

EWA10167

5NA69149

REIGATE FORT

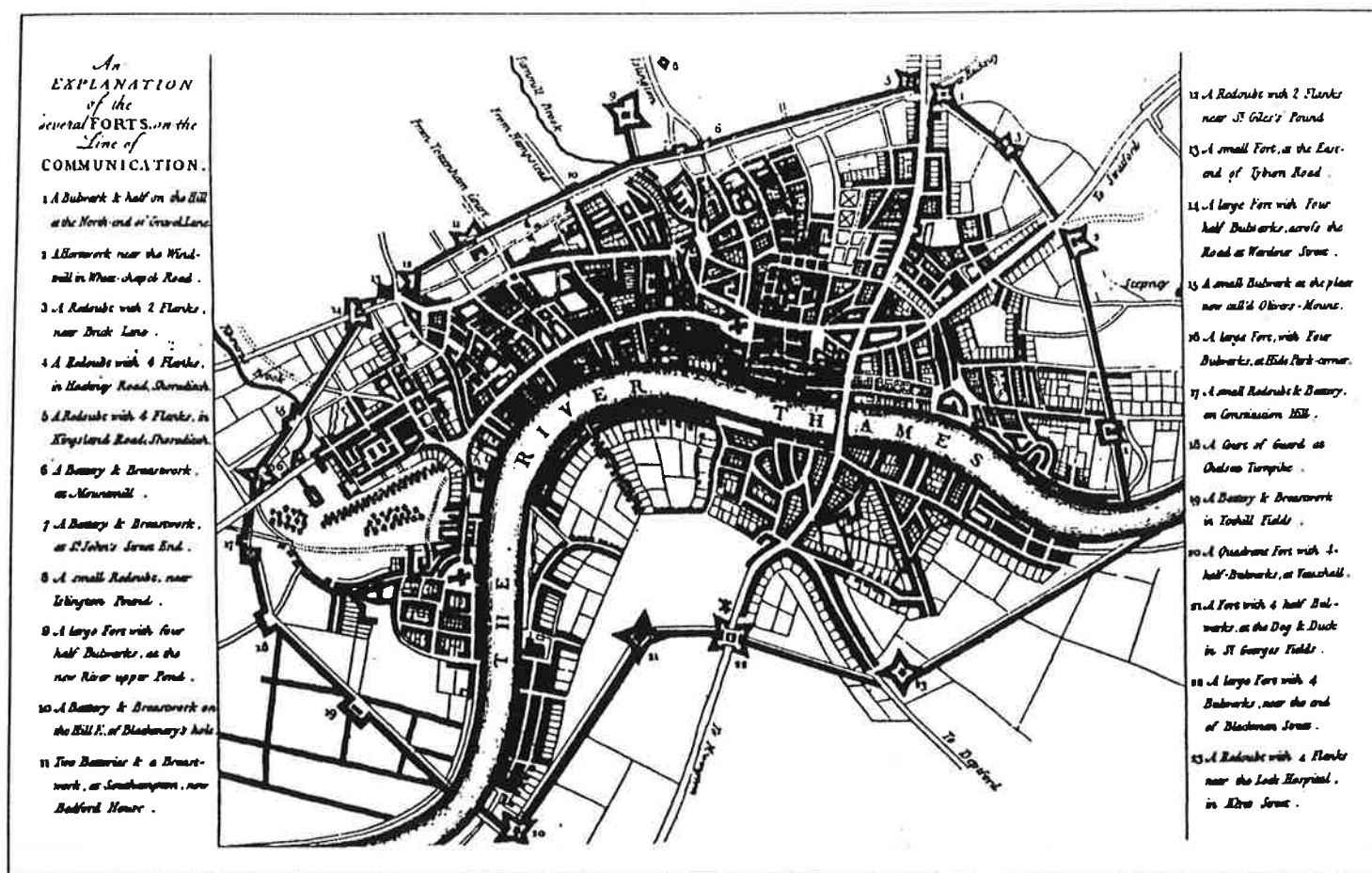
A report to the
National Trust

Vol.2 The illustrations

Victor Smith
March 2001

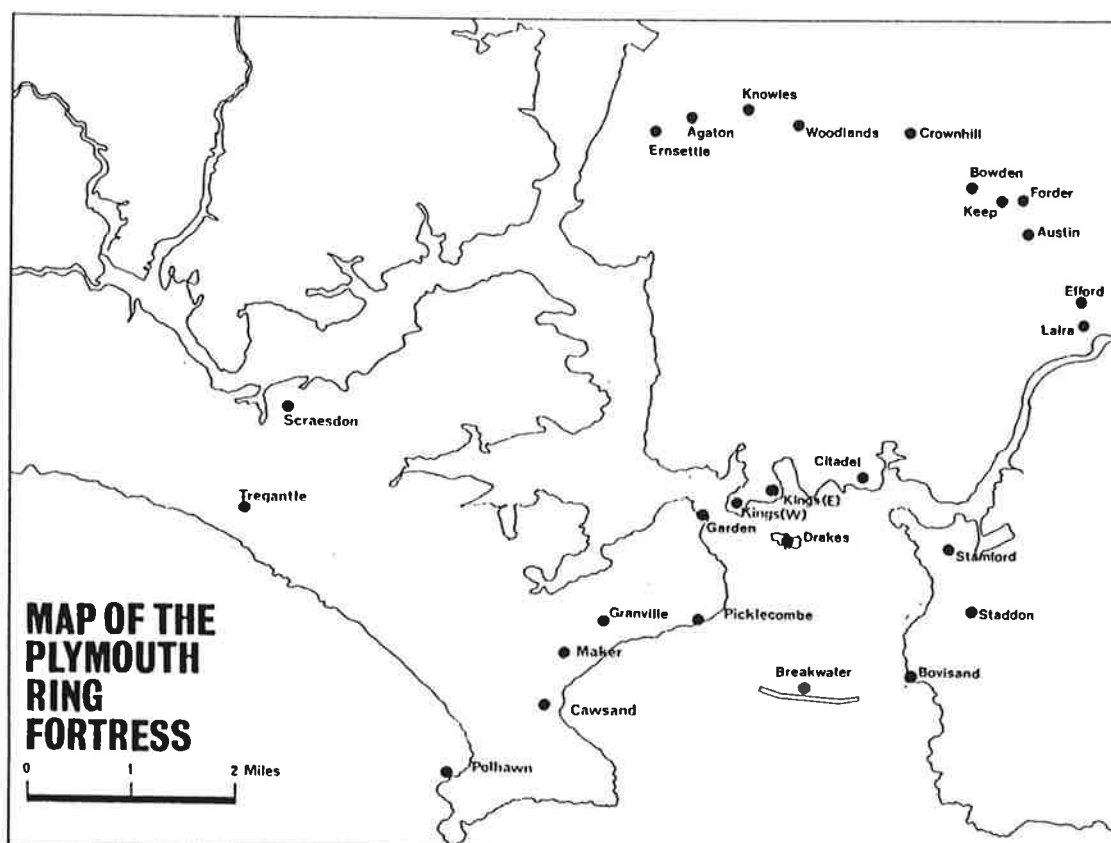
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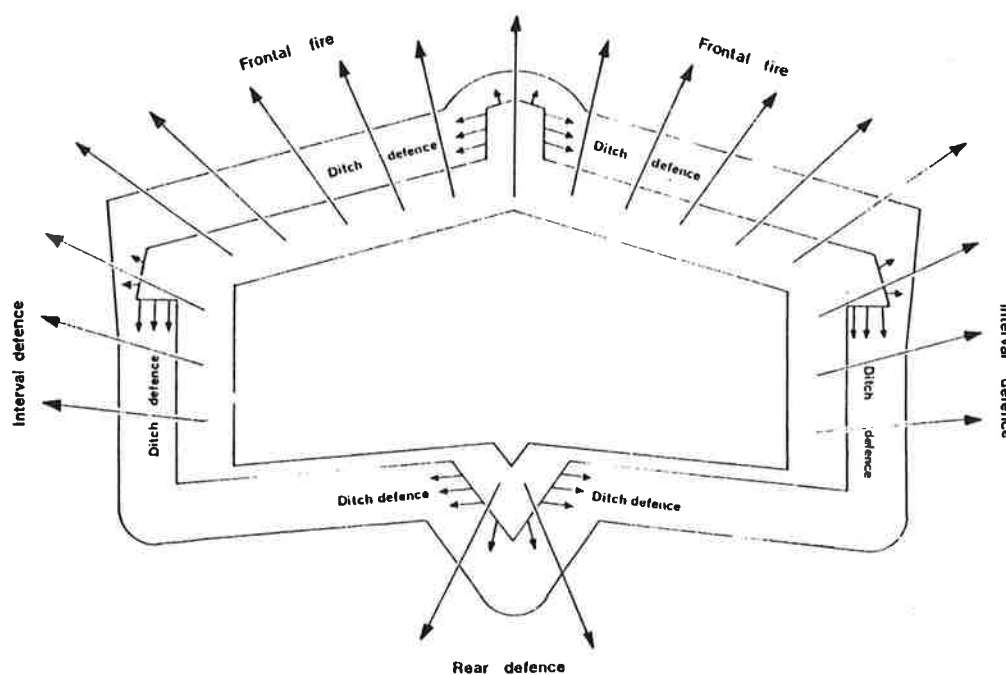
GEORGE VERTUE'S MAP OF THE CIVIL WAR DEFENCES OF LONDON IN 1642

(Published in VTC Smith, *The Defences of London during the English Civil War*, *Fort*, 1997)



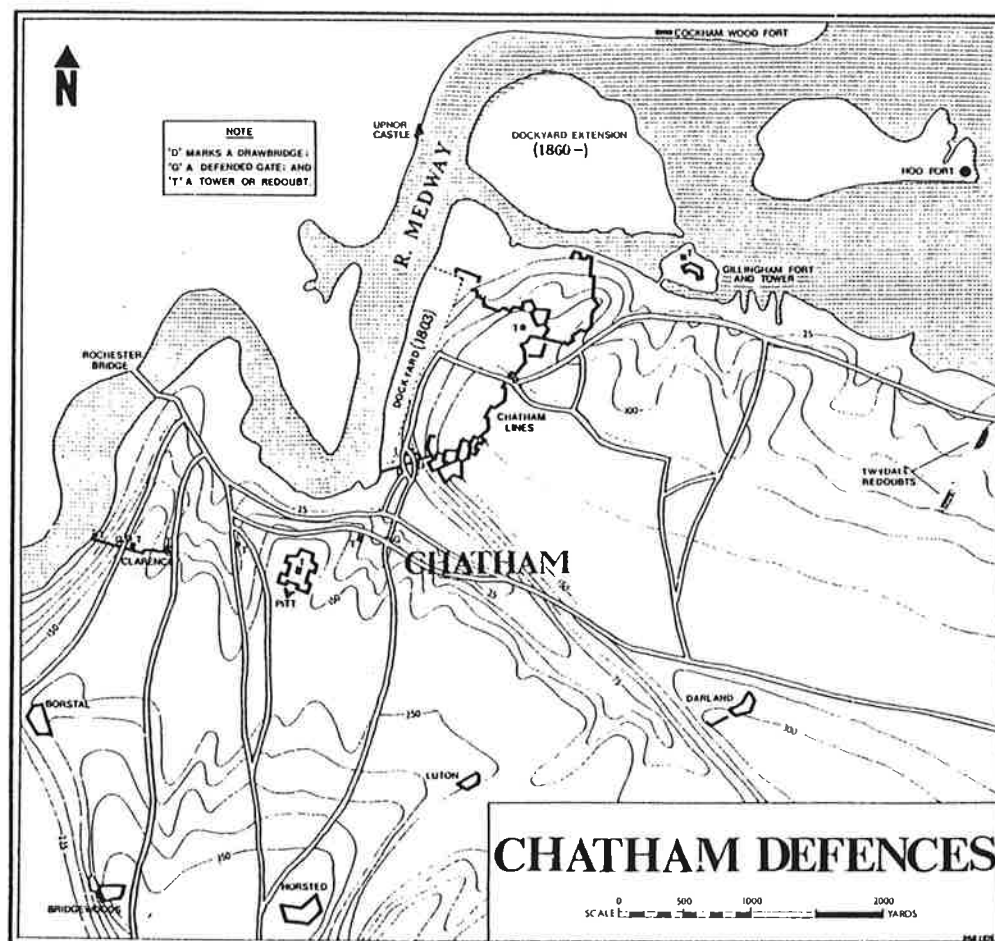
MAP OF THE PLYMOUTH RING FORTRESS

(Published in VTC Smith, 'Chatham and London: the changing face of English land fortification, 1870-1918' *PMA* 19, 1985)



SCHEMATIC PLAN OF A POLYGONAL FORT

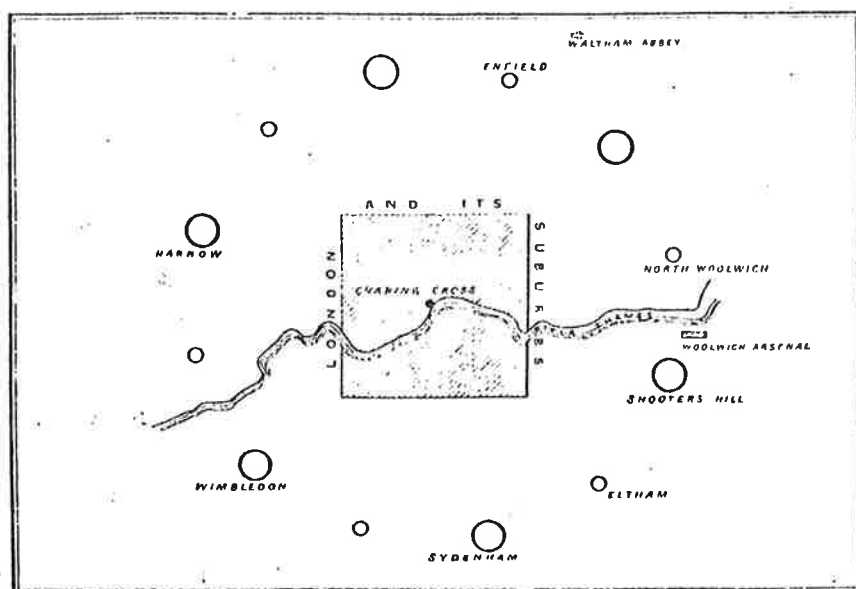
(Published in VTC Smith, 'Chatham and London: the changing face of English land fortification, 1870-1918' *PMA* 19, 1985)



PLAN OF THE CHATHAM RING FORTRESS

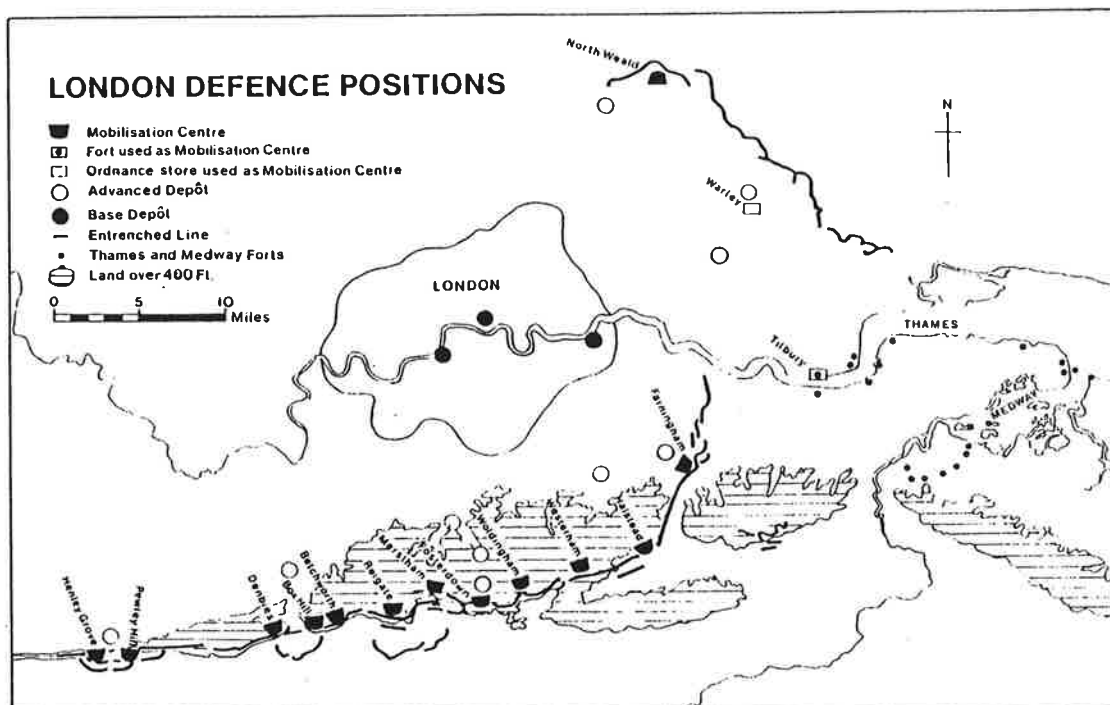
(Published in VTC Smith, 'Chatham and London: the changing face of English land fortification, 1870-1918' *PMA* 19, 1985)

Fig. 5



LT. GEN. EDWARD MITCHELL'S PROPOSALS FOR A RING
FORTRESS TO PROTECT LONDON

(Published in the *Universal Review*, 1888)

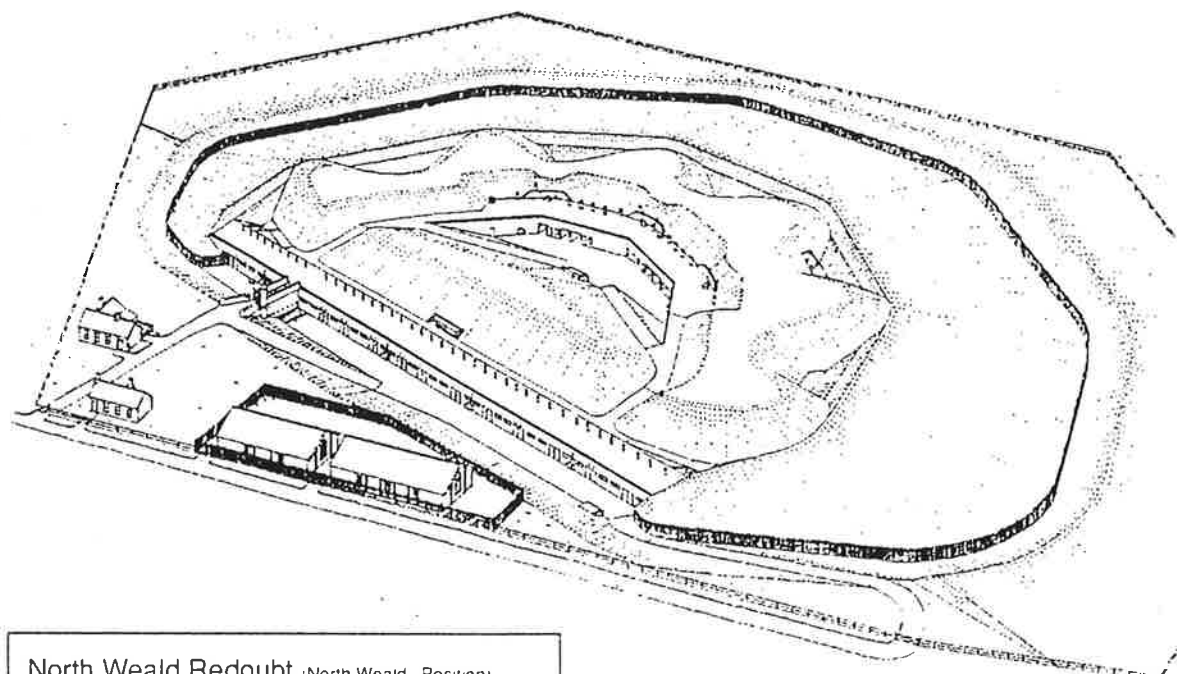


MAP OF THE LONDON DEFENCE POSITIONS

(Published in VTC Smith, 'Chatham and London: the changing face of English land fortification, 1870-1918', *PMA* 19, 1985).

