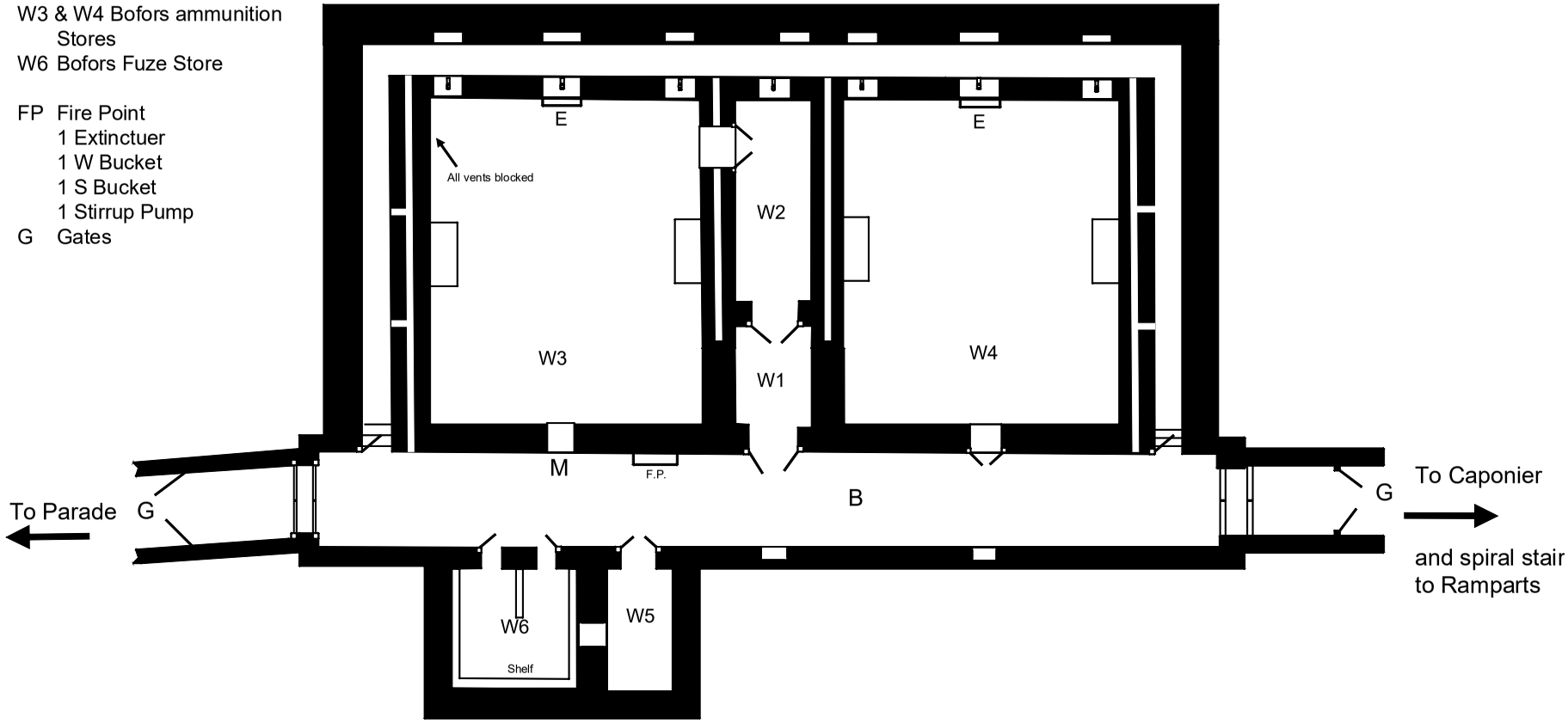
Ammunition was stored in the main magazines during peacetime. When needed it would be issued from the main magazines to be stored in the expense magazines. The route used would be along the magazine passage and down the main tunnel towards the North caponier. Part way along is a spiral stair to the parade. Ammunition would be raised to the parade by the ammunition hoist located in the centre of the spiral staircase. A winch with ammunition cage was provided for this purpose. Both the winch and the ammunition cage have survived at Fort Nelson but the wooden barrier posts and platform have not. At Fort Purbrook both the ammunition cage and winch have survived whist at Fort Southwick the barrier posts have survived as well. Only the winch remains at Fort Widley. At Fort Nelson the spiral stair was constructed of sandstone and the first few steps are badly damaged due to expansion of the metal work of the iron handrail resulting in the spiral stair being unsafe for visitor use. It is desirable to place a grill door across the entrance to the spiral stair to prevent visitor access. This would allow the winch and ammunition cage to be conserved and the woodwork replaced to allow interpretation.