PLANS OF REIGATE FORT IN 1898 (in the tube)

(Public Record Office)



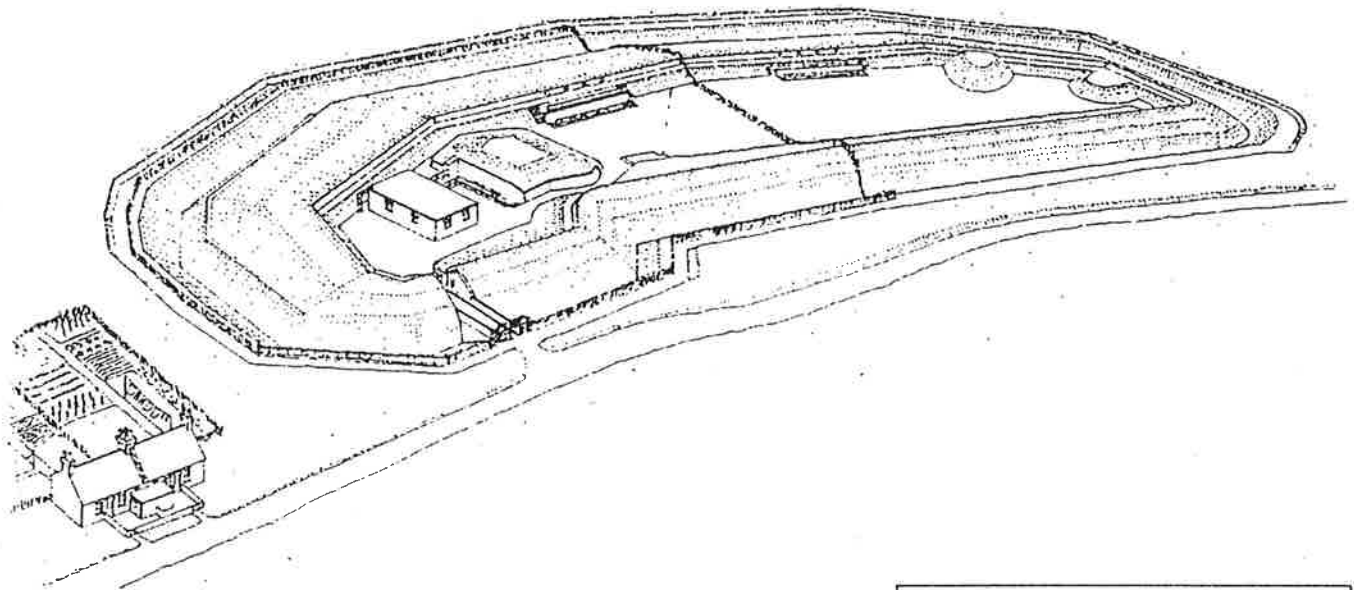
North Weald Redoubt (North Weald Position)
The Centre as it may have appeared on completion
(Roger Gill)

NORTH WEALD REDOUBT
(Artist's impression in Alec Beanse and Roger Gill
The London Mobilisation Centres, 2000)



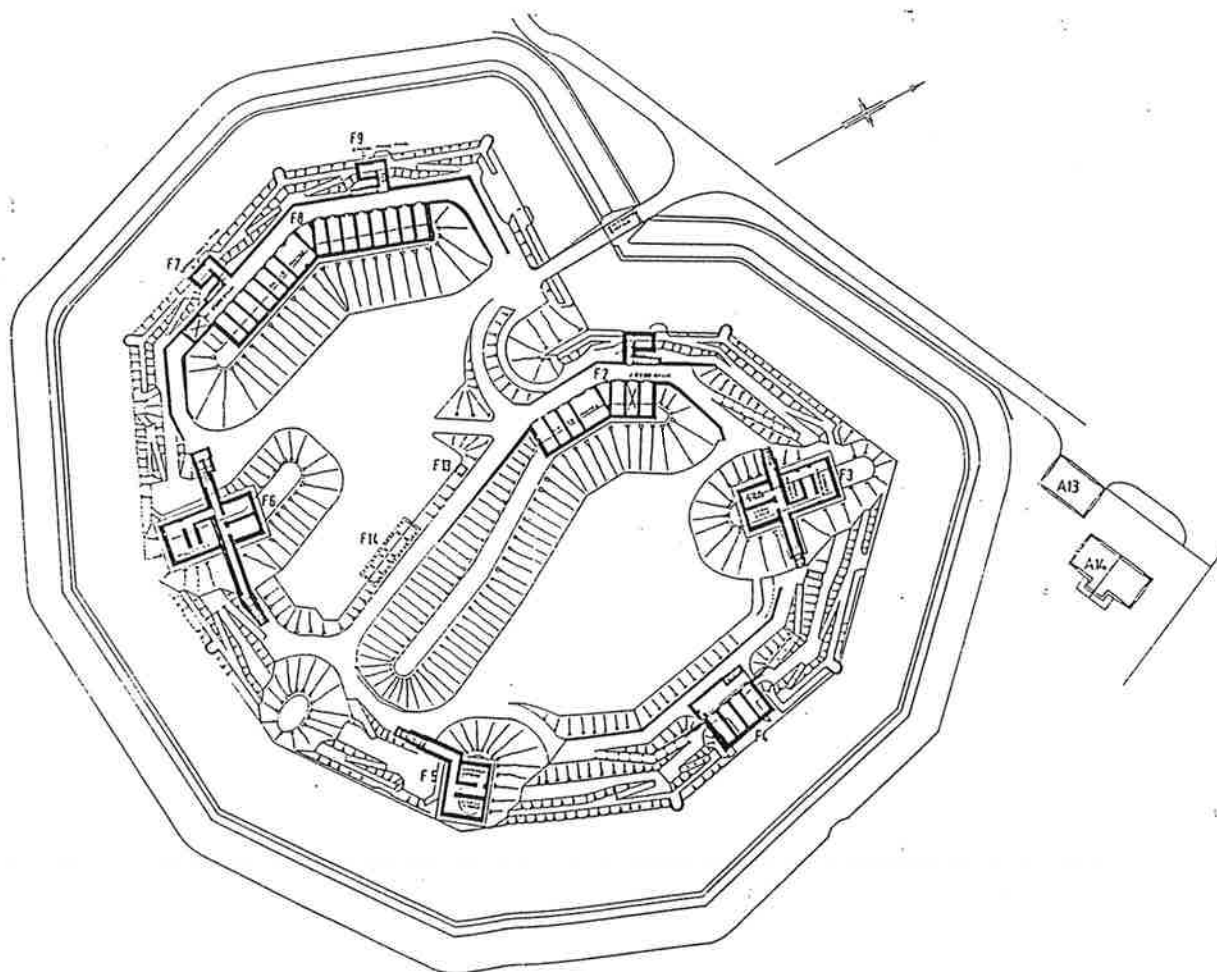
THE TWYDALL PROFILE

(Published in VTC Smith, 'Chatham and London: the changing face of English land fortification, 1870-1918', *Post Medieval Archaeology*, 19 (1985))



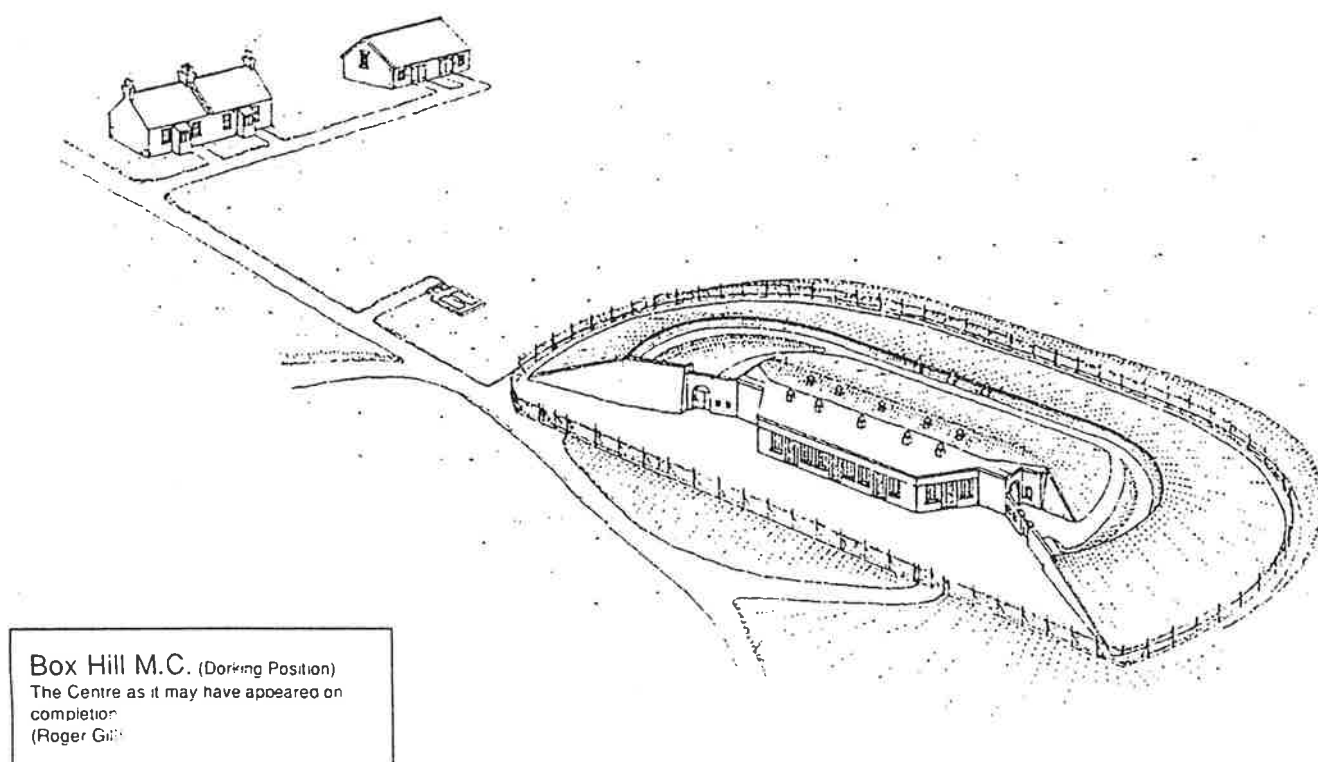
Reigate M.C. (Redhill Position)
The Centre as it may have appeared on completion
(Roger Gill)

REIGATE FORT
(Artist's impression in Alec Beanse and Roger Gill
The London Mobilisation Centres, 2000)



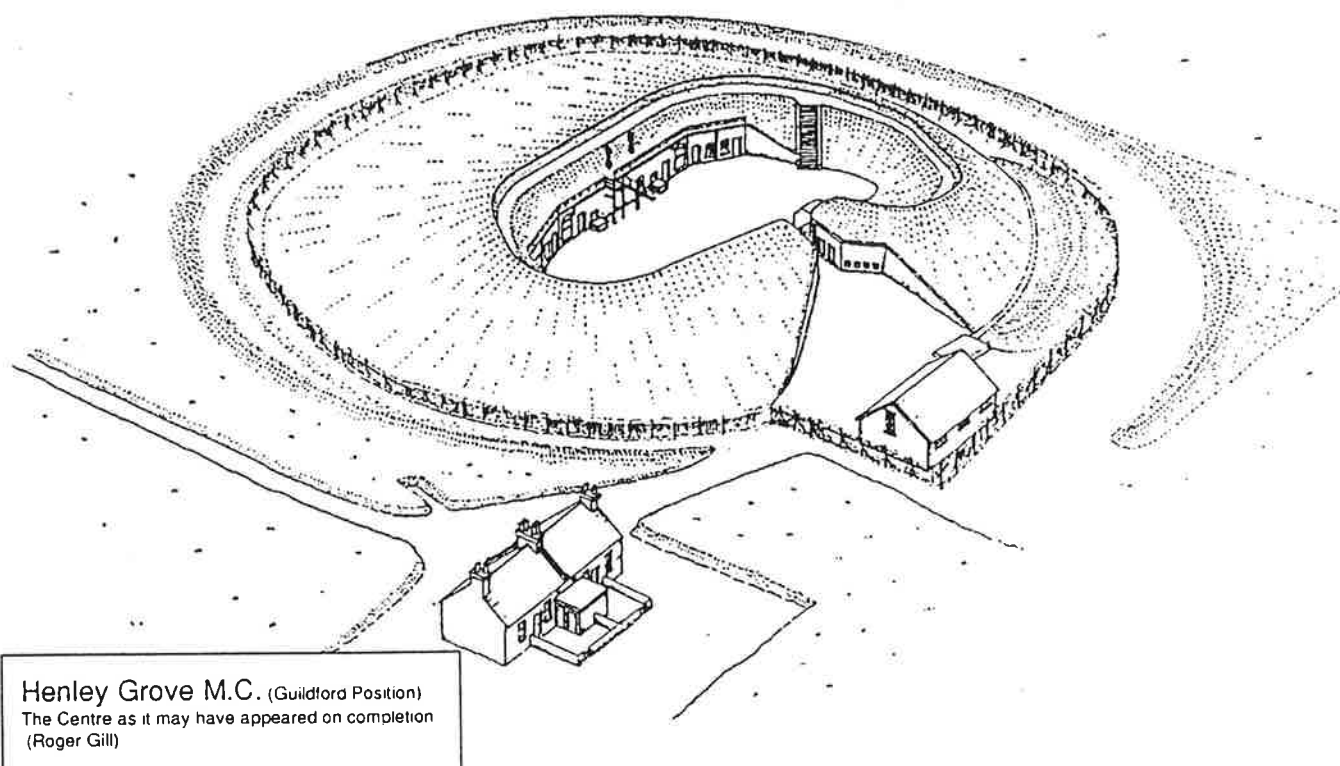
PLAN OF FORT HALSTEAD

(From *Notes on the History of Fort Halstead*,
Brunton Boobyer Partnership, 1989)



BOX HILL MOBILISATION CENTRE

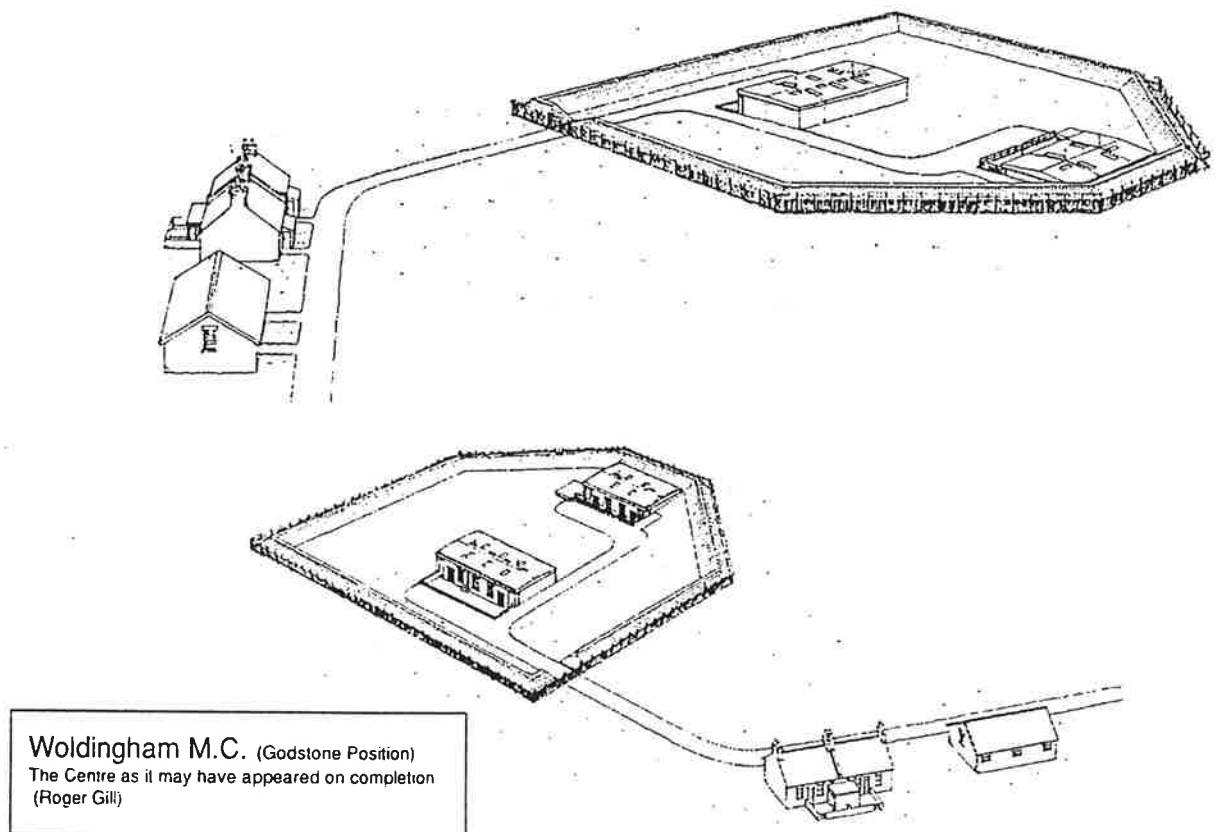
(Artist's impression by Roger Gill in Alec Beanse and Roger Gill
The London MobilisationCentres, 2000)



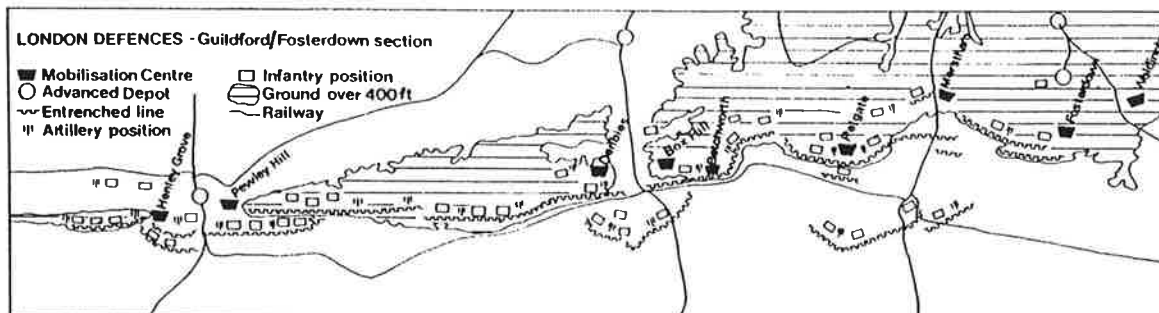
Henley Grove M.C. (Guildford Position)
The Centre as it may have appeared on completion
(Roger Gill)

HENLEY GROVE MOBILISATION CENTRE

(Artist's impression in Alec Beanse and Roger Gill
The London Mobilisation Centres, 2000)



WOLDINGHAM MOBILISATION CENTRE
(Artist's impression in Alec Beanse and Roger Gill
The London Mobilisation Centres, 2000)



A RECONSTRUCTION OF THE GUILDFORD-
WOLDINGHAM SECTION OF THE LONDON DEFENCES
(Published in VTC Smith 'Chatham and London: the changing
face of English land fortification, 1870-1918',
Post Medieval Archaeology, 19, 1985)

DRAWINGS OF FIELDWORKS EXTRACTED FROM
RHC COE'S MANUSCRIPT FAIR NOTEBOOK OF
FORTIFICATION

(Undated but 1890s, in VTC Smith collection)

- Fig. 17 Plan and elevation of sandbag loophole
- Fig. 18 Fascine revetment
- Fig. 19 Artillery parapet and field casemates
- Fig. 20 Existing brick wall prepared for defence in an emergency
- Fig. 21 Gabions
- Fig. 22 Various forms of extemporised field obstacles
- Fig. 23 Brushwood loophole

Fig. 17

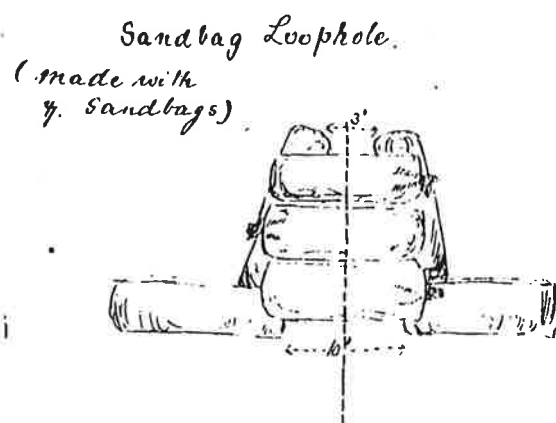
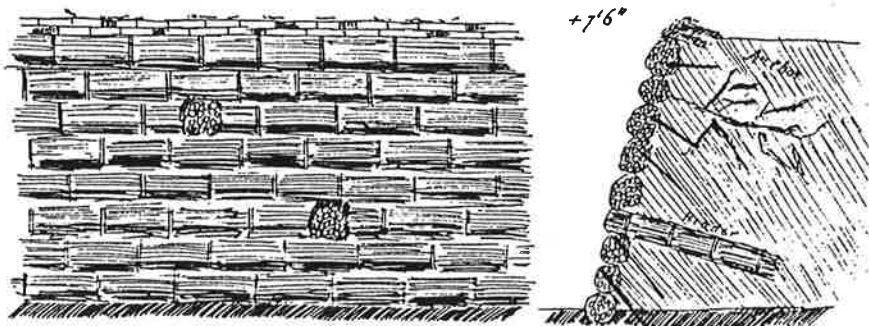
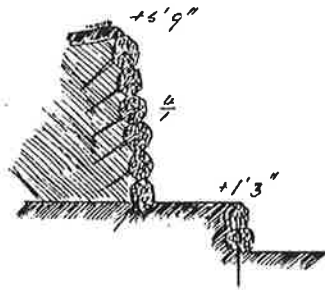


Fig. 18



A Fascine Revetment.

Fig. 19

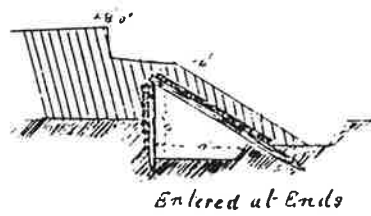
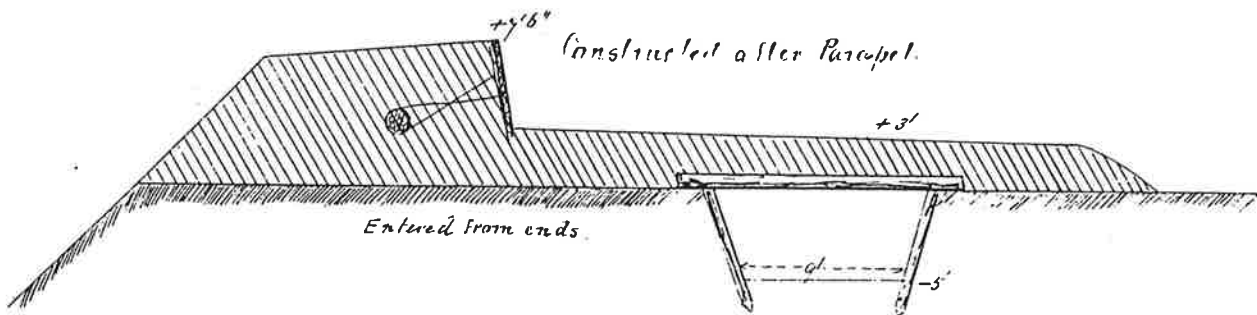


Fig. 20

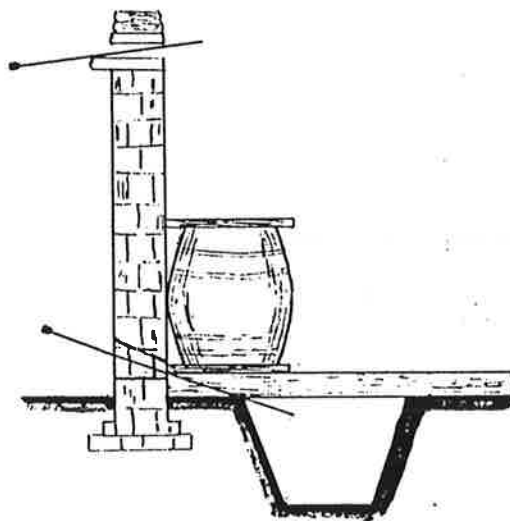
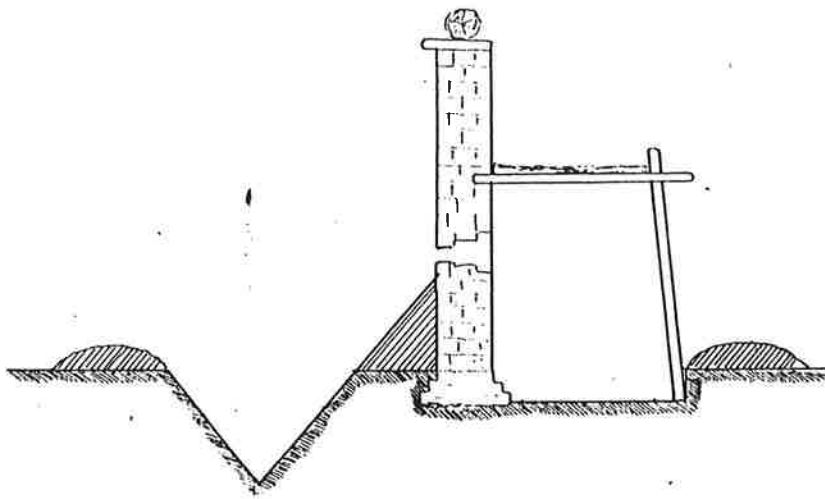


Fig. 21

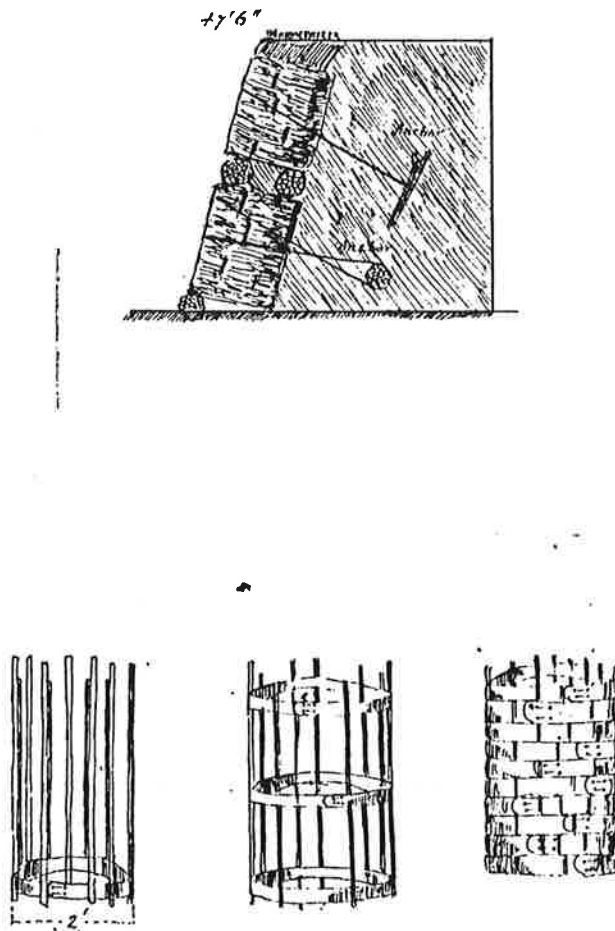


Fig. 22

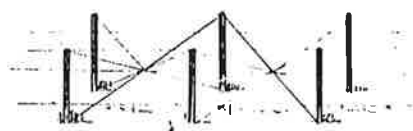
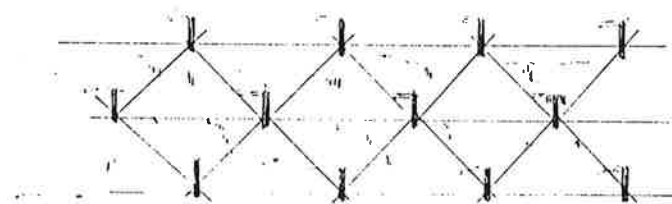
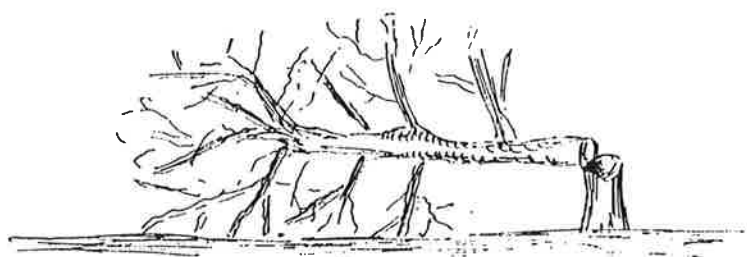
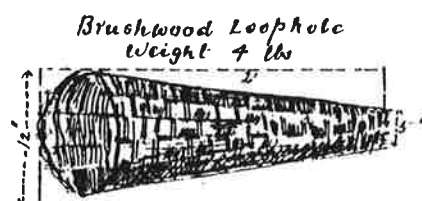
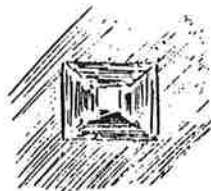


Fig. 23



"Loophole" made of wood
embedded in Crest of a Parapet

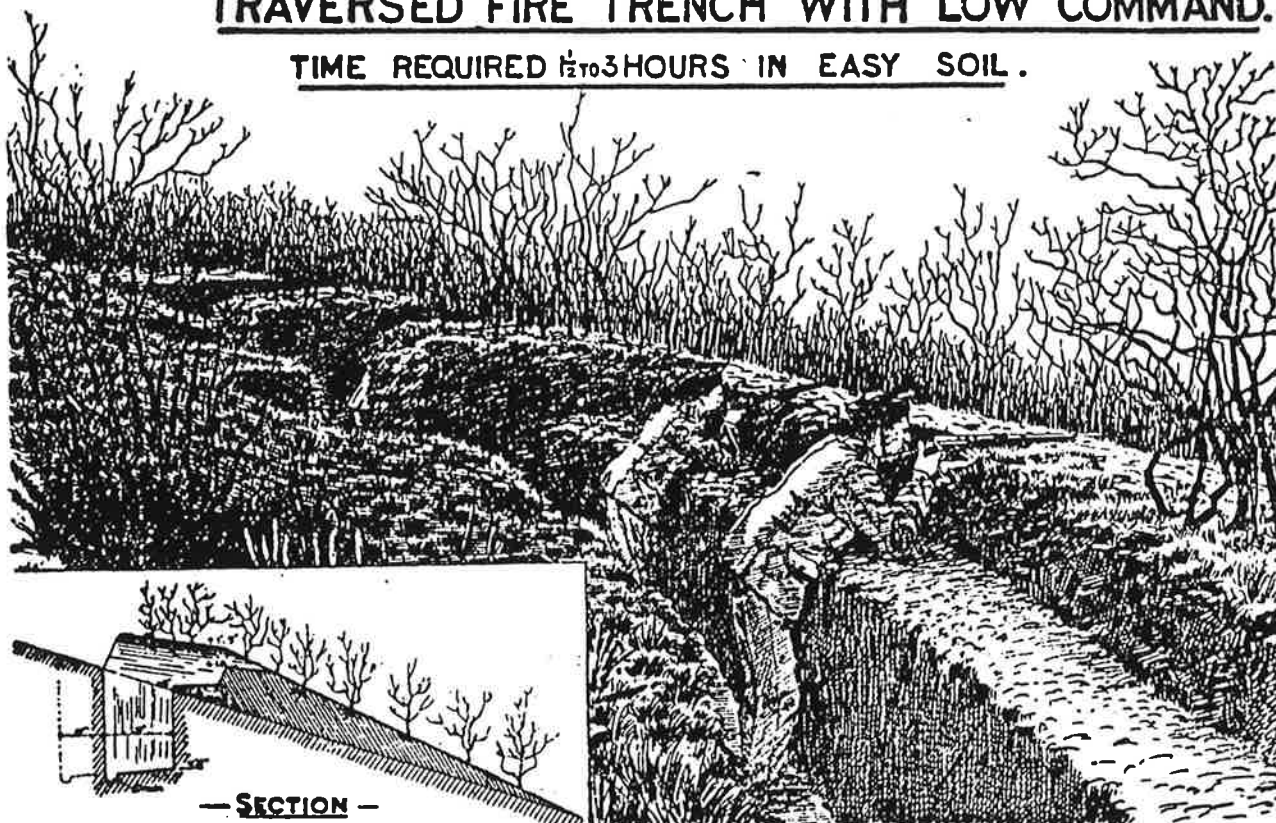


TYPICAL FORMS OF FIELDWORKS FROM THE MANUAL
OF MILITARY ENGINEERING 1905

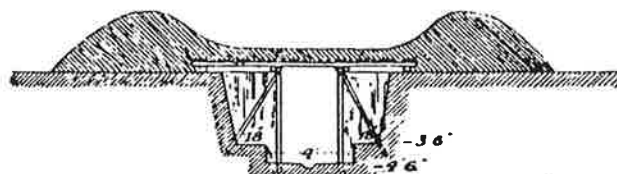
(Reproduced in Lt. Col. GM Heath, 'Field Engineering in the light
of modern warfare', *RUSI Journal*, L. 1906)

TRAVERSED FIRE TRENCH WITH LOW COMMAND.

TIME REQUIRED $\frac{1}{2}$ TO 3 HOURS IN EASY SOIL.



— HASTY REDOUBT. —
BLINDAGE IN REAR OF FIRE TRENCH.



— *Section thro' Blindage.* —



HIGH COMMAND REDOUBT

WITH TRAVERSES, COVER, & OVERHEAD COVER.

LOOPHOLES BLINDED IN CANVAS ON INSIDE TO PREVENT THEM SHOWING AGAINST THE SKY, & SHOULD BE SCREENED ON OUTSIDE WITH TUFTS OF GRASS & C.

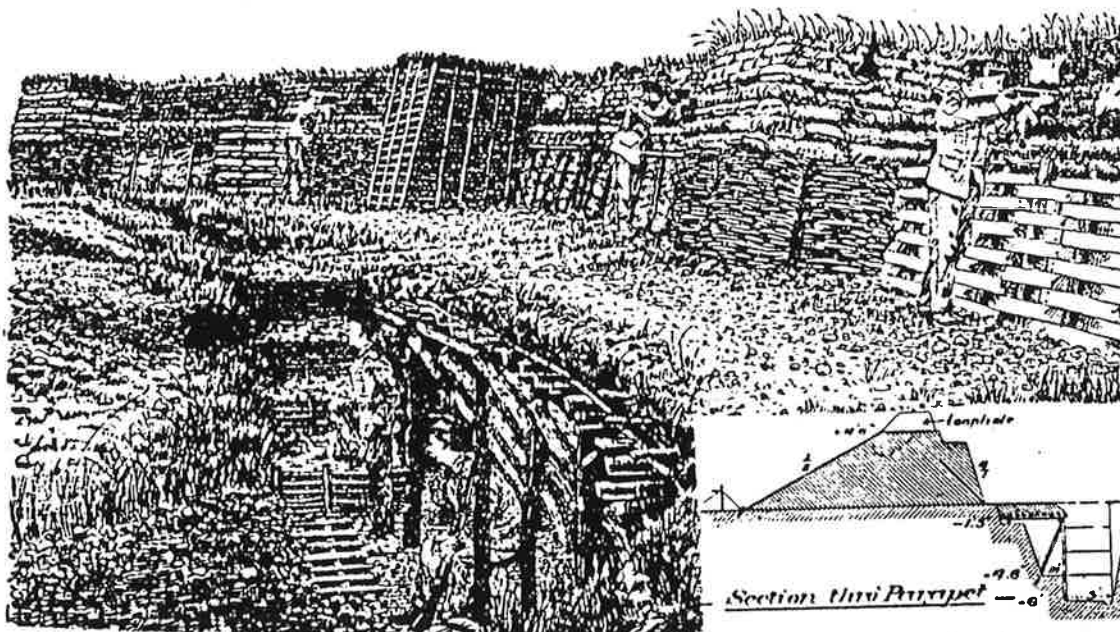


Fig. 27

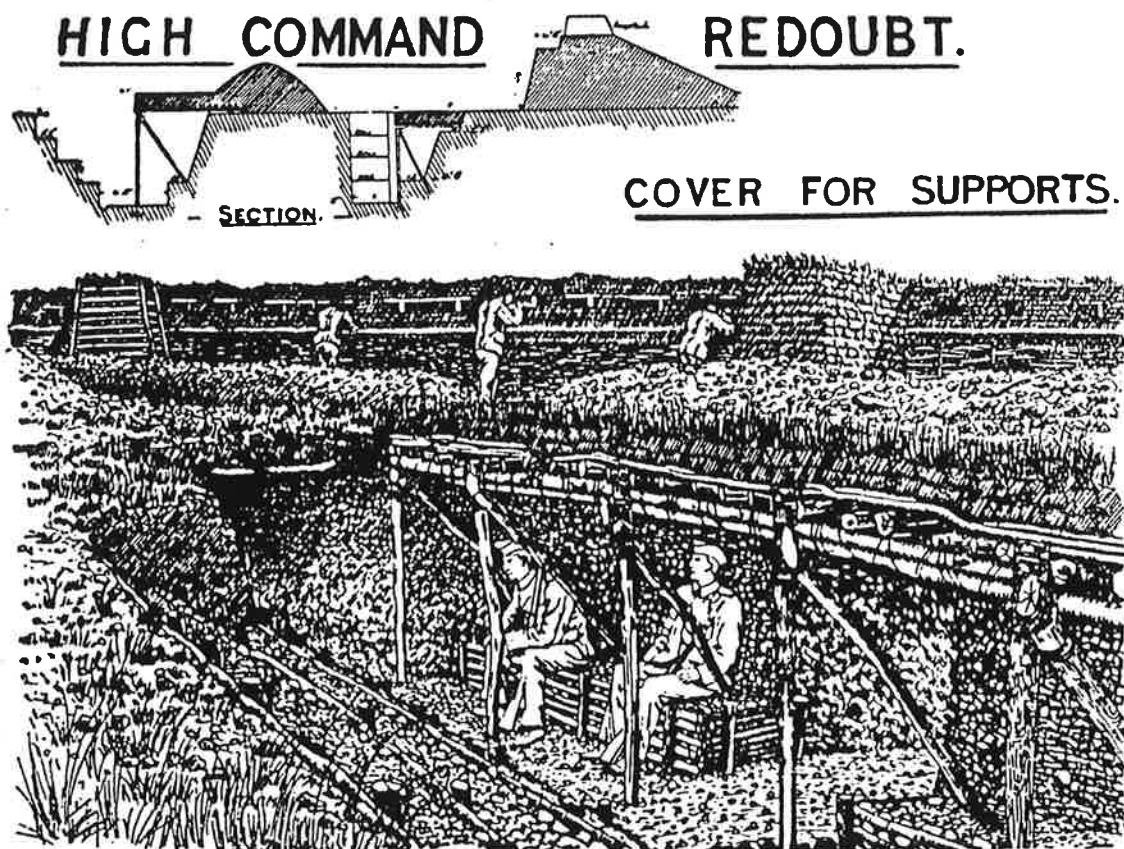
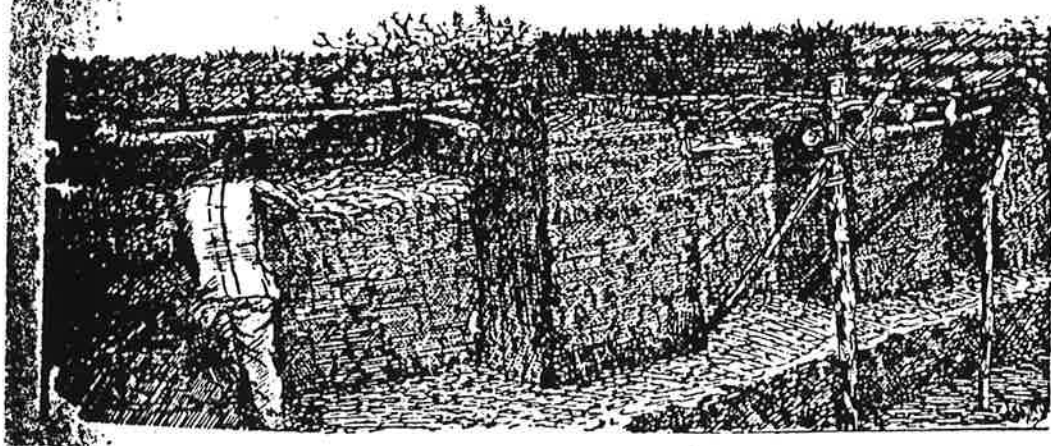
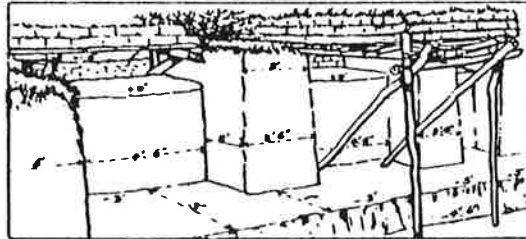


Fig. 28

FIRE AND SHELTER TRENCH COMBINED.

FIRE TRENCH DEEPENED AND OVERHEAD COVER ADDED.

TIME REQUIRED IN EASY SOIL 4 TO 6 HOURS.



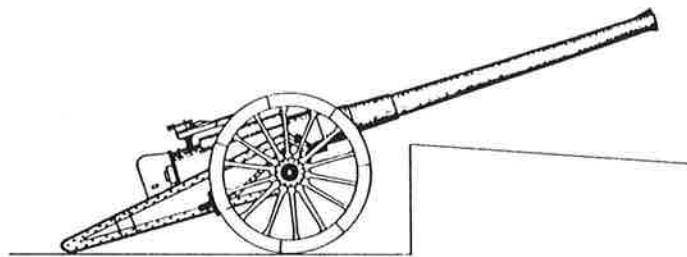


FIG. 29
4.7-in. gun.

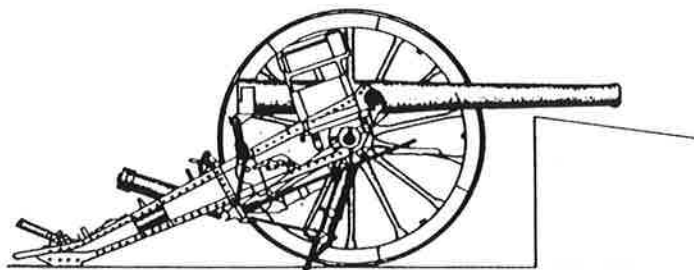


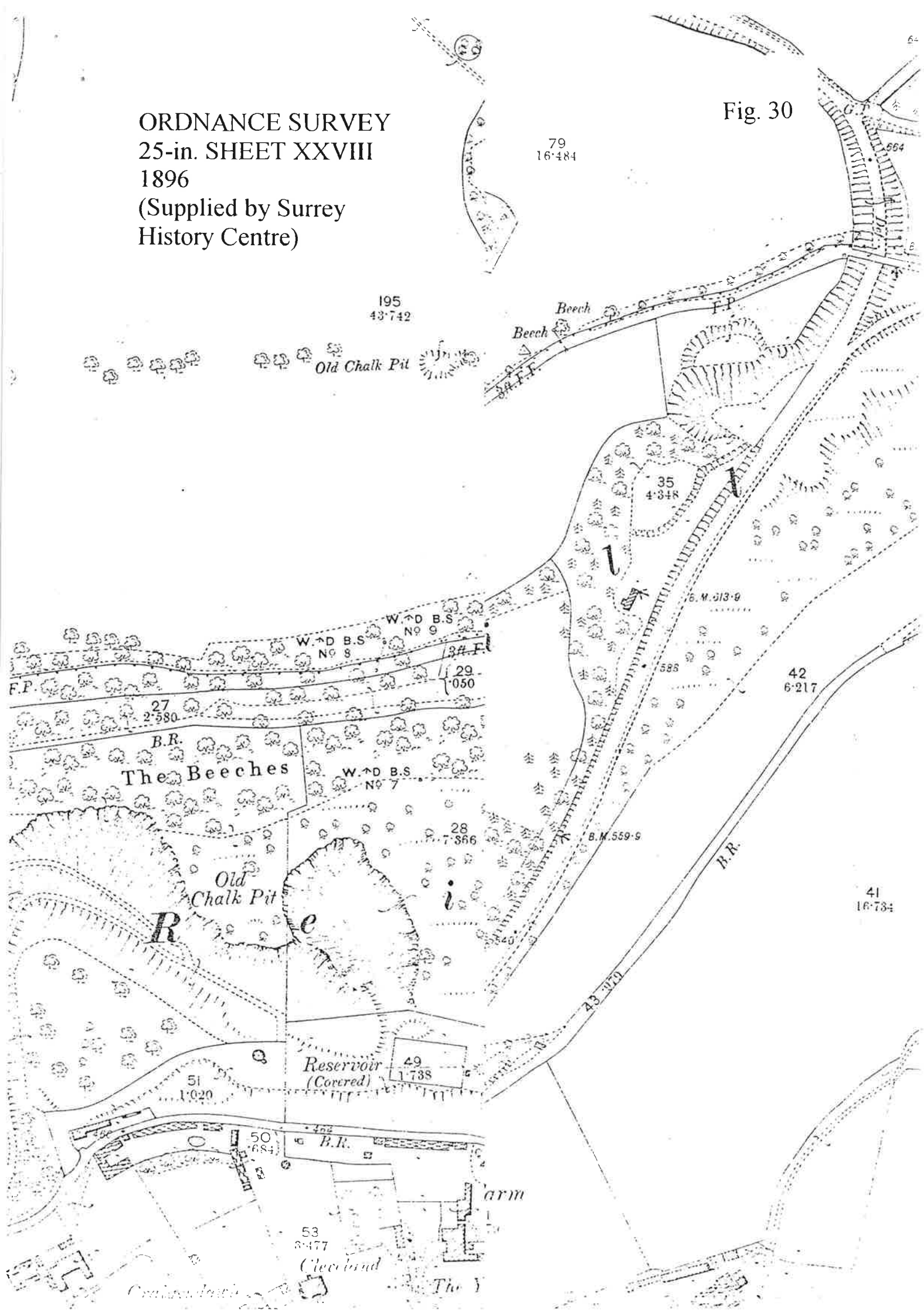
FIG. 30
15-pdr. gun.