Restored Cartridge Store at Tilbury Fort showing the racking

Fort Nelson Main Magazine
Stage 3 Layout 1938

B Magazine Passage
W1 & W2 Entrance
W3 & W4 Bofors ammunition Stores
W6 Bofors Fuze Store

FP Fire Point
1 Extinctuer
1 W Bucket
1 S Bucket
1 Stirrup Pump
G Gates



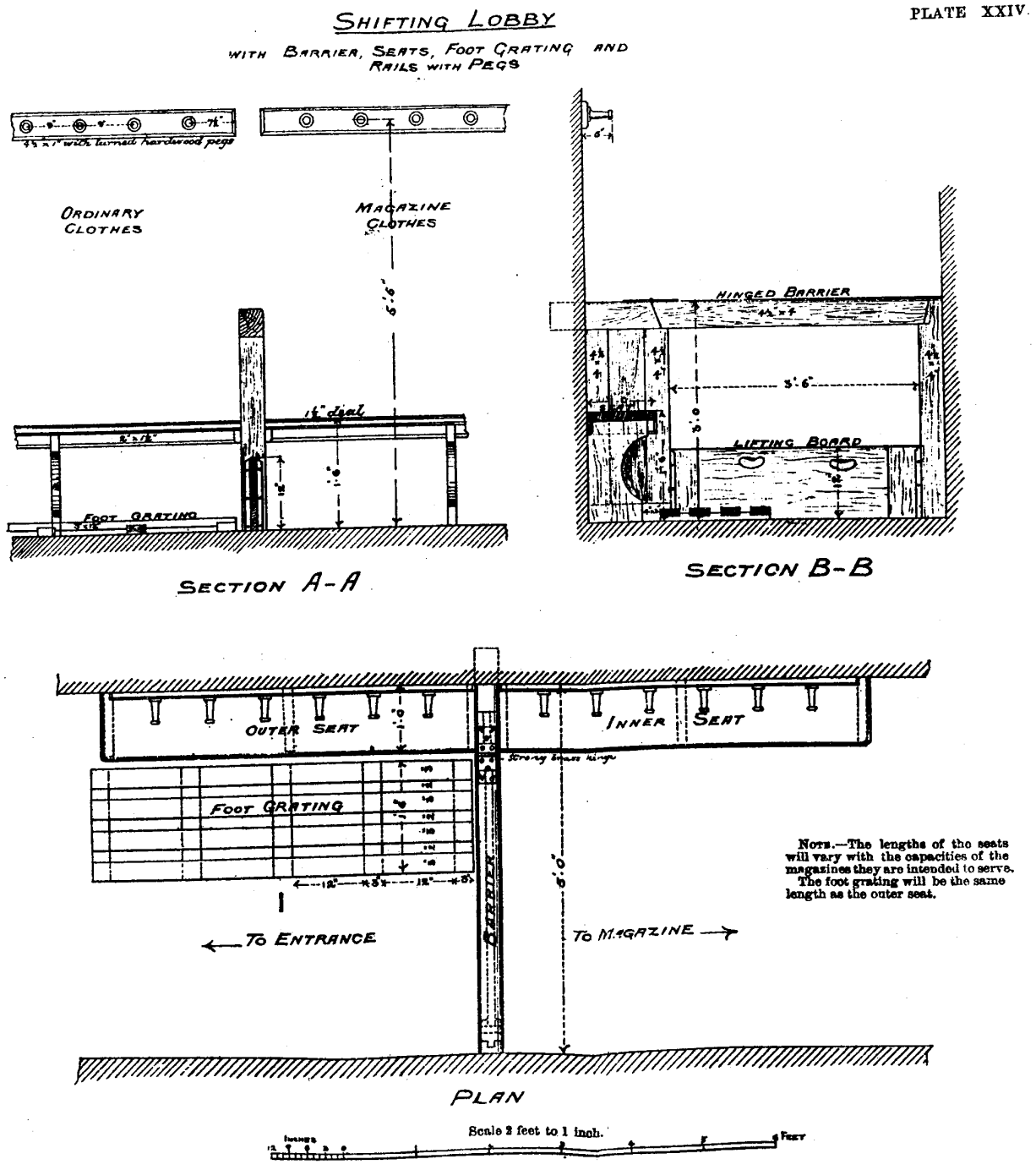
Proposed Restoration Of The Shifting Room At Fort Nelson

The Palmerston Forts Society proposes to reinstate the shifting room to the 1893 period in order to interpret it to the public. The choice of this period corresponds to restoration already carried out by the society to the shifting lobby of the main magazine, the expense cartridge store and expense shell store on the main ramparts and the two restored gun positions containing the 64pr R.M.L. and the 7-inch R.B.L.

Restoration of this shifting room to a shell/cartridge filling room would allow exhibits to be placed on display in a secure setting, which is not possible at present anywhere in the main magazine due to open access for visitors. On special occasions when the magazines are interpreted by the Society, visitors are taken down to the magazine on tours. For this purpose the shifting lobby is laid out as it would have been in the 1893 period, complete with mat, box rack, floor grating regulations notices etc. It is not possible to leave these out at other times for security and safety reasons. Restoring the shifting room will allow these fittings and objects to be left in place behind a security grill.

Shifting Lobby in Id Needles Battery I.O.W.

Shifting Lobby at Fort Nelson



Shifting Lobby from Lewis - *Permanent Fortification for English Engineers*

The presence of the shifting barrier in the shifting room denotes that the room may have still been in use as a shifting room, but for cartridges in Metal Lined Cases rather that barrels of powder. This duty was later carried out in a laboratory. It may have also served as a shell and cartridge filling room or laboratory as an interim measure prior to the construction of the new one at the west end of the fort.