DRAWINGS OF THE 4.7-in. AND 15-pr.
BREECH-LOADING GUNS

(Published in VTC Smith 'Chatham and London: the changing
face of English land fortification, 1870-1918',
Post Medieval Archaeology, 19, 1985)

ORDNANCE SURVEY
25-in. SHEET XXVIII
1896
(Supplied by Surrey
History Centre)

Fig. 30



Figs 31-33

PHOTOGRAPHS OF SECOND WORLD WAR PILLBOXES TO
THE SOUTH OF REIGATE ALONG THE MOLE, FORMING
PART OF THE GHQ LINE.

(Photographs by VTC Smith, July 2000)

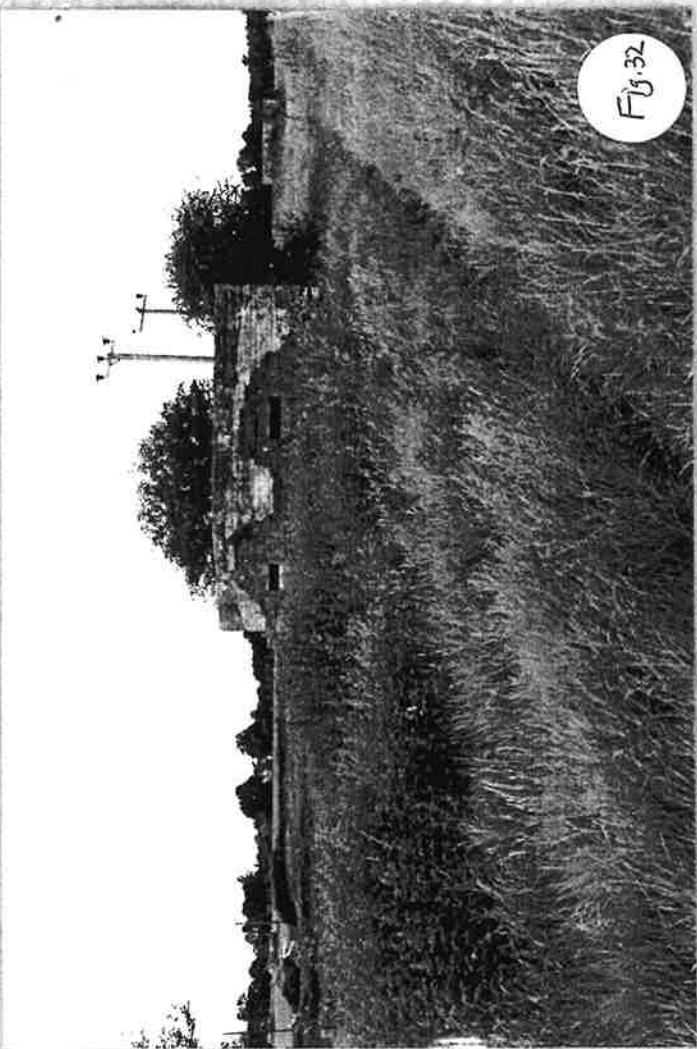


Fig. 32

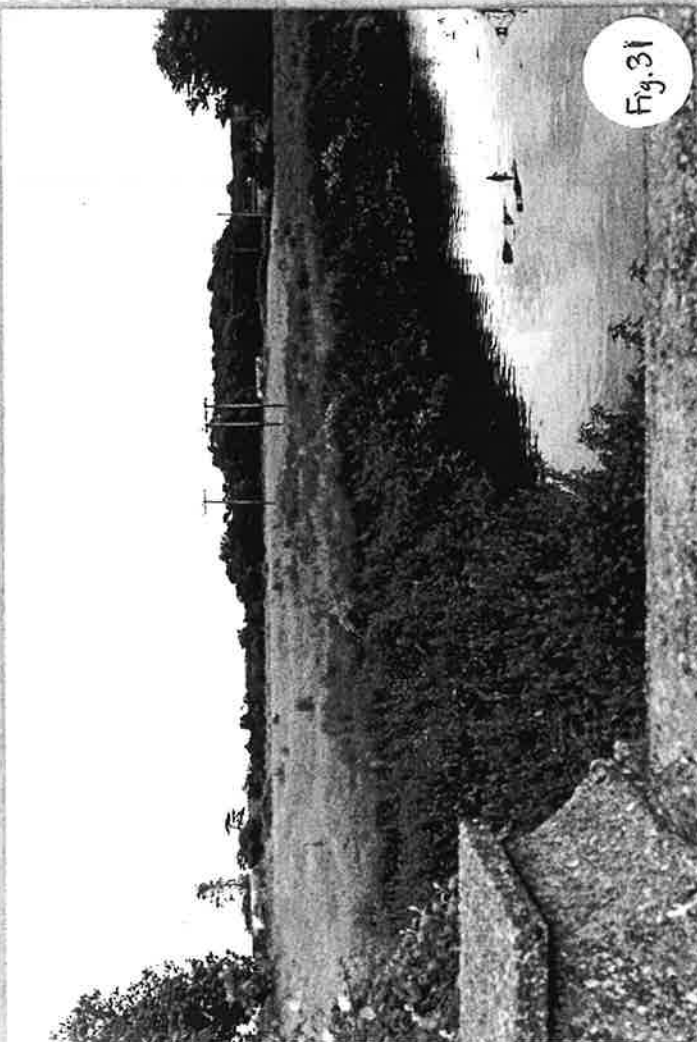
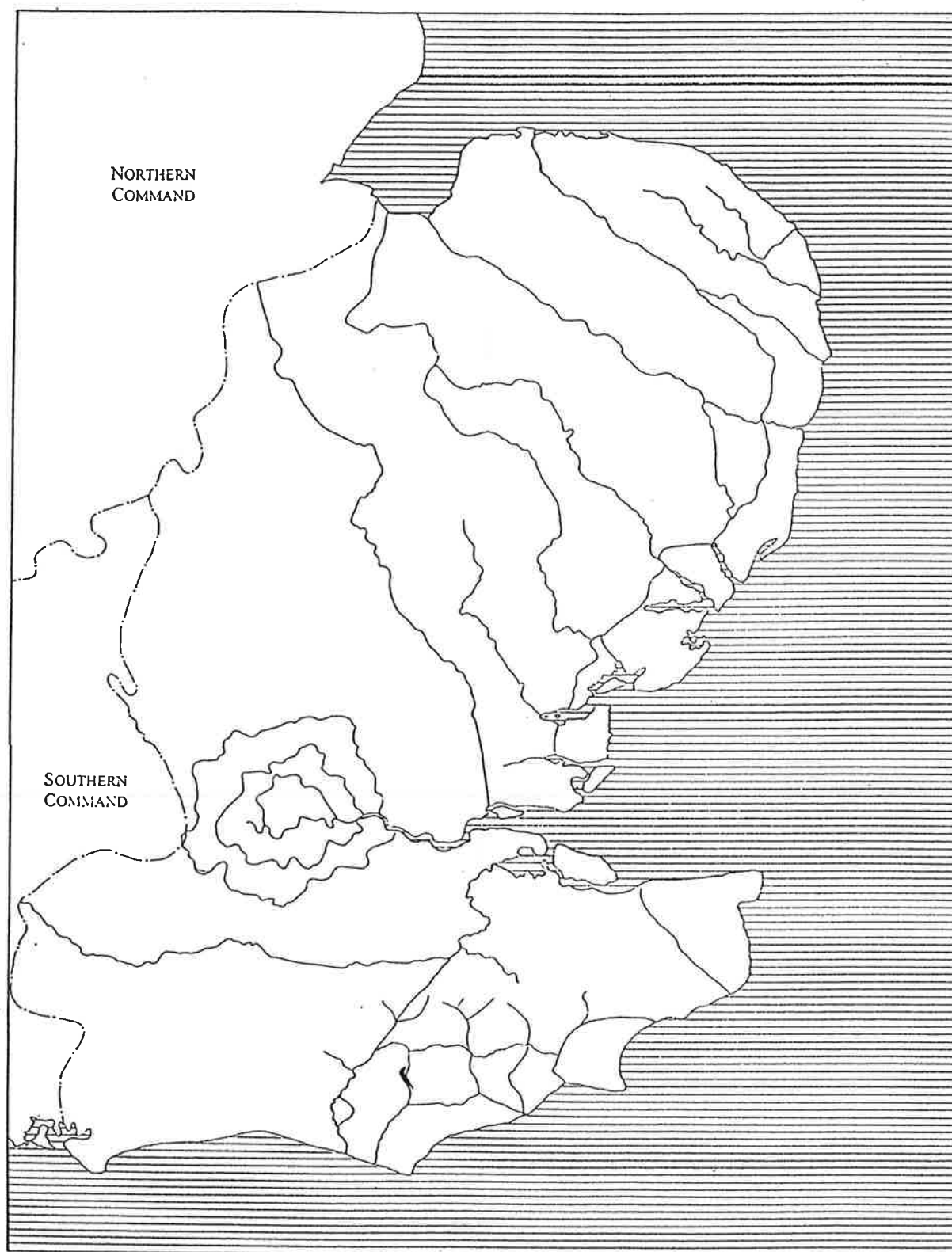


Fig. 31



Fig. 33



THE LONDON DEFENCE LINES AND OUTLYING
ANTI-INVASION DEFENCES IN 1941
(Published in CBA 20th Century Fortifications in England
Vol. II
Anti-invasion defences of WWII)

Fig. 35

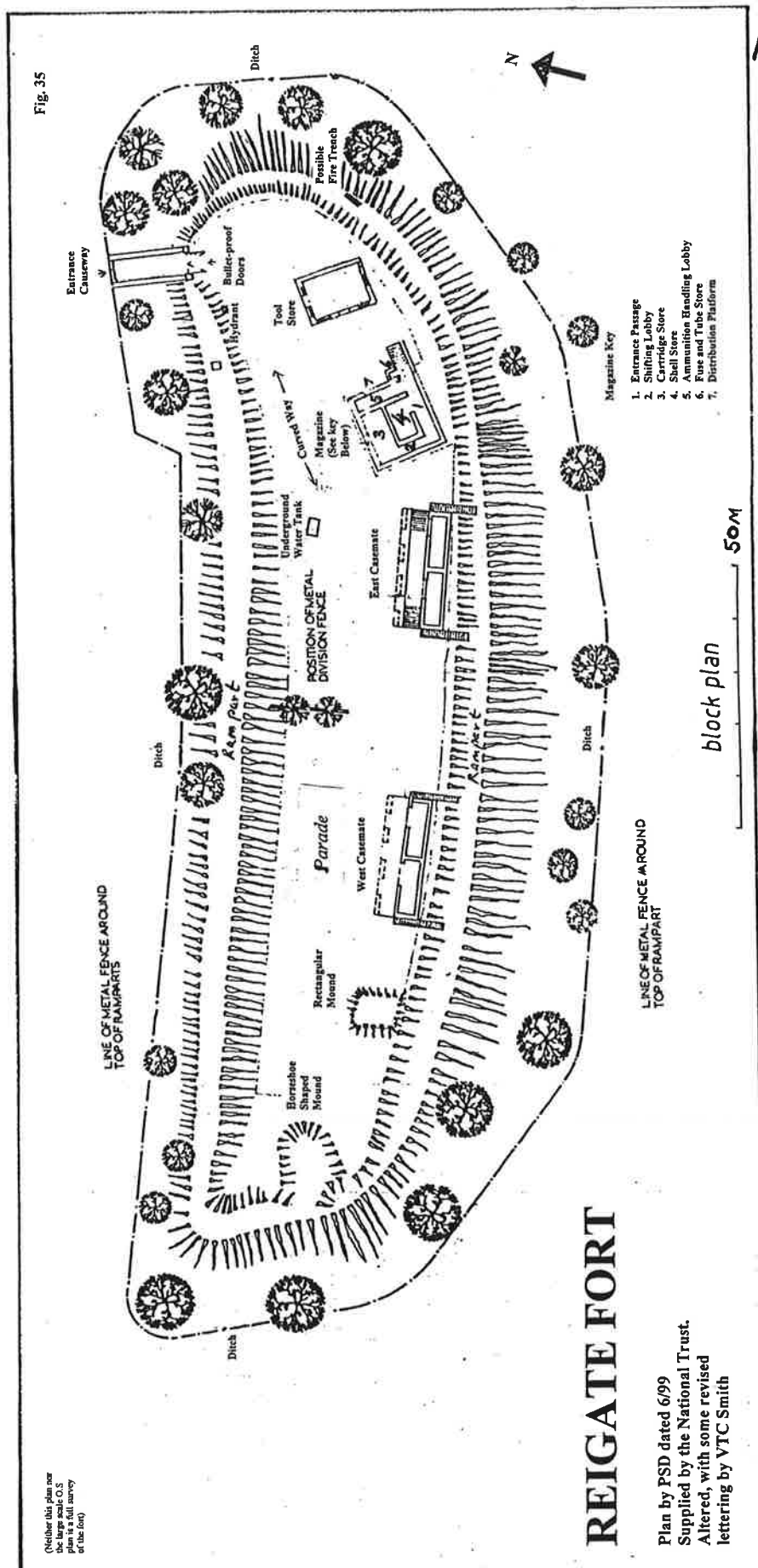


Fig. 35

PHOTOGRAPHS OF THE RAMPART, DITCH AND ENTRANCE

(Photographs taken by VTC Smith, January 2000)

- Fig. 36 Lower slope of the front rampart, ditch and counterscarp
Berm fronted by a sloped riser.
- Fig. 37 Ditto.
- Fig. 38 Rear ditch
- Fig. 39 Ditto.
- Fig. 40 Lower slope of the front rampart, ditch and bank counter
Scarp berm fronted by a sloped riser.
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- Fig. 42 Ditto.
- Fig. 43 Concrete revetted causeway crossing the rear ditch.
Remnants of defensive fence on the right.
- Fig. 44 Entrance causeway viewed from outside the fort.
- Fig. 45 Steel entrance doors and gate pillars, from within the fort.
- Fig. 46 Entrance causway viewed from within the fort.
- Fig. 47 Detail of tops of gate pillars, revealing face of concrete
From which the earthen rampart has eroded away.
- Fig. 48 Defensive fence on the eastern side of the entrance
At its counterscarp end, with a lower fence on the right.
- Fig. 49 A front view of the same.
- Fig. 50 The defensive fence along the top of the rear counterscarp
To the west of the entrance.
- Fig. 51 Ditto.
- Fig. 52 Iron fitments on the inside faces of the concrete
Parapet of the entrance causeway, at its counterscarp end.
- Fig. 53 Ditto.
- Fig. 54 Ditto.
- Fig. 55 Ditto.

Fig. 56 Exterior face of the western parapet of the entrance
Causeway.

Fig. 57 Roller at the bottom of the western leaf of the entrance
Doors.

Fig. 58 Interior faces of the western parapet of the entrance
Causeway and the revetment to hold back the rampart
Where the roadway passes through.



Fig. 36



Fig. 37



Fig. 38

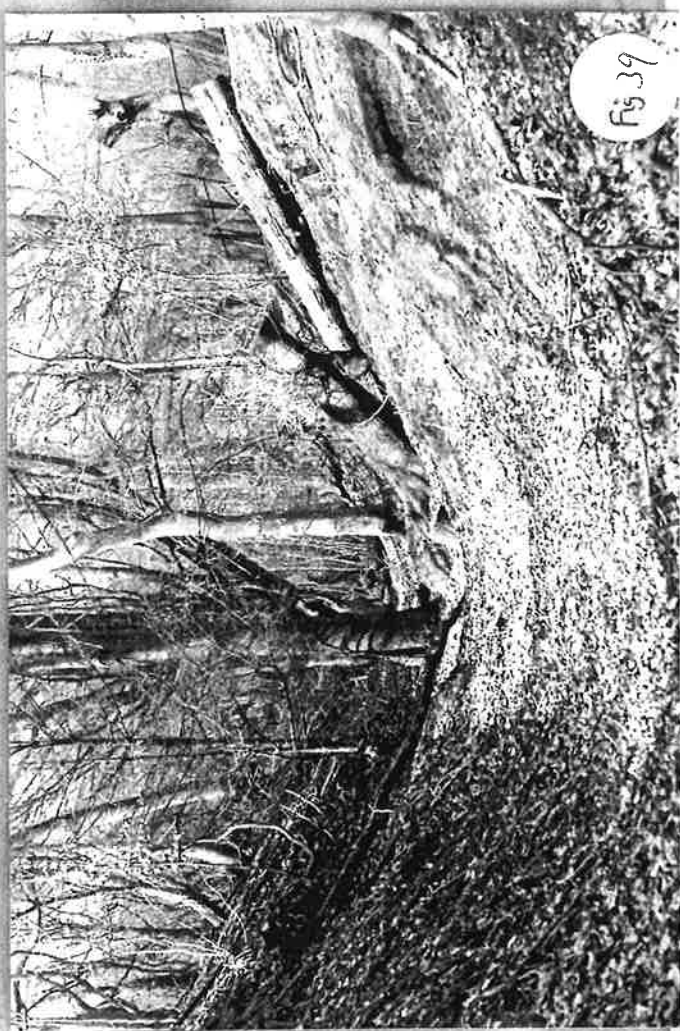


Fig. 39



Fig. 40



Fig. 41



Fig. 42



Fig. 43

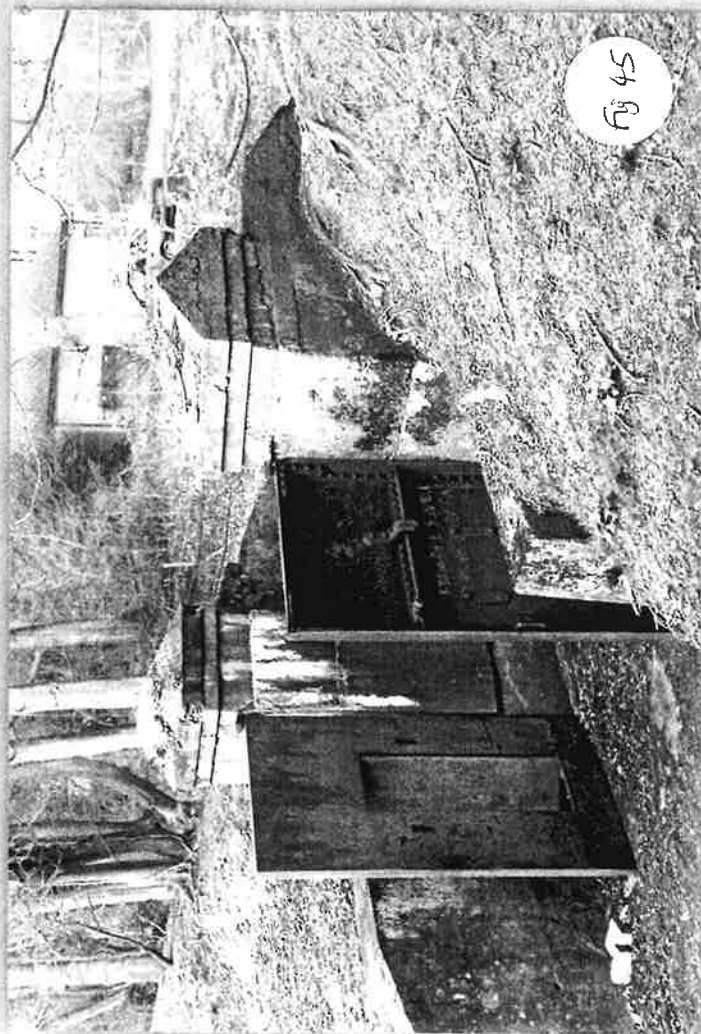


Fig 45



Fig 47

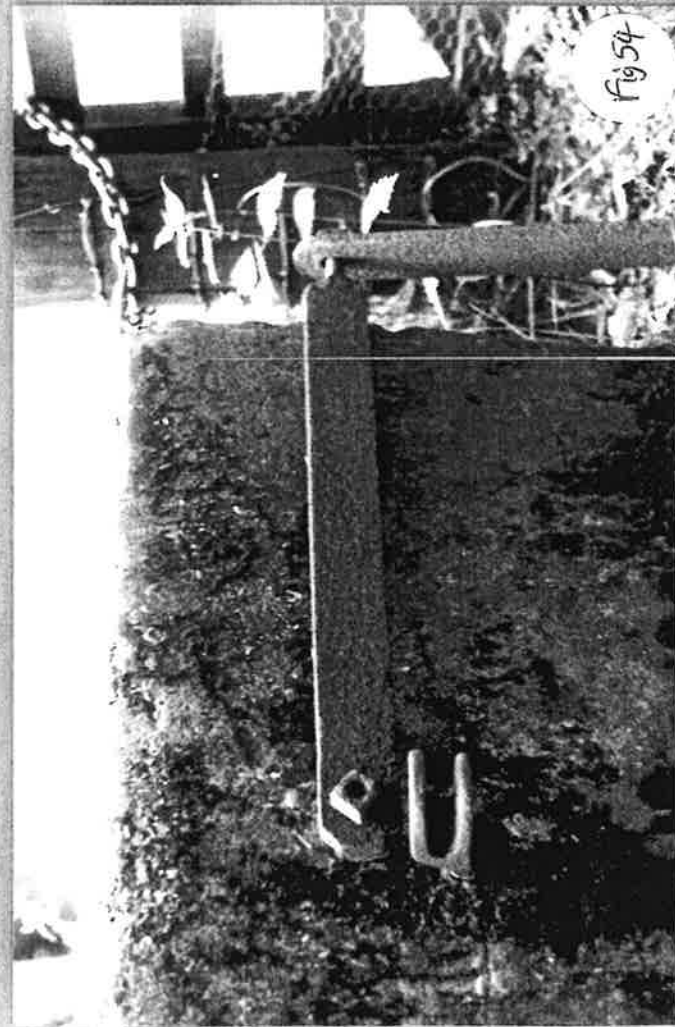
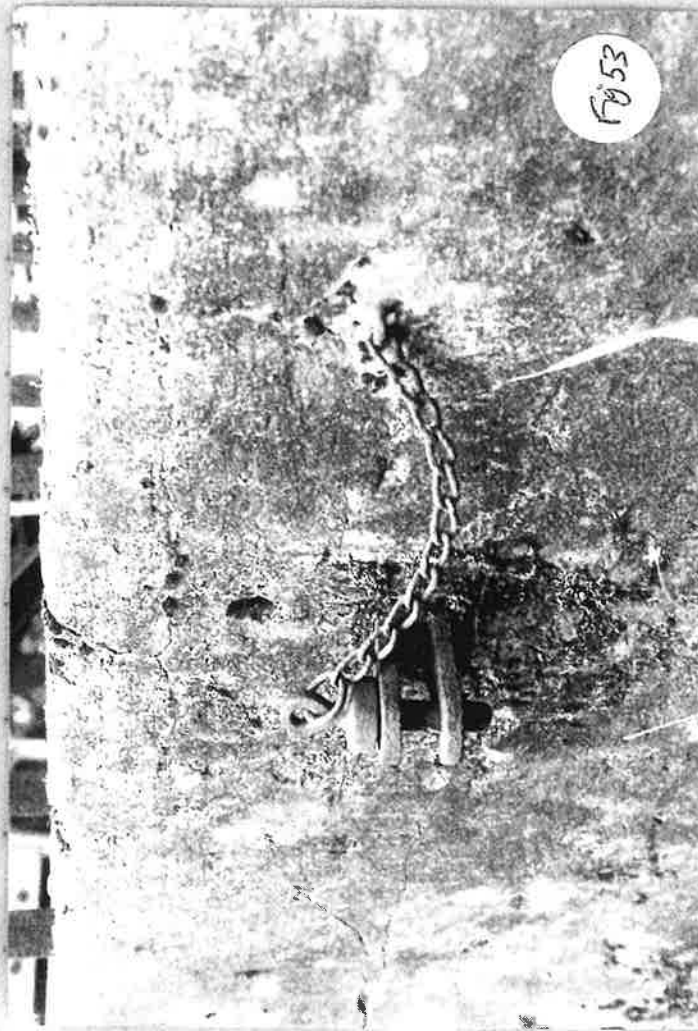


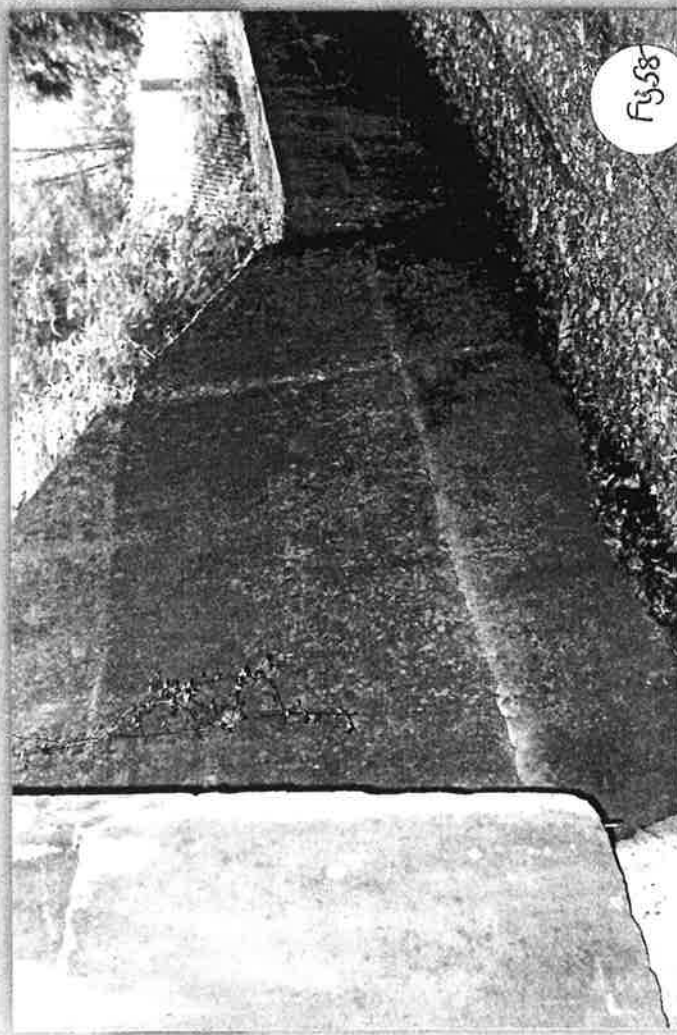
Fig 44



Fig 46







Figs. 59-62

DRAWINGS OF OUTER ENTRANCE GATES AND INNER
BULLET-PROOF DOORS c. 1898

(Public Record Office WO78/4333)

(Spente)

Figs. 63-65

DRAWINGS OF GS WAGON
(Extracted from D Wood and VTC Smith, *Fortbase*)

Fig. 63

TRA: WAGON. G.S.
MKS VII & VIII.
SOURCE: LOCS.
1894.
PT 2095

192

SECTION II.

(WOOLWICH SCORE CHANGE, No. 4.)

7852.—Wagons, general service. With one grease box (Marks VII. & VIII.) and lashing, 40 ft.

A drawing of the above-mentioned Mark VIII wagon has been sealed to govern future manufacture.

The wagon is generally similar to the Mark VII. (§6632), but differs in the following details, viz:—

1. The lashing rope hooks are stronger.
2. The bala hoops are about 9 inches higher.
3. The tailboards are fastened by means of the ordinary service pattern keys with chain.
4. The main pin connecting the fore carriage to the body is longer and stouter, and its head fits into a bearing plate added to the top of the upper bolster.
5. The bolsters are of increased size.
6. The splinter-bar draught stays are moved outwards, and bolted through the step plates.
7. The pole is $\frac{1}{2}$ inch thicker and wider, the futchels being set further apart to receive it.
8. Plates are added to the end of the hind bolster to prevent undue wear and tear.
9. The hinge strap on front of the wagon box are 3 inches longer, to afford additional strength.
10. All projecting ends of bolsters are bevelled off.
11. The wagon seat is secured by flat split keys.
12. The stays for the flooring raves have the leather strap fitted on the outside.

Weight 15 1
Minimum space in which wagon can turn 30

Tonnage { for shipment 6 7 5 4
for transport in boats 10 11 12
Rectangular space occupied { 12 8 by 6 0 1 by 6 3
in boats

Mark VII.*

Three wagons (which will be known as Mark VII.*) have been issued for service, which differ in some minor details (chiefly in having a cast-iron pipe box), and in the various loose parts not being interchangeable with those of the Mark VIII. pattern.

Date of approval, and page in Vocabulary.
71
1
6452

19th Dec. 1894.
71
1
6451
p. 106.

Date of approval, and page in Vocabulary.
71
1
6452

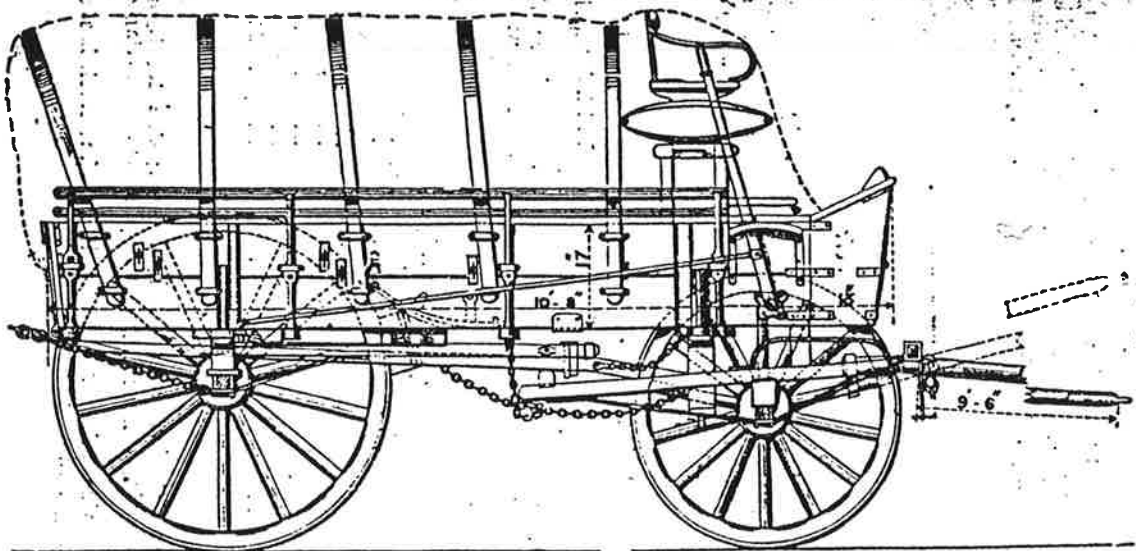
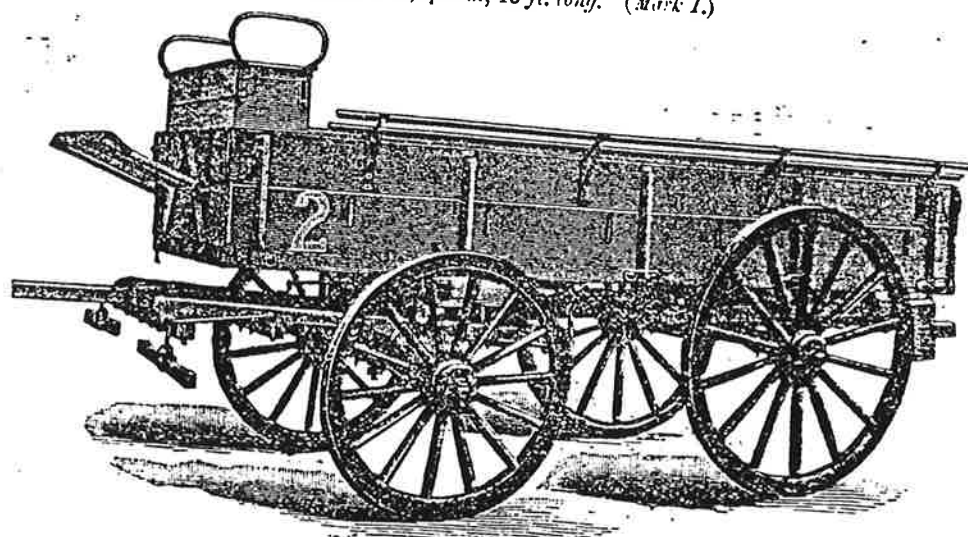


Fig. 64

64

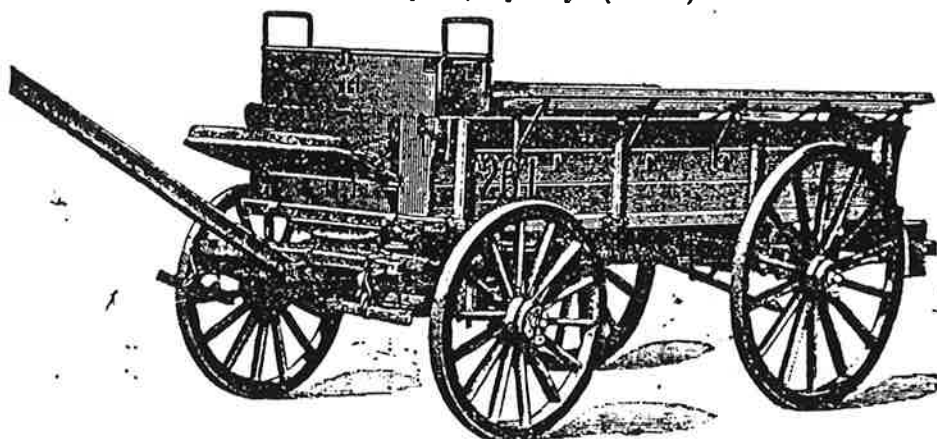
Wagon, U.S., special, 13 ft. long. (Mark I.)



492

(501)

Wagon, G.S., special, 12 ft. long. (Mark I.)



493

501

Royal Army Medical Corps

116

Fig. 65

gained from the front of the wagon, over the driver's seat, the back rail of which can be folded up out of the way. The remaining part of the body is fitted with seats along the sides, arranged to fold upwards when not in use, to make room for two stretchers. A sliding step to the back of the wagon, which, when not in use, can be raised and pushed close up to the tail-board in guides fixed along the bottom for that purpose. The sides are fitted with ventilators, staples for the bale hoops, and standards for the back rail. Fittings are attached to the back rails and under the seats for carrying rifles, and there are two straps attached to the back rails for the safety of the patients. Sockets are fixed to the sides for supporting the lamp brackets.

A wooden ladder to assist the patients in mounting is carried, and is strapped to the underside when not in use. A water cask, capable of carrying 10 gallons, is secured under the rear by iron bands, and a small tackle is fitted just above it to facilitate lifting it into position when required.

The splinter bar is arranged to allow a vertical play to the pole; and spiral "draw springs", through which the loops for the single-trees pass, are fixed at the rear of the bar. These are intended to ease the strain of draught upon the horses, particularly at starting. The wheels have wooden nave and phosphor-bronze pipes.

The fore wheels are 3 feet 0 inches diameter, the hind 4 feet 8 inches. The tires are 2½ inches wide.

The wagon is fitted with a brake, which acts on the front of the hind wheels. It is applied by the driver by means of a hand lever (a), which is connected by an iron rod to a brake lever (b), the lower end of which is furnished with a wood block (c); an iron cross bar is secured to the lever (b) at (d), and connects a similar block which acts on the "rear" wheel. A rack (e) keeps the brake on when it is applied.

The wagon is fitted with bale hoops and a canvas cover, a leather apron for the driver, cranked guard irons, a driver's seat, two lockers beneath the front seat, a drag shoe, and a 3-lb. grease tin. The stretchers used are of the Service pattern, and, when not in use, they are packed beneath the seats.

Weight	....	....	....	....	....	cwt., qr., lb.
Tonnage	....	....	....	....	....	18 1 14
Minimum space in which the wagon can turn	....	....	....	....	....	longs, 11-08
Rectangular space occupied	f. l.n.	f. l.n.	f. l.n.	f. l.n.	f. l.n.	
in boats	} 12	7½ × 6	1 × 9	2½		

MARK V ABDULANCE WAGON.

"This wagon is constructed to accommodate twelve men seated, or two men on stretchers and four seated."

It is fitted with a perch, and a "Jacob's" lock fore-carriage, which reduces the strain on the body in travelling, and admits of large front wheels being used, so as to minimise the pull on the horses. It is also fitted with a pole and swingletrees for long-rein driving.

The front part of the wagon body is partitioned off, and provided with seats to accommodate two men. Entrance to this part is

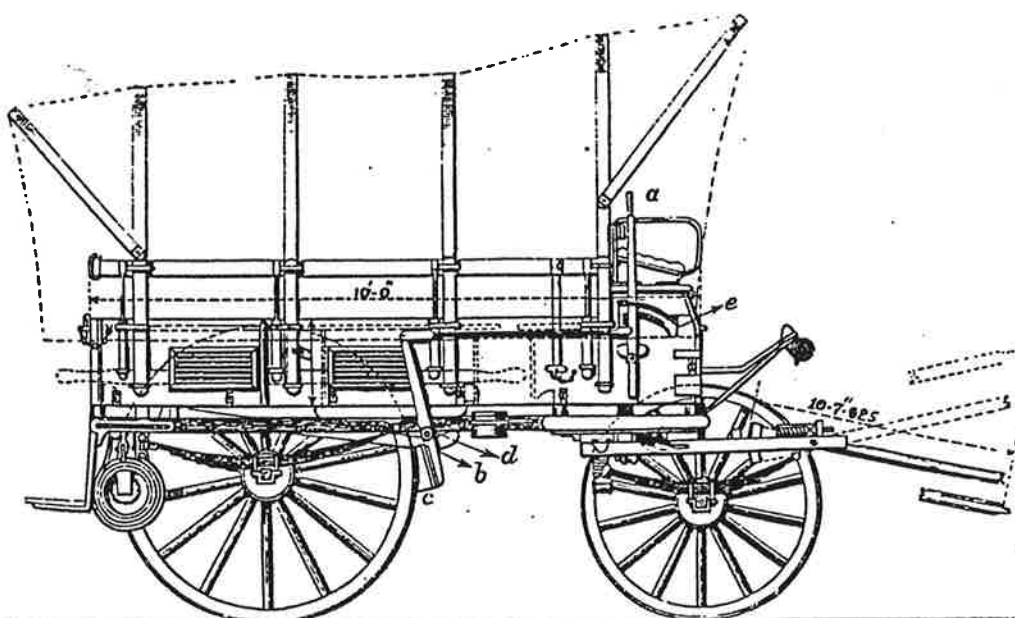


FIG. 79.—AMBULANCE WAGON (MARK V).

Figs. 66-7

CURVED WAY TAKING THE ENTRANCE ROAD INTO THE
PARADE

Fig. 66 View from the east.

Fig. 67 View from the west.