In 1888 a return from the RA and RE Works Committee showing requirements at all stations called for by a War Office Memorandum stated that at Fort Nelson one shell filling room was needed.[1]

In 1891 another report from the Committee stated that, regarding laboratories and shell emptying rooms

1. *The same room may be utilised at different times either for filling cartridges or shell but the two operations must not be carried on simultaneously under the same roof.*
2. *The outer cartridge or outer shell filling rooms must be under magazine conditions.*
3. *Shell emptying must be carried out in a building under magazine conditions.*[2]

In February 1892 the Committee reported

As it is now decided that the same room may be utilised at different times for filling cartridges or shell the Committee consider that in many stations a cartridge or shell filling room with an outer room both under magazine requirements will meet the requirements. .....
They recommend that such a building be called a Laboratory.

Shifting Lobby

The Shifting Room was provided with a shifting lobby with barrier, pegs and seats. A removable board is slotted into the space between the uprights of the barrier in such a way that it is necessary for the magazine number to step over it. Making sure that the outer door to the room is closed the magazine number enters the lobby and wipes his boots on the mat. The barrier should be down and the board in place. He takes off his boots and places them underneath the bench on the dirty side of the barrier. Officer's shoes are placed on a box rack. He removes his uniform and hangs it on the peg opposite the seat. He then lifts the barrier and passes over the board in his under clothes and socks, lowering the barrier behind him. He takes a magazine uniform from the inner peg and puts it on. He puts on the magazine galoshes.

On leaving the clean area the routine is reversed. The board remains in place to prevent loose grains of powder transferring to the dirty side of the barrier and grit blowing into the clean side when the outer door is opened. It can be removed to clean the lobby. A foot grating of 3-inch battens is placed on the dirty side of the barrier in front of the seat.

Main Chamber

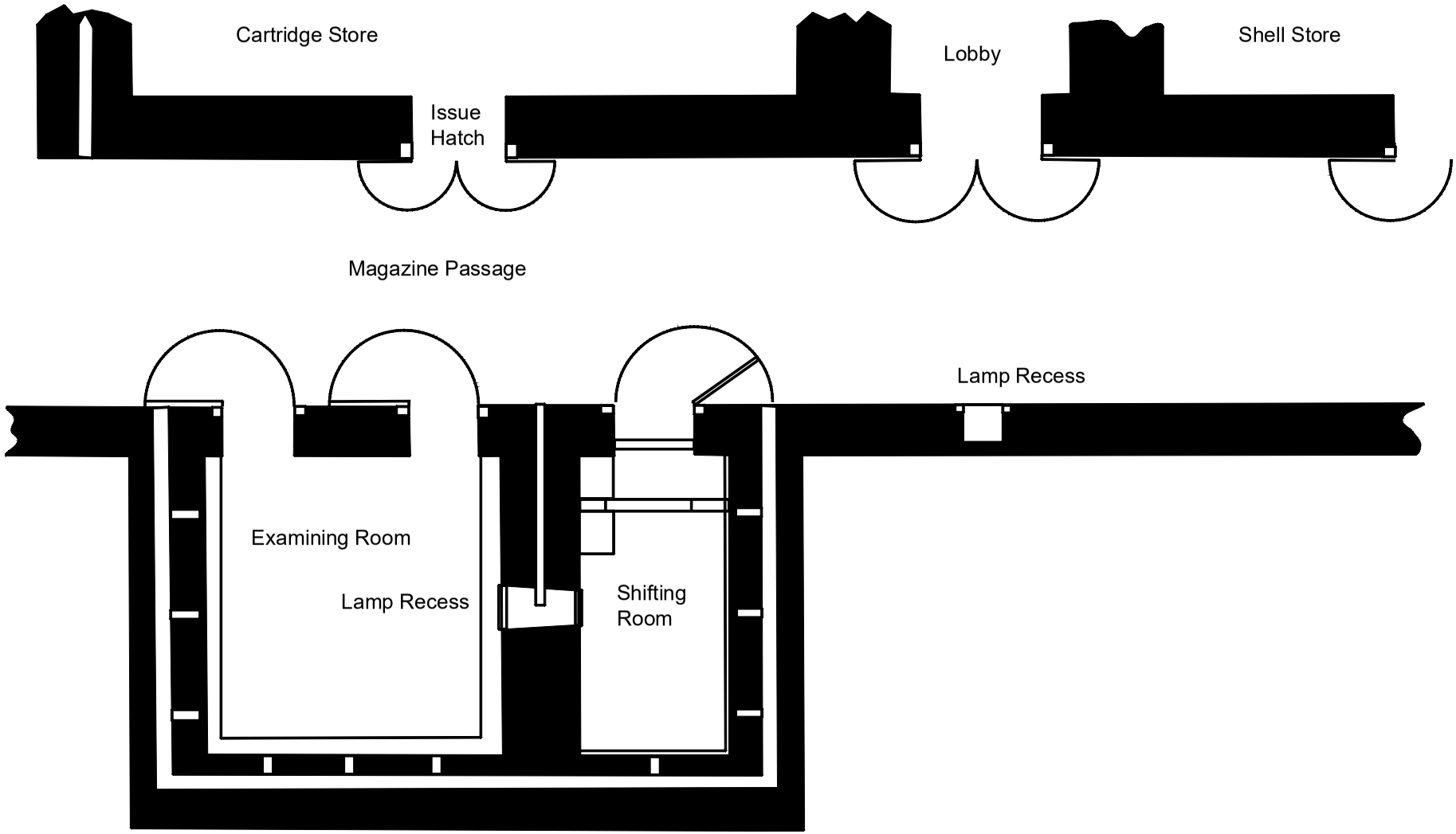
The floor would have been liable to damp and would therefore have had batten flooring. If the room served as a shell filling or fuze fixing room it would have been provided with a table or bench and the necessary tools. We intend to put batten flooring down in two lengths.