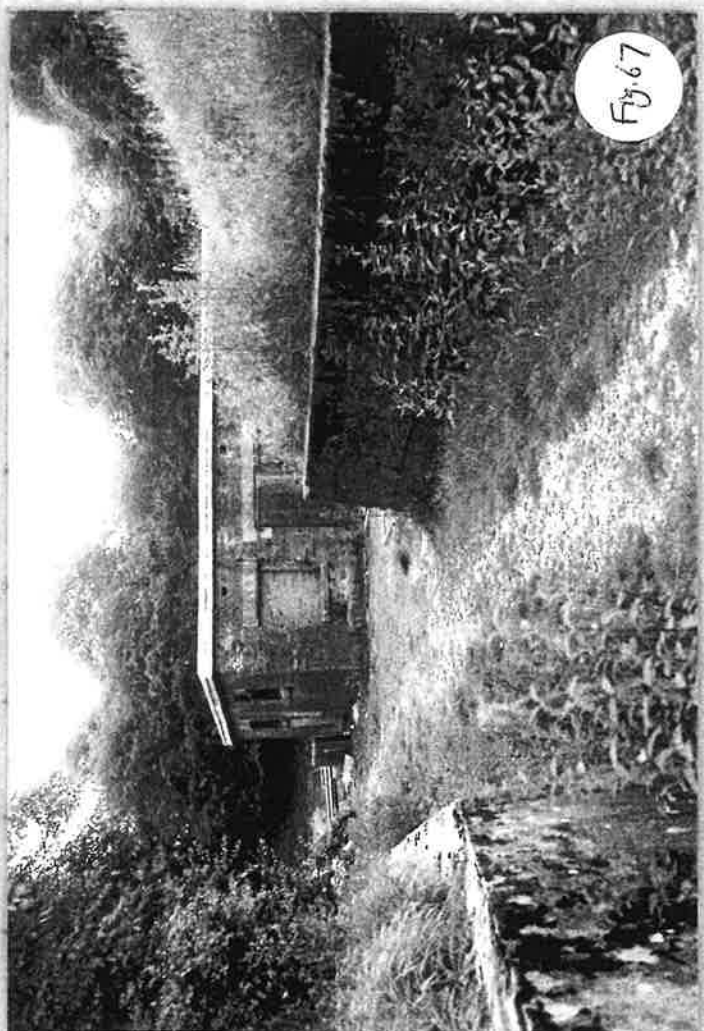
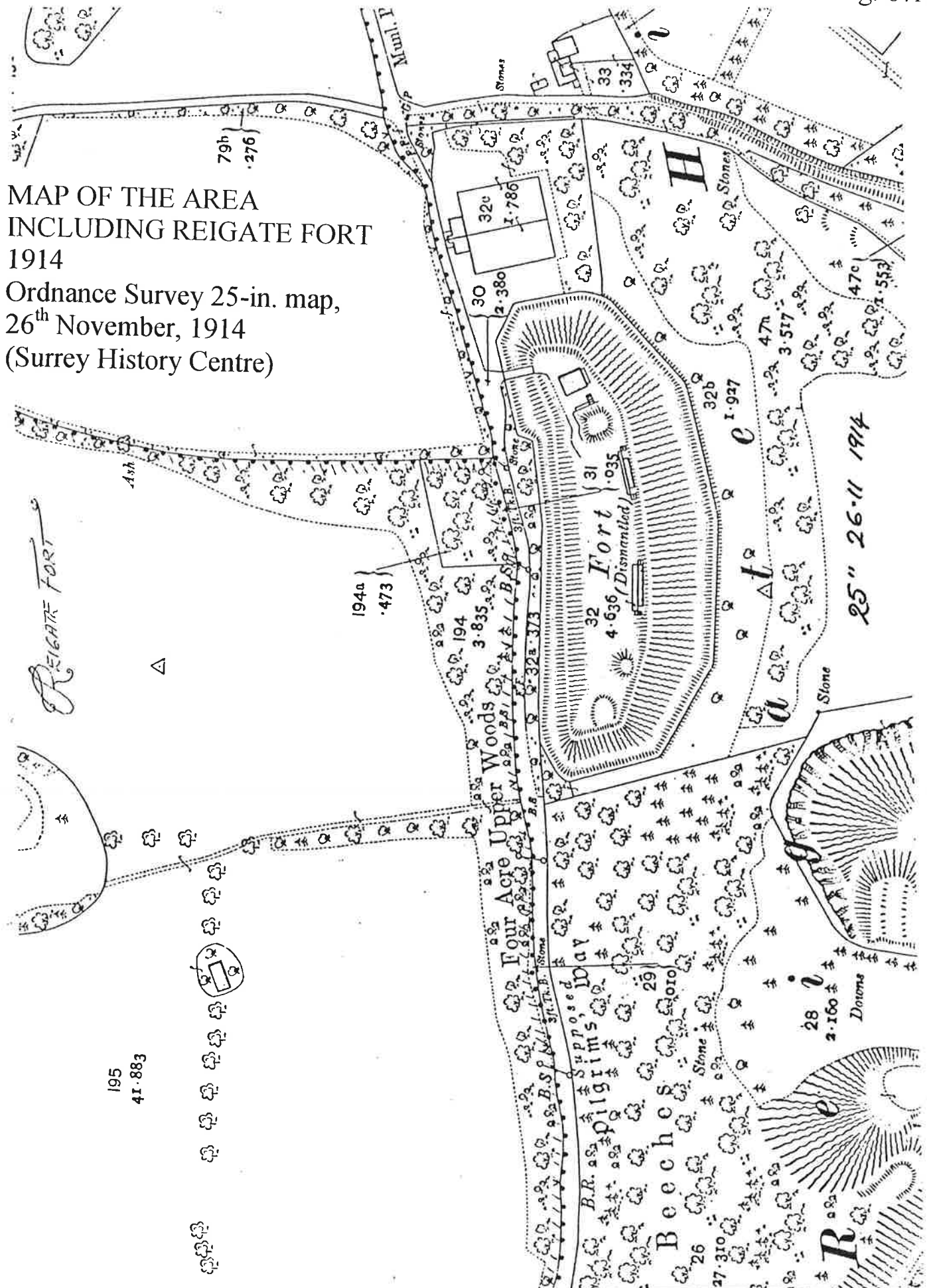


Fig. 67A



Figs. 68-71

THE RECTANGULAR MOUND, WATER TANK AND
HYDRANT (Photographed by VTC Smith January 2000).

Fig. 68 Rectangular mound from the SW

Fig. 69 Rectangular mound from the east.

Fig. 70 The top of the underground water tank

Fig. 71 The hydrant.



Fig 68

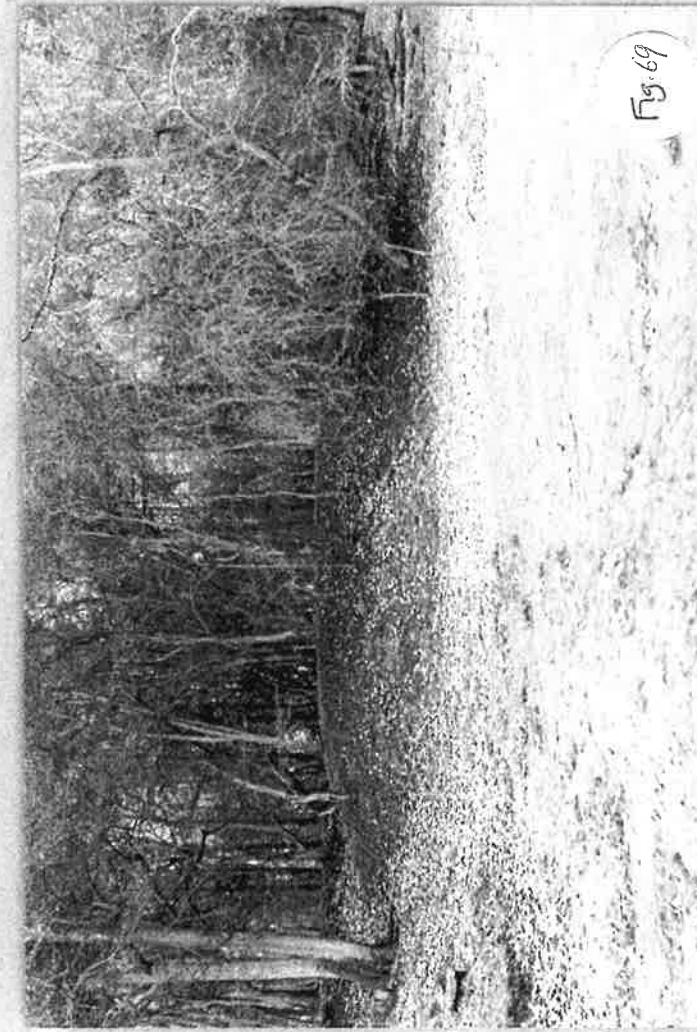


Fig 69



Fig 70

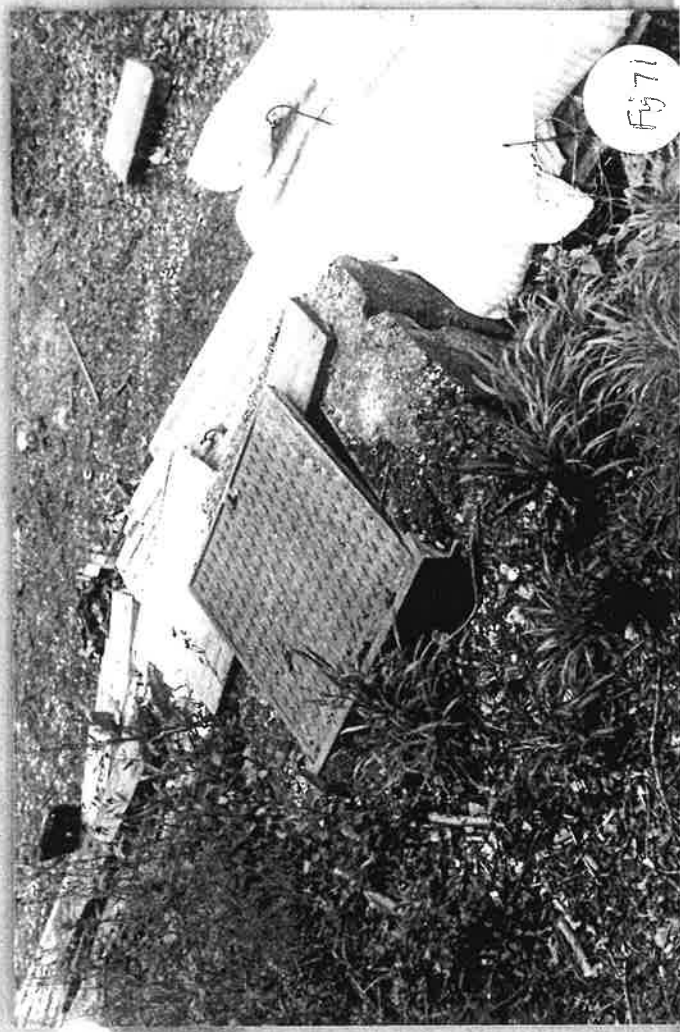


Fig 71

Figs. 72-75

DRAWINGS OF UNDERGROUND WATER TANK c. 1898

(Public Record Office WO78/4333)

(Separate)

THE CASEMATES

(Photographed by VTC Smith, July, 2000)

- Fig. 76 Eastern casemate with slight traces of the western one in
The background.
- Fig. 77 Exposed sloping concrete roof of the western casemate
- Fig. 78 Sunken way of eastern casemate, looking east
- Fig. 79 Recesses for water tanks on the northern side of the
Sunken way of the eastern casemate (looking east)
- Fig. 80 Western compartment of the eastern casemate, with
Remnants of glazing bars on the left.
- Fig. 81 Bunk beds in western compartment. The Jack-arched
Ceiling may be seen.
- Fig. 82 Eastern compartment of eastern casemate, looking
Through into the western compartment. The blocked
Archway and hatchway may be seen on the left.

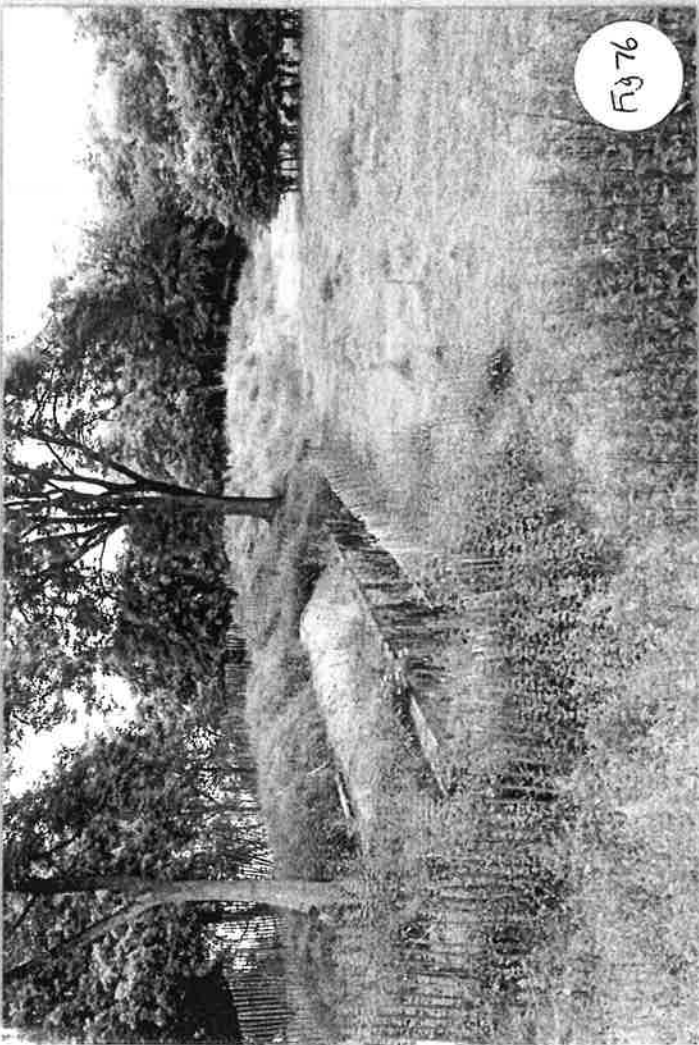


Fig 76

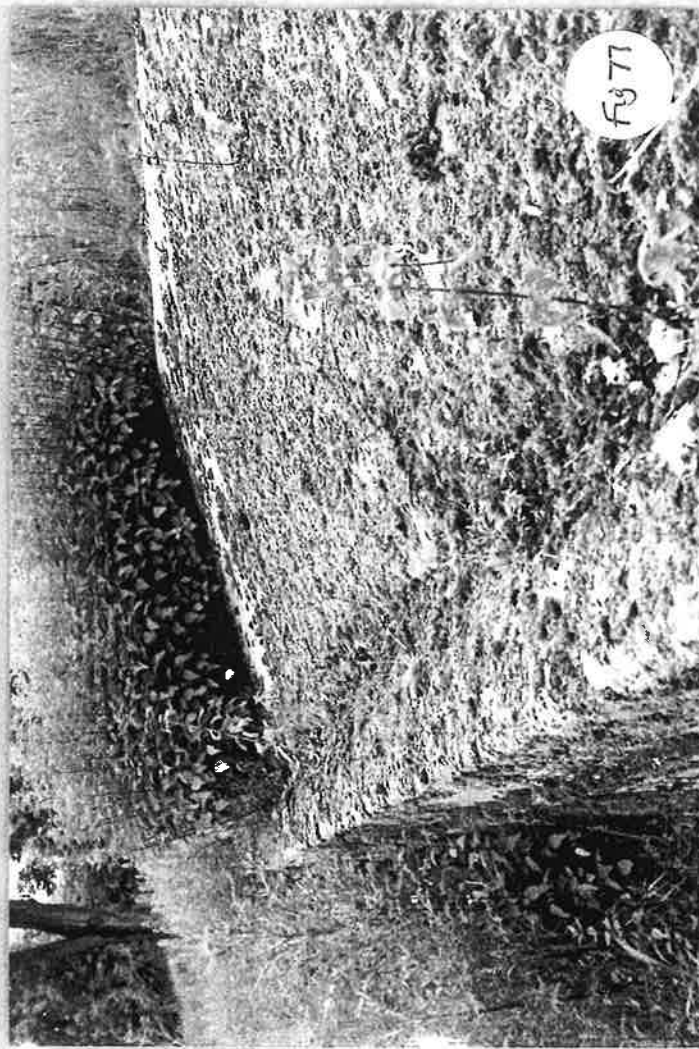


Fig 77



Fig 78

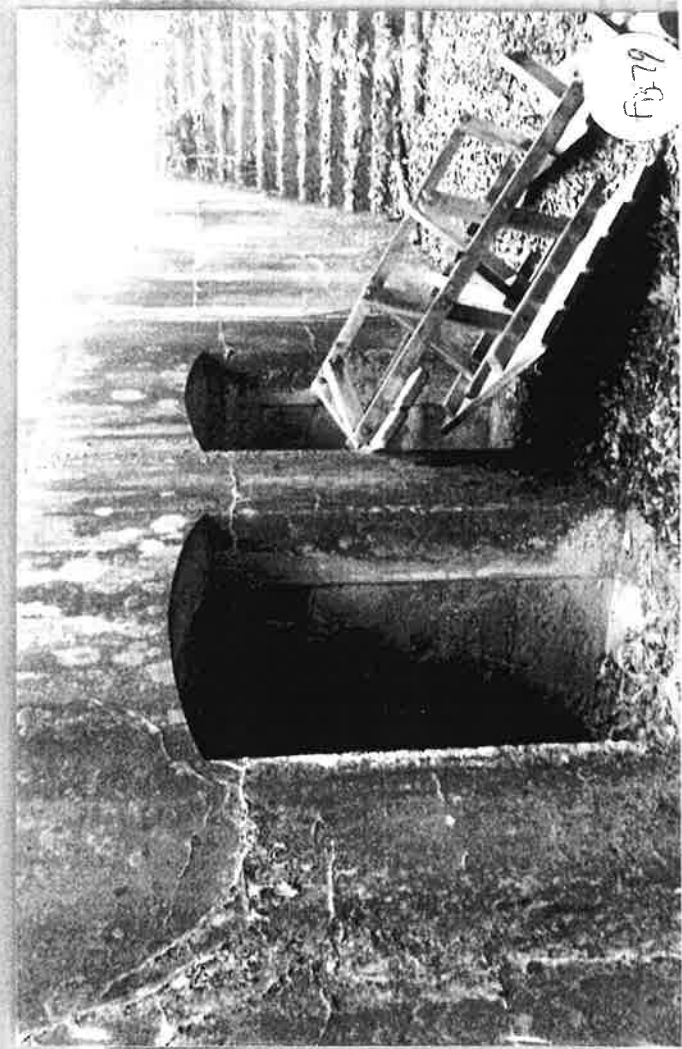
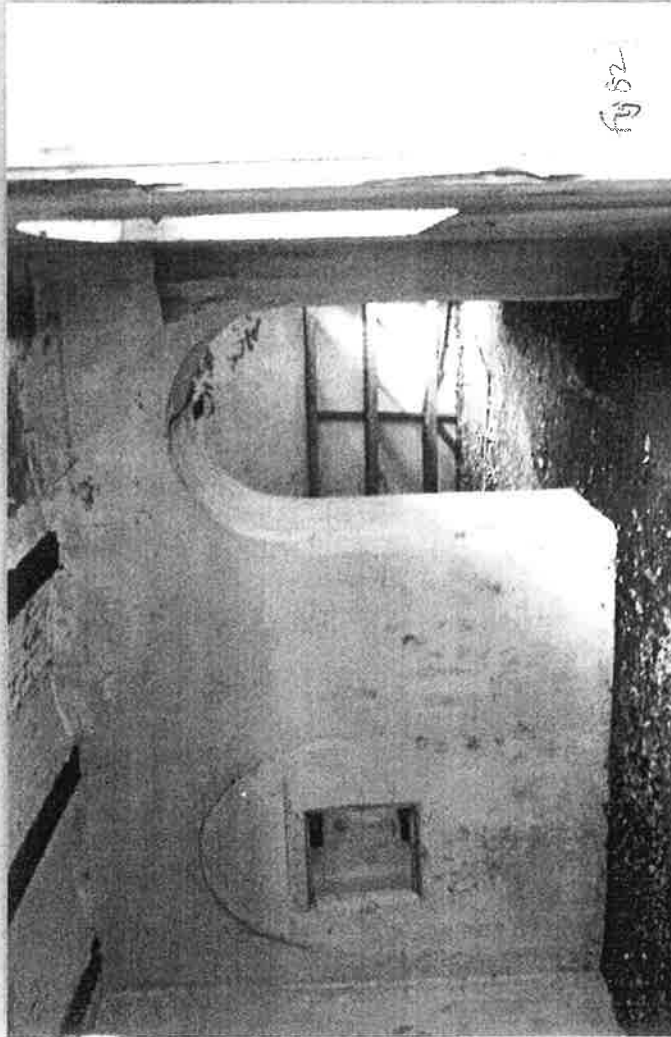
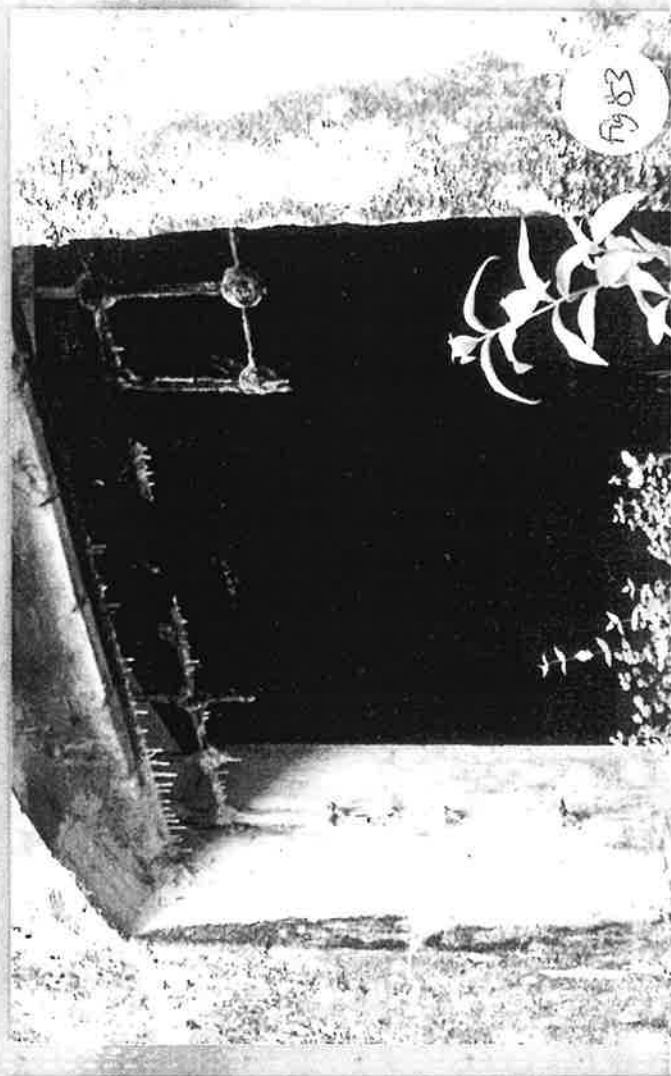
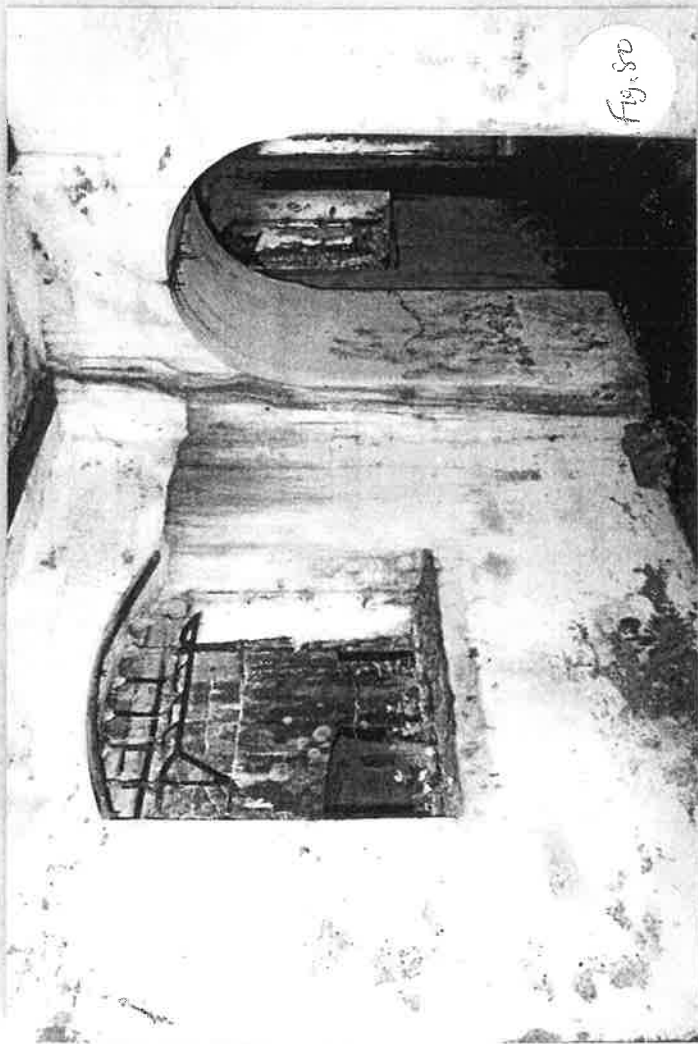
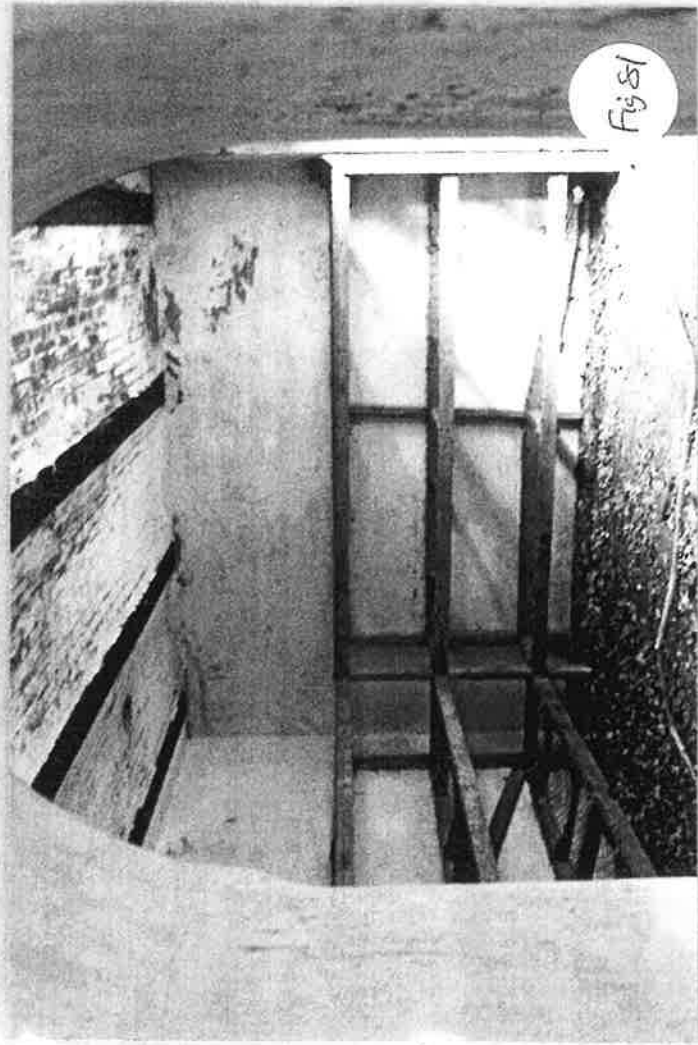