Lighting

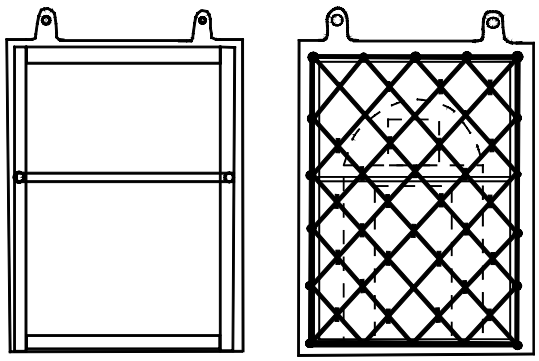
The shifting room and examining Room were both lit with a single bothways pattern lamp in a lamp recess connecting the two chambers. The recess had two frames of plate glass held by a brass frame in India rubber seals. The outer frame of the lamp recess in the shifting room was a hinged opening one. It was fitted with a lock with a *railway door* key. The inner frame in the examining room was of the fixed type. The inner frame had a ⅛ inch brass wire screen to prevent breakage of the glass. The recess had a vent for hot air and cold air inlets from the main magazine passage.

Batten flooring

Shells and cartridge cases were to be stood on lengths of batten flooring. These were made of such a size that a clearance from the walls of the magazine all round of 1-inch was allowed. The Inspector General of Fortifications Circular of 24th. January 1888 declared that batten flooring was not to be used in chambers and passages where cartridges only were stored, unless the floors were of cork covered asphalt. (Or damp conditions were prevalent, as at Nelson) The *strong* type of batten flooring


Cartridge Store
Issue
Hatch
Lobby
Shell Store
Magazine Passage
Lamp Recess
Examining Room
Lamp Recess
Shifting
Room

consisted of battens 3 inches wide and 1 ⅞ inch deep, with intervals of ⅜ inch between each. The ends are screwed to pieces 4 inches by ⅞ inches, with 1 ¾ inch brass screws, and a riband 2 inches by 1 ¾ inches is fixed on the side next to the wall. The underside of the batten should be tarred, to preserve them from damp. The batten flooring should be taken up and removed for airing when necessary. An example has already been made for the expense shell store and expense cartridge store previously restored by the PFS at Fort Nelson.



Fixed Lamp Frame

References

1. WO396/4 RA and RE Works Committee : Laboratories and shell/cartridge filling rooms for forts.
   Return showing the requirements at all stations called for by War Office memorandum.
2. WO396/5 RA and RE Works Committee report No. 133
   Laboratories and Shell Emptying Rooms

Sources

Permanent Fortification for English Engineers : Lewis

Précis of Correspondence relating to the Defences of Portsmouth and the IOW prior to January 18933.

1891 *RA & RE Armament Report* Portsmouth District

Requirements

Doors

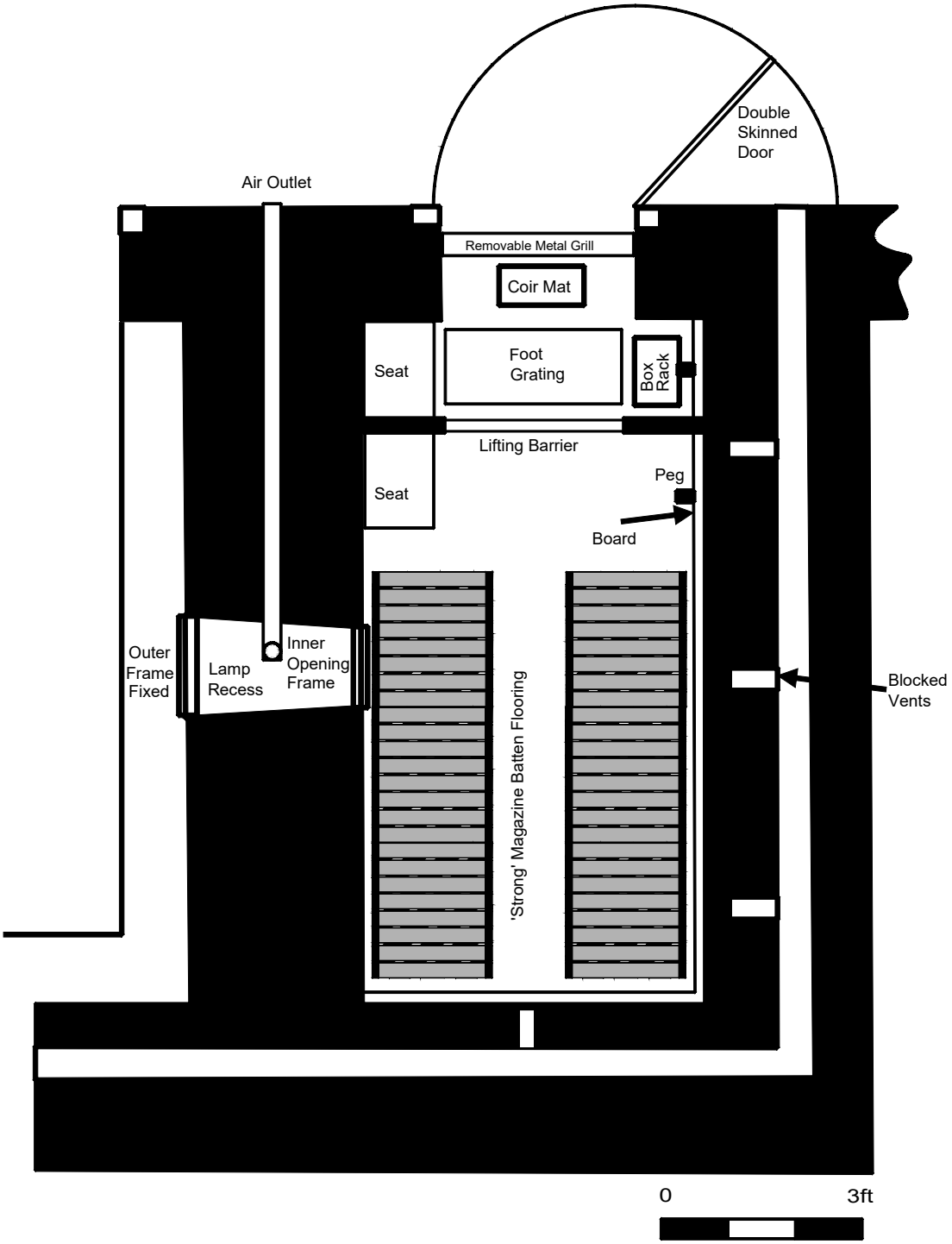
1. Fabricate a new double skinned single leaf door and frame using the existing examples at Fort Nelson as a pattern.
2. Fit a removable inner metal grill door using a wedged wood frame fixed in 4"x2" uprights allowing the door to be secured by a locks when the room is not in use but removed completely when the room is in use for interpretation on P.A.V. event/gun firing days. The design and specification for this door to be agreed with H.C.C Achitects' Department.

Replica Fixed Lamp Frame : Main Magazine, Fort Nelson

Shifting Lobby

3. Fabricate a shifting barrier using the

Restoration of Former Shifting Room to
Shell & Cartridge Filling Room/Laboratory



same specifications as the one already constructed in the main magazine shifting lobby and in the expense cartridge store on the main rampart. Fit into existing holes in concrete floor. Use hinge from PFS stock previously purchased for this purpose.

4. Fit a 1ft x 22" seat on either side of the barrier. Fix to barrier and existing wall plugs.
5. Replace the 7" wood batten around two sides of the walls extending either side of the barrier using the existing pattern in the cartridge store on the upper floor of the barrack block. Fix to existing wood blocks between bricks.
6. Fit one wood peg into the wood batten either side of the barrier opposite each seat.
7. Fabricate a box rack (for Officer's overshoes) using the one already constructed for the main magazine shifting lobby as a pattern.
8. Fabricate the barrier dust board using the previously constructed ones as a pattern.
9. Fabricate a foot grating of 3-inch battens 3ft x 1½ft using the previously fabricated ones as a pattern. Details in *Lewis.*
10. Supply a coir mat, purchased locally.

Shell/Cartridge Filling Room

11. Fabricate two lengths of batten flooring 6ft x 2ft to fit the inner chamber using specifications as for the previously constructed examples in the expense magazine on the ramparts. Details from *Lewis* in accompanying drawing.

Lamp Recess

12 Fabricate 2 x Replica lamp recess frames in brass and copper, one opening with railway type lock (on the shifting room side of the recess), the other fixed, as in examples at Fort Nelson. Specifications from 1913 Fort Pattern Book •

13 Supply 1 x Both Ways Lantern as in plans held in PFS archives. From existing Stock.

Removable Fitings

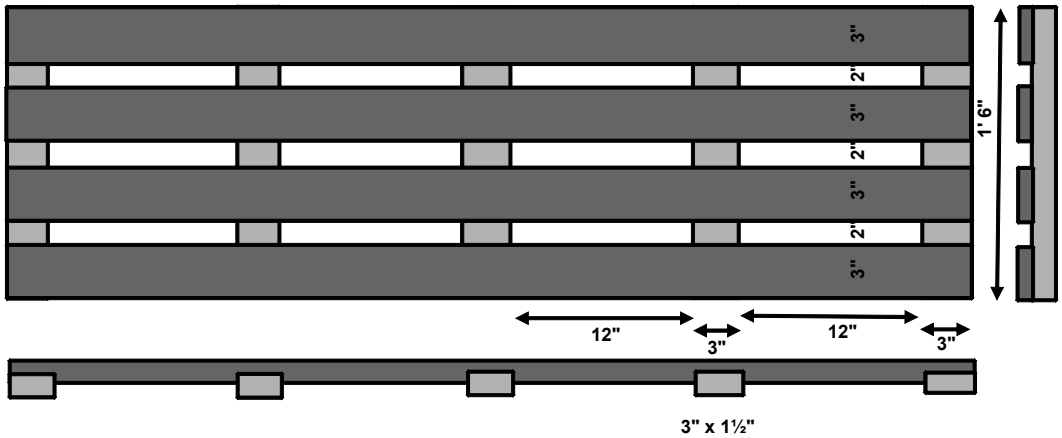
14. Supply removable fittings as necessary for interpretation purposes such as regulation boards,
laboratory tools,
metal lined cases,
fabricated shells etc.
These can be supplied from existing PFS stocks and added to as necessary.