Fig 79



Figs. 84-91

THE TOOL STORE

(Photographed by VTC Smith July, 2000)

Fig. 84 SW Corner

Fig. 85 Ditto.

Fig. 86 Ditto

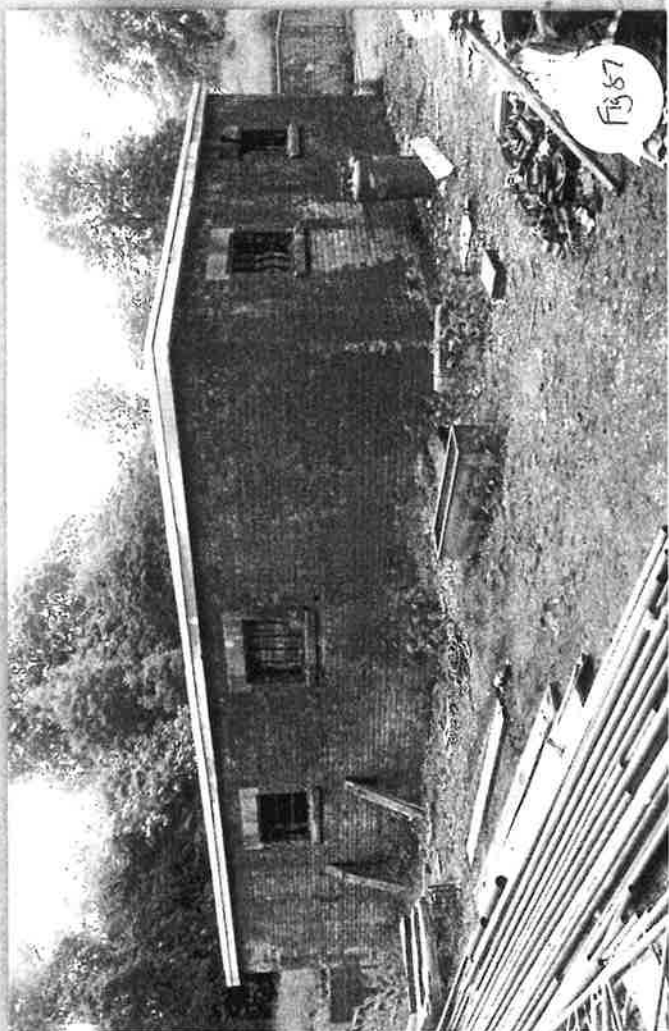
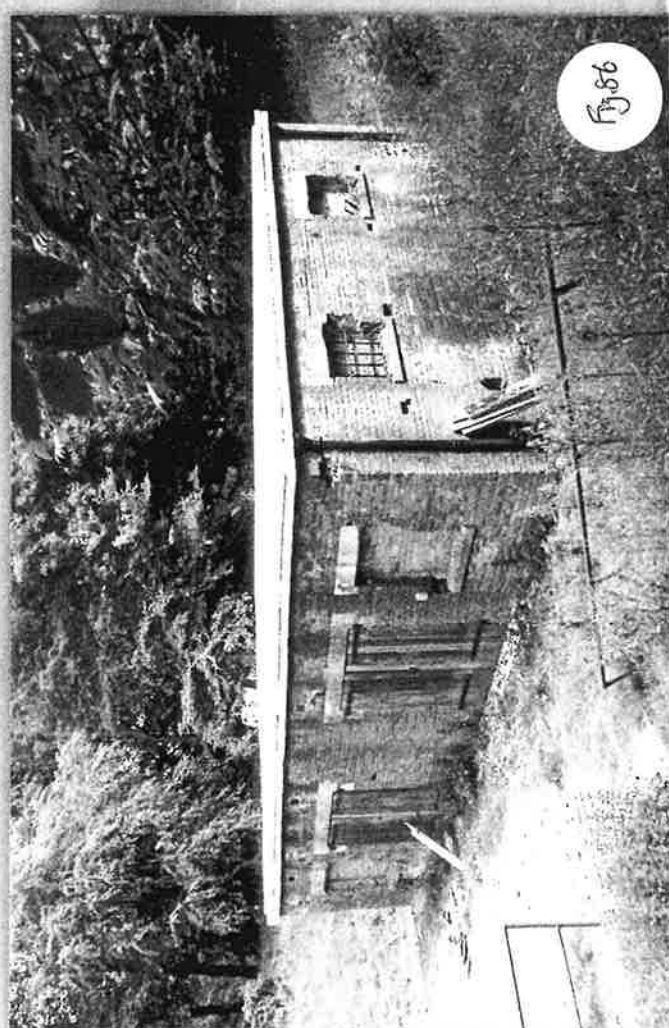
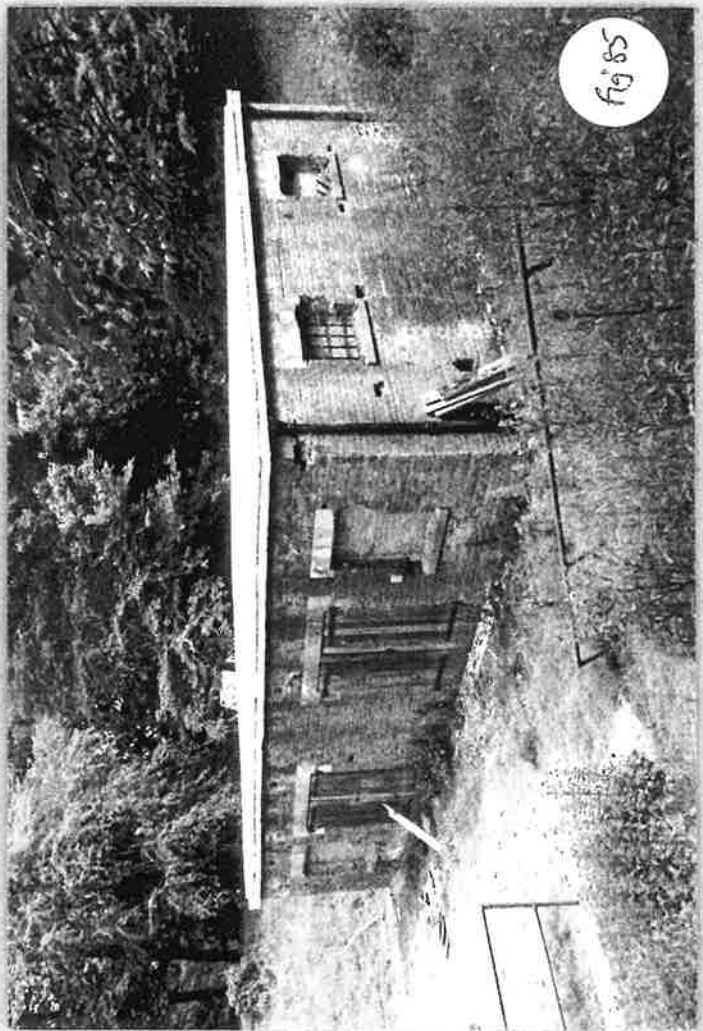
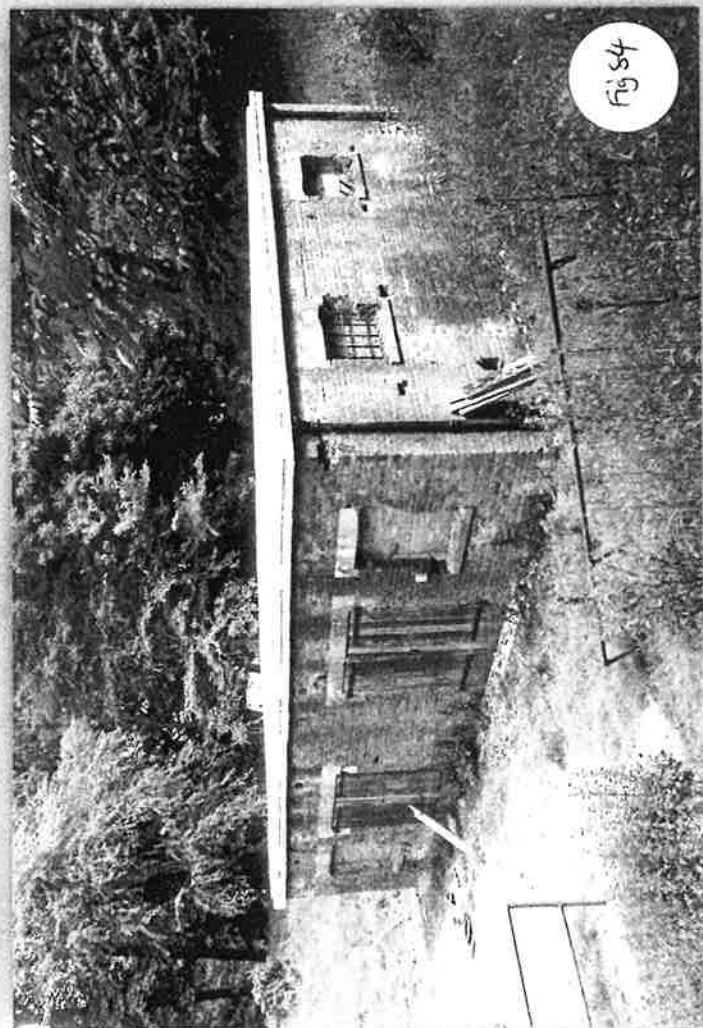
Fig. 87 NE corner

Fig. 88 NW corner

Fig. 89 South wall, walkway and revetment to the rampart.

Fig. 90 Western elevation

Fig. 91 Window in south elevation



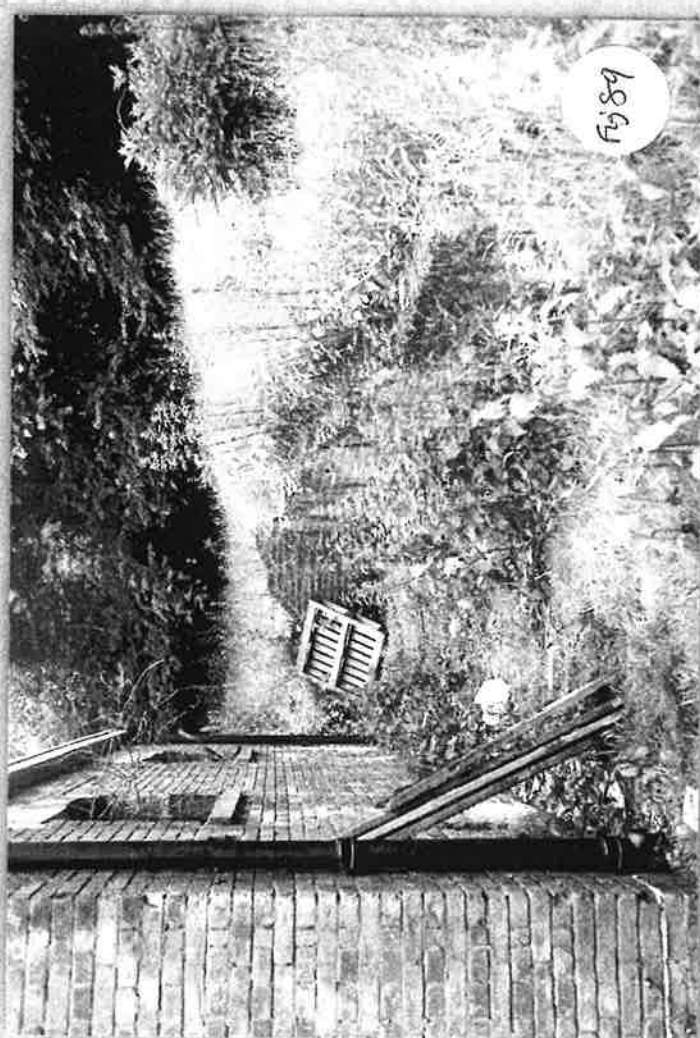


Fig 89

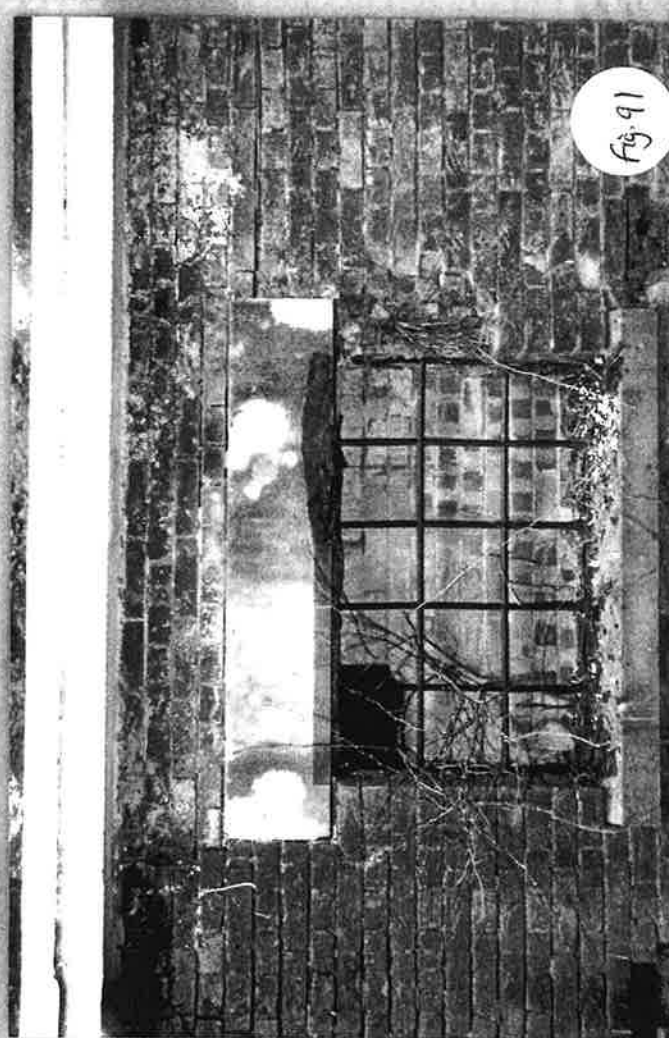


Fig 91



Fig 88



Fig 90

THE MAGAZINE

(Photographed by VTC Smith, January, 2000)

- Fig. 92 General view of the magazine from the SE
- Fig. 93 Ditto from the north, with the ammunition distribution Platform in the foreground.
- Fig. 94 Entrance passage looking west
- Fig. 95 Ditto looking east towards entrance steps.
- Fig. 96 Lamp recesses at the end of the entrance passage: the Left one is to illuminate the passage itself and the Right to light the Shifting Lobby.
- Fig. 97 Lettered lintel of entrance to Shifting Lobby.
- Fig. 98 Doorway from the entrance passage to the Shifting Lobby viewed from inside the lobby.
- Fig. 99 The lamp recess for the Shifting Lobby which Was served from the entrance passage.
- Fig. 100 West wall of the Shifting Lobby, displaying Traces of the changing bench
- Fig. 101 Slot on the east wall of the Shifting Lobby to Receive the moving wooden bar.
- Fig. 102 East end wall of the Cartridge Store, showing the Issuing hatch, two lamp recesses and later decorative Painting
- Fig. 103 Detail of issuing hatch in the Cartridge store.
- Fig. 104 Lamp recesses in Cartridge Store.
- Fig. 105 Issuing hatch in the Shell Store.
- Fig. 106 Recesses in the south wall of the entrance passage In which had been shelving for the storage of magazine Lamps.
- Fig. 107 Floor of the ammunition handling lobby, looking south Towards the entrance passage.

- Fig. 108 Ammunition handling lobby, looking north. The Cartridge hatch is on the left, together with a lamp recess Above and another recess in the end wall.
- Fig. 109 The issuing hatch into the ammunition handling lobby From the Shell store, with a lamp recess above.
- Fig. 110 Both issuing hatches into the ammunition handling Lobby.