Ammunition Hoist

15. Conserve the ironwork of the ammunition winch and its cage.
16. Replace the two wood barrier posts.
17. Replace the two wood floor inserts to act as a platform for the ammunition cage to rest on.
18. Fit a removable metal grill door using a wedged wood frame fixed in 4"x2" uprights allowing the door to be secured by a locks. The design and specification for this door to be agreed with H.C.C Achitects' Department.

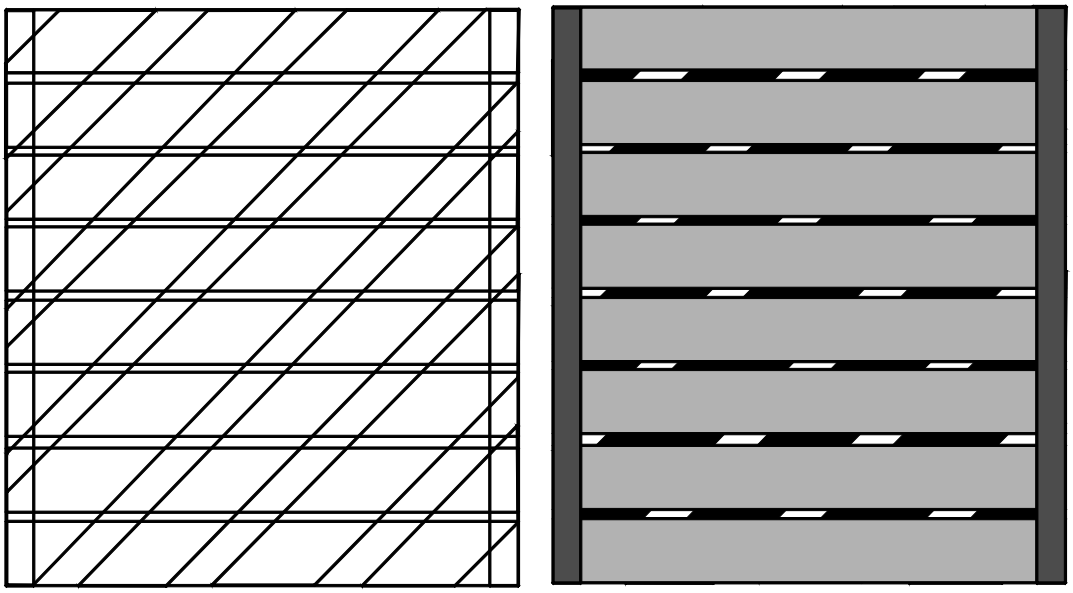
This work has been approved by the Royal Armouries at Fort Nelson.

All carpentry work to be undertaken by Jim Sadler.



Above: Foot Grating
for use in Shifting Lobbies.
(After Lewis)
Right : Replica Foot Grating, Fort Nelson

Below: Batten Flooring
(after Lewis)
The *strong* type of batten flooring consisted of battens 3 inches wide and 1⅞ inch deep, with intervals of ⅜ inch between each made to the length and width required. The ends are screwed to pieces 4 inches by ⅞ inches, with 1¾ inch brass screws, and a riband 2 inches by 1¾ inches is fixed on the side next to the wall. The underside of the batten should be tarred, to preserve them from damp. The batten flooring should be taken up and removed for airing when necessary.

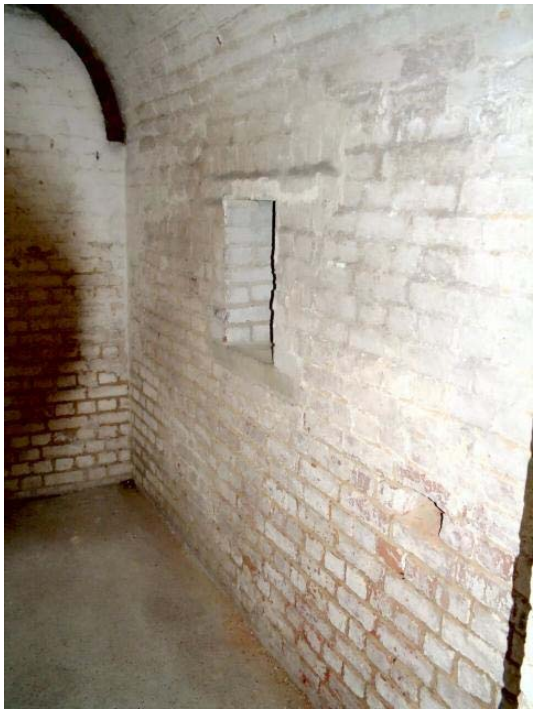


Fort Nelson : Main Magazine Passage

Fort Nelson : Shifting Room

Fort Nelson : Shifting Room : Holes for Barrier in wall and floor

Fort Nelson : Shifting Room
Holes for barrier in floor and wall & fixings for seat in wall



Fort Nelson : Shifting Room
Holes for barrier in wall & lamp recess

Fort Nelson : Shifting Room
Ventilation bricks & hook for door

Fort Nelson : Shifting Room
Lamp recess for opening frame with lock

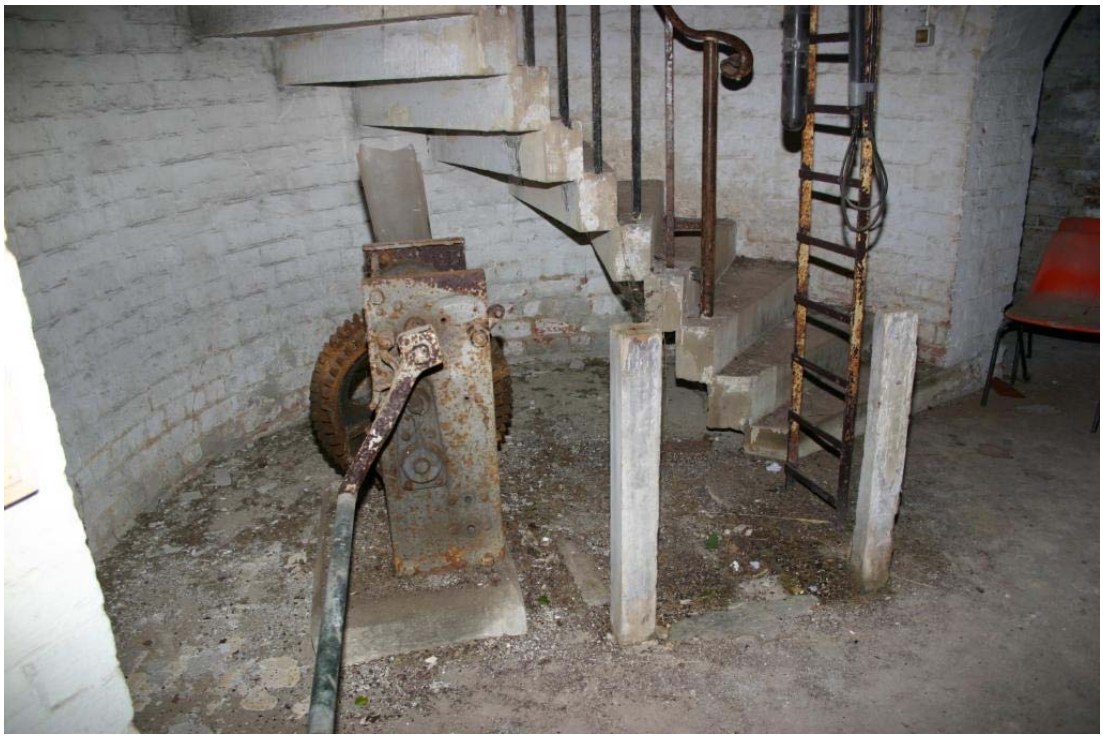
Fort Southwick : Shifting Room
Converted to a lamp room : Note the numbered hooks

Fort Nelson : Spiral Stair with Ammunition Winch and Cage
Note hole in floor for barrier post