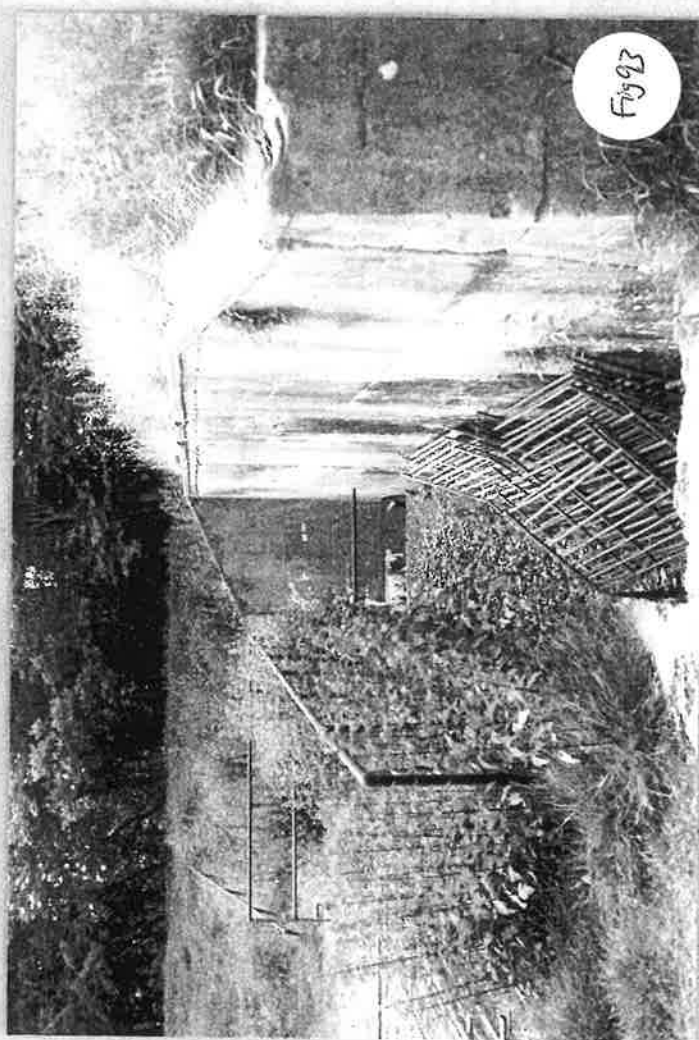


Fig 93

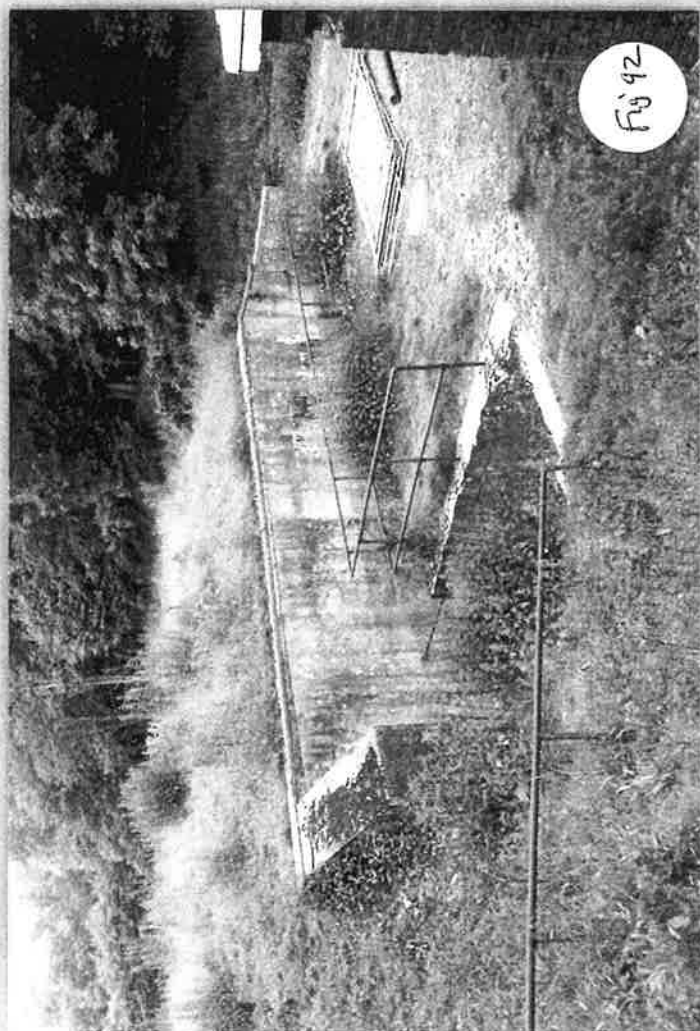


Fig 92

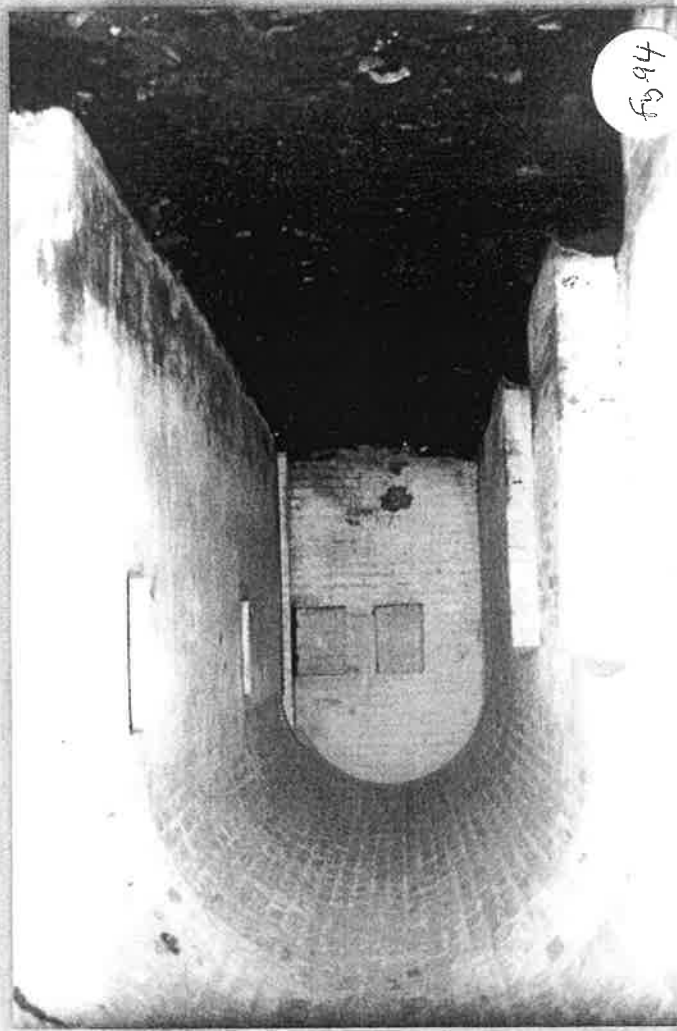


Fig 94

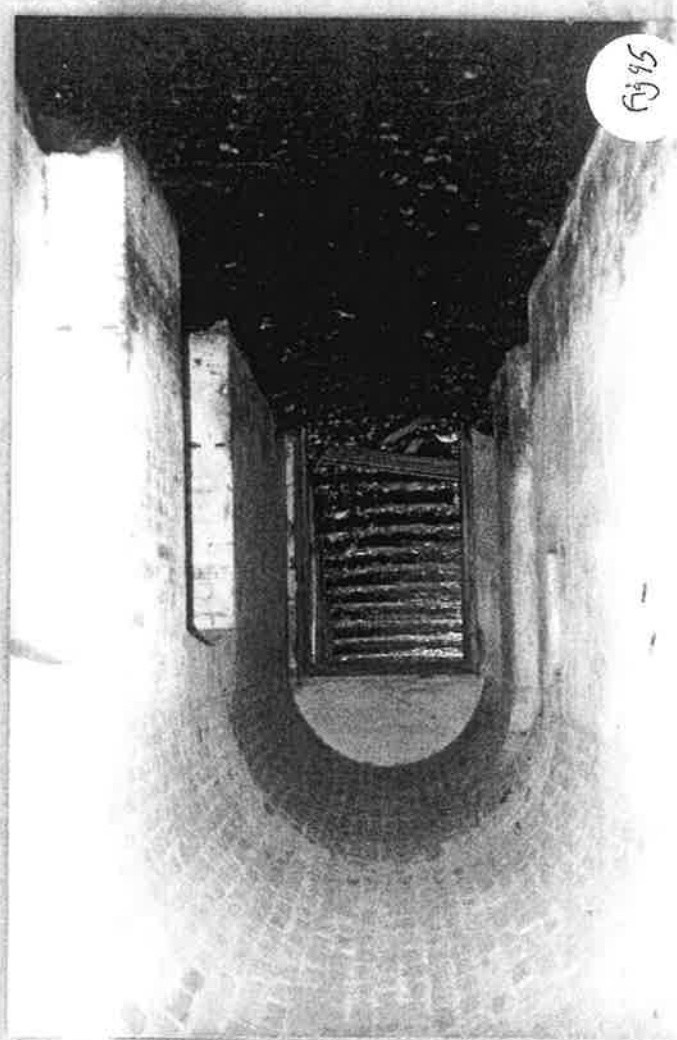


Fig 95



Fig 98



Fig 99

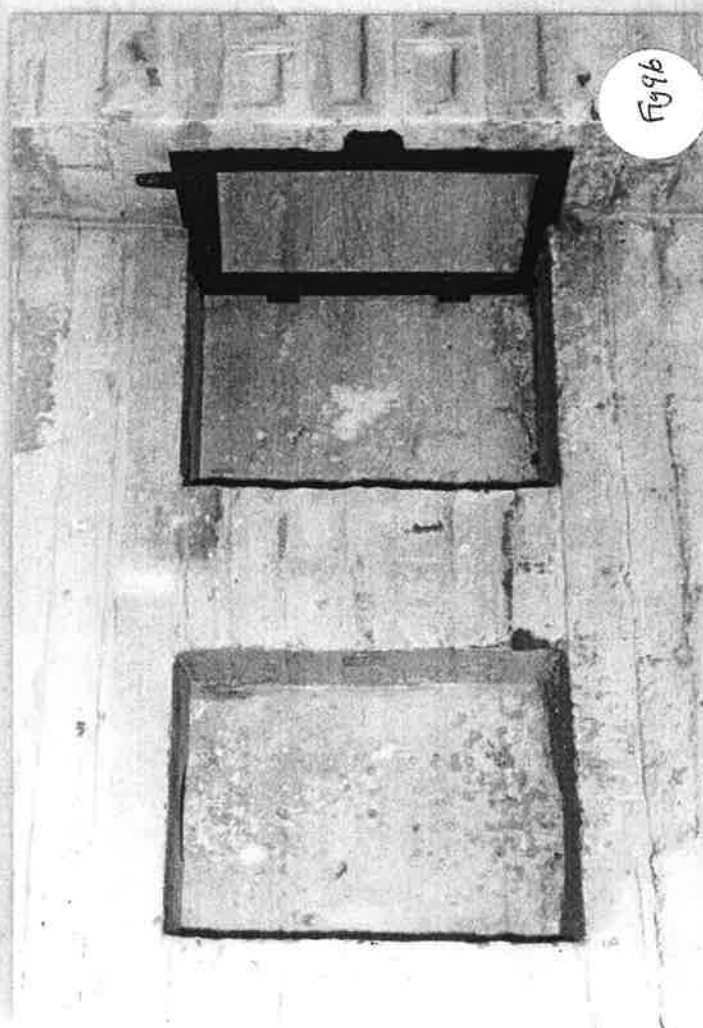


Fig 96

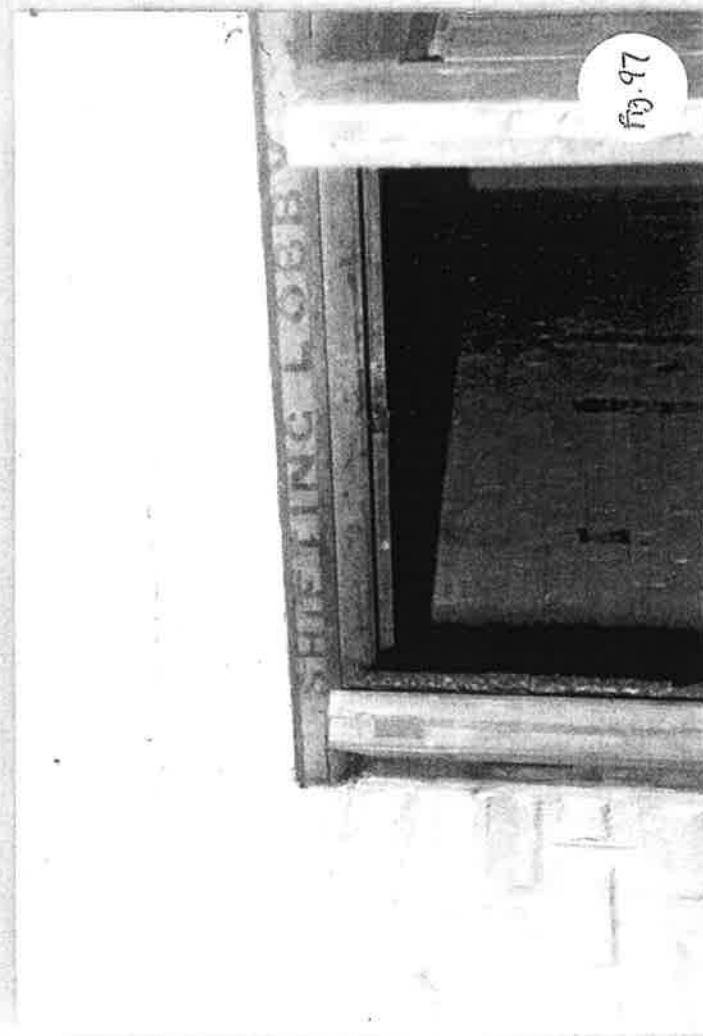


Fig. 97



Fig 100

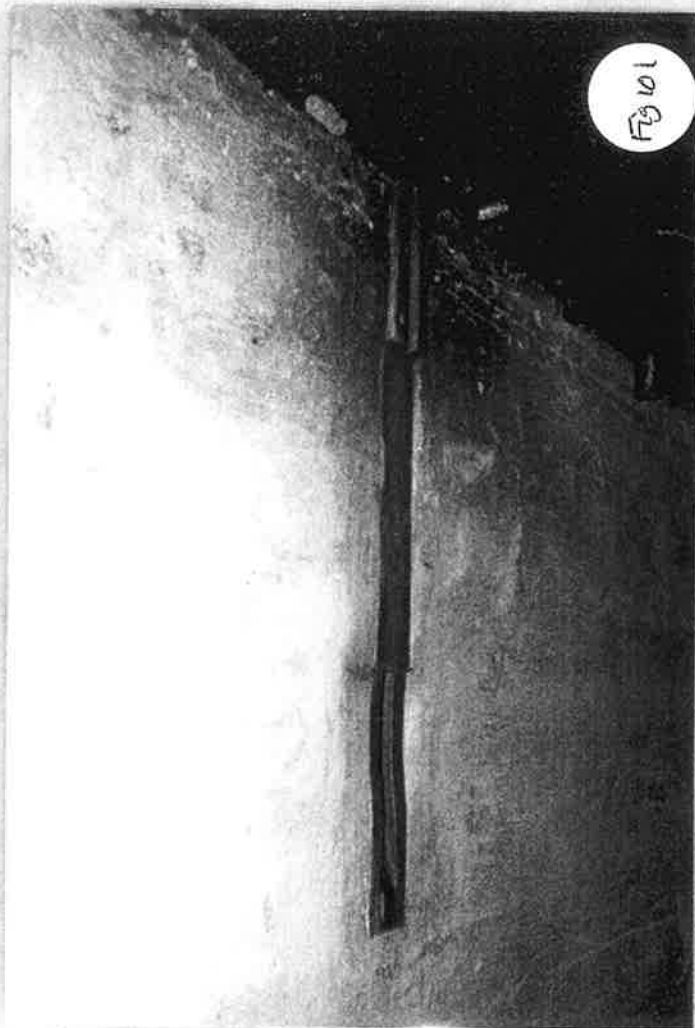


Fig 101

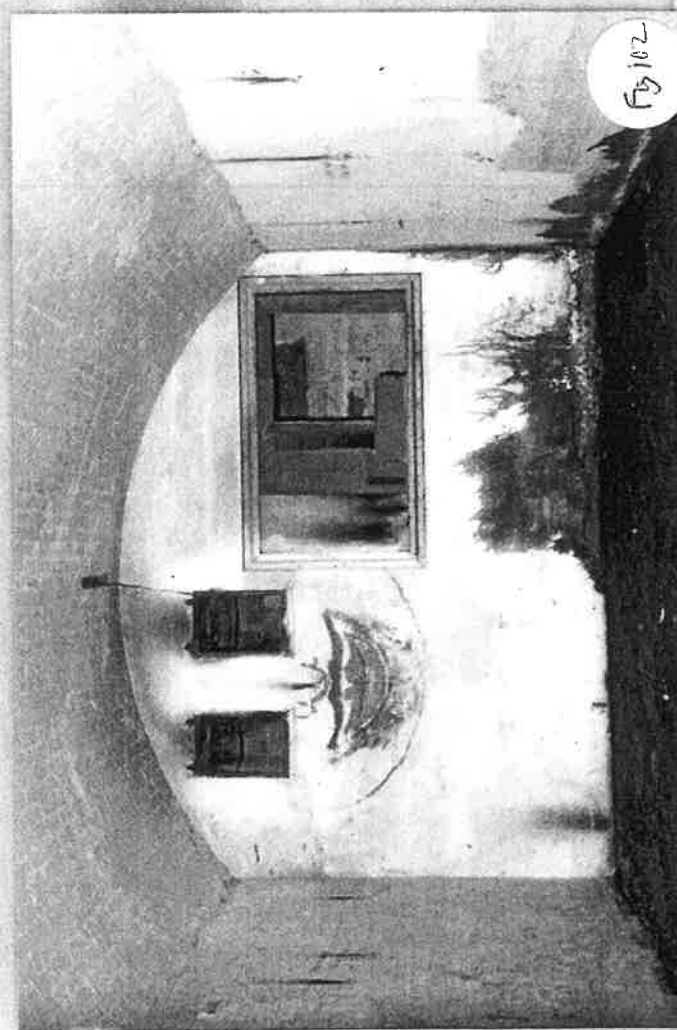
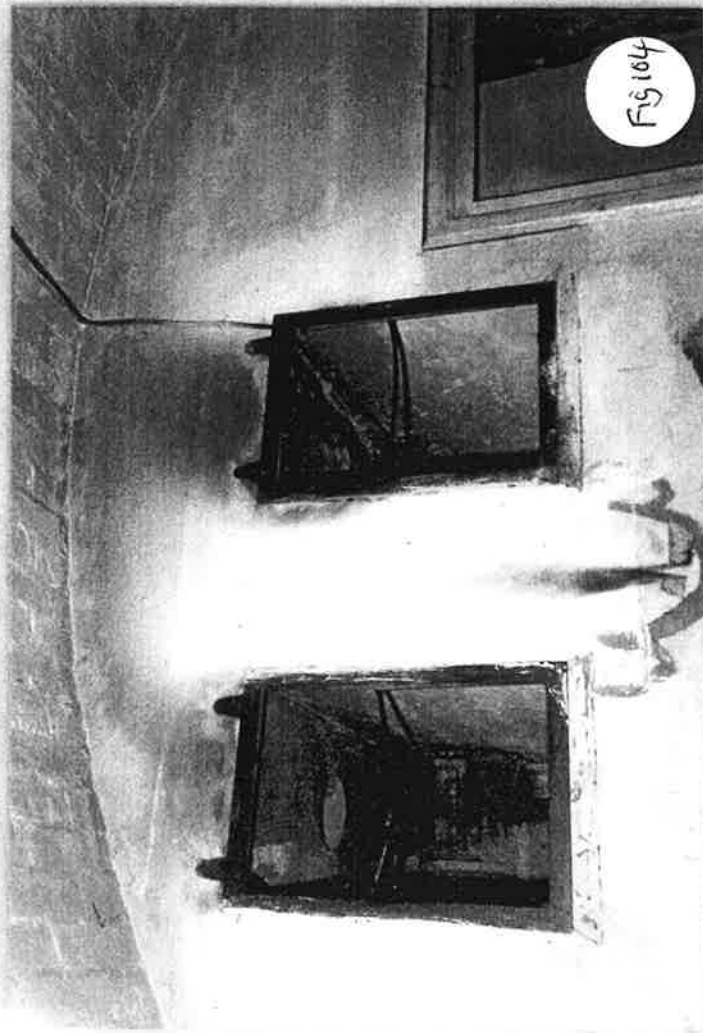
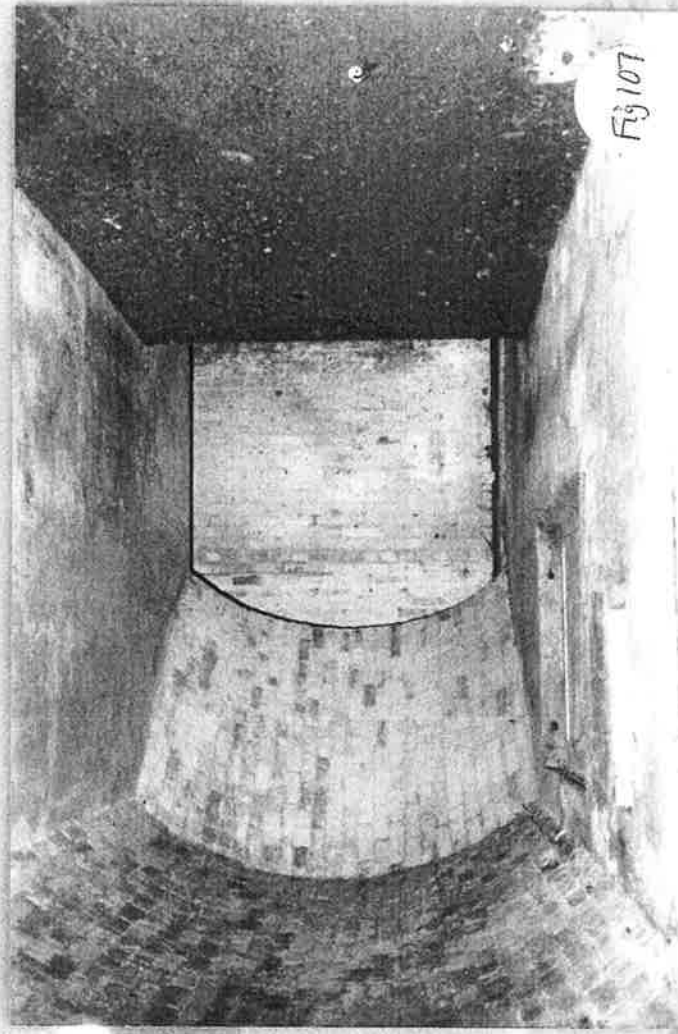