Fort Nelson : Spiral Stair with Ammunition Winch

Fort Nelson : Ammunition cage

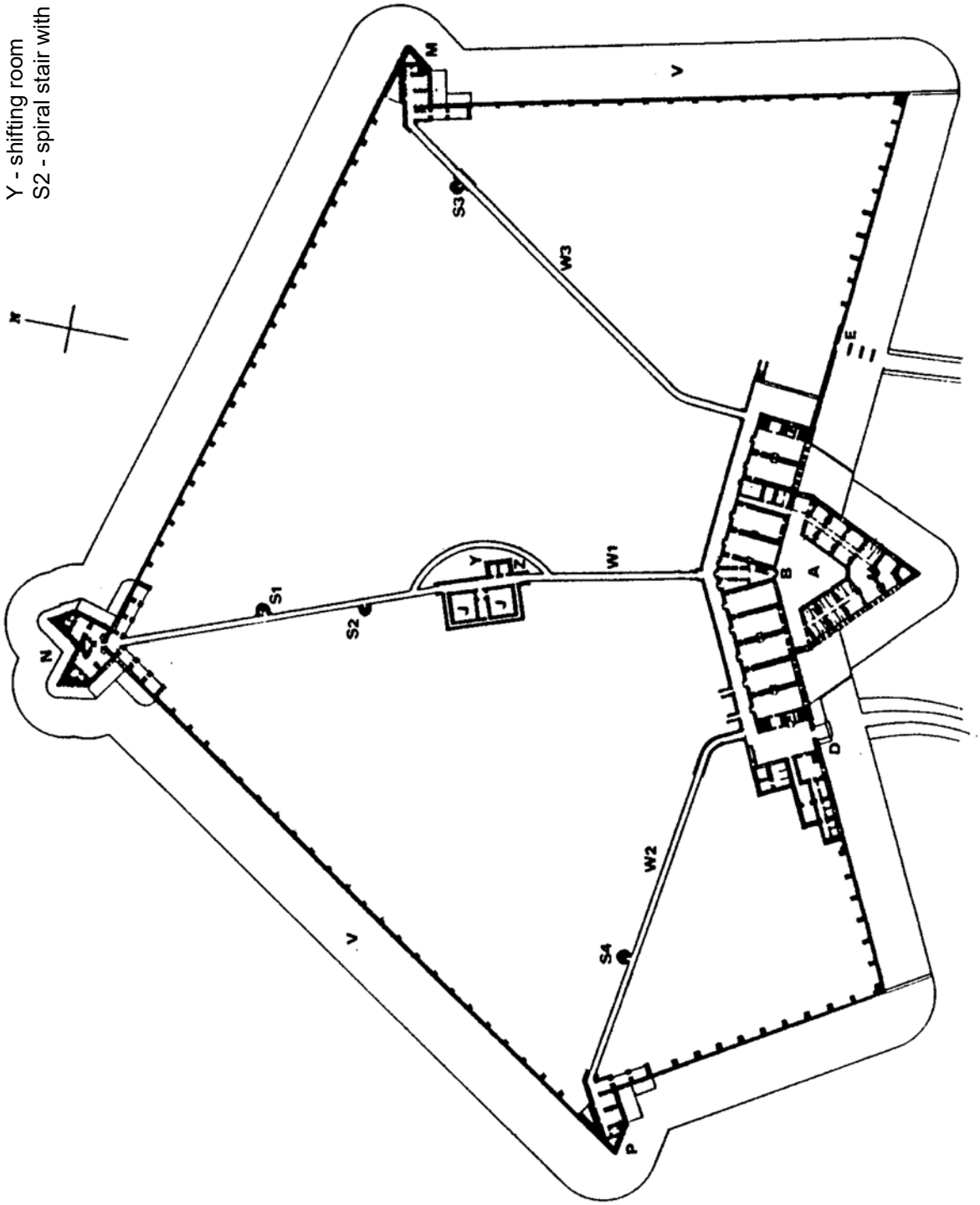
Ammunition winch



Fort Southwick : Ammunition Winch

Fort Southwick : Ammunition Winch
(Note barrier posts)

Fort Nelson Lower Plan
Y - shifting room
S2 - spiral stair with hoist



Terminology
Shifting Room
The term 'shifting room' originally meant a room in which powder was shifted from one barrel to another. The gunpowder regulations of 1874 stipulate that where magazines were prone to damp, it was necessary to open and re-cooper a few barrels on a few occasions, in order to ascertain if the powder was free from lumps, and to keep the barrels in a serviceable state. If in performing this work the powder was found to be in any way lumpy or set, it was to be shifted from one barrel to another, the lumps being broken down by hand as the powder was passed from the barrel to which it belongs, to the new one. This was the purpose of the "shifting room" at Fort Nelson.

™This term is sometimes confused with a "shifting lobby".

Shifting Lobby
The 1899 "Regulations for Magazines and the Preservation of Artillery Material" defines a shifting lobby as being :-The chamber or portion of the entrance passage to be devoted to putting on taking off magazine or laboratory clothing. Any portion on the clean side of the barrier is subject to magazine conditions.

Before entering an area designated as 'clean' persons employed in that area were to change their outer clothes, overcoat, coat, waistcoat, trousers and boots for the special clothing, consisting of jacket, trousers, cap and shoes (also woollen jersey and drawers where specially authorised) provided for them, in the following order; Before passing the barrier, boots to be wiped on mat and taken off. Uniform or private clothing to be taken off and hung up. Pass through barrier and put on magazine clothing and shoes. Uniform, private clothing or boots must never be taken inside, nor magazine clothes or shoes, outside the barrier, but the non-commissioned officers were permitted to wear their forage caps inside the barrier. It was not sufficient for the men to put the magazine uniform on over their ordinary uniform. Officers and visitors were to step into special overshoes provided for them at the barrier. All tobacco pipes, lucifer matches, combustibles, or exposed iron or steel articles in their possession were to be left outside the barrier.

Examining Room
The purpose of the Examining Room would have been for examining barrels of powder on arrival to see that they were perfectly closed, so that no powder could escape. The hoops were also examined to see that no iron nails were used in their fastening and the barrel examined to ensure that there was no iron or anything objectionable on any part of it. If any barrel was suspect it was not to be stored in the magazines but passed to the shifting room for immediate shifting into another barrel and a report made to the controller. The close proximity of the shifting room to the examining room is clearly important. No barrel box or case was to be opened in a magazine on any account. When this was required it was removed to the shifting room which was to be provided for this purpose.

Laboratory
The 1899 regulations defined a Laboratory as being : *A building or buildings with passage leading thereto in which all the operations connected with the examination, filling or emptying of shells and cartridges are carried on and which should be under magazine conditions.*

The regulations of 1874 stated that any laboratory operation that involved the risk of explosion was not to be carried out within 400 yards of a magazine where large quantities of gunpowder are stored.

The laboratory was to be under magazine conditions and regulations required that it was entered through a shifting lobby. A plan of 1871 with modifications of 1878 and 1893 shows the laboratory to be on the area of grass above the coal store and shells. By 1913 it served as a wheeler's shop and in later years we were told by the family of a caretaker who lived in the fort that it was a laundry.

Sources
Permanent Fortification for English Engineers : Lewis
Treatise on Ammunition 1887
Handbook for the 64pr. RML 1898
Handbook for the 7-inch RBL 1885
Précis of Correspondence relating to the Defences of Portsmouth and the IOW prior to January 1893

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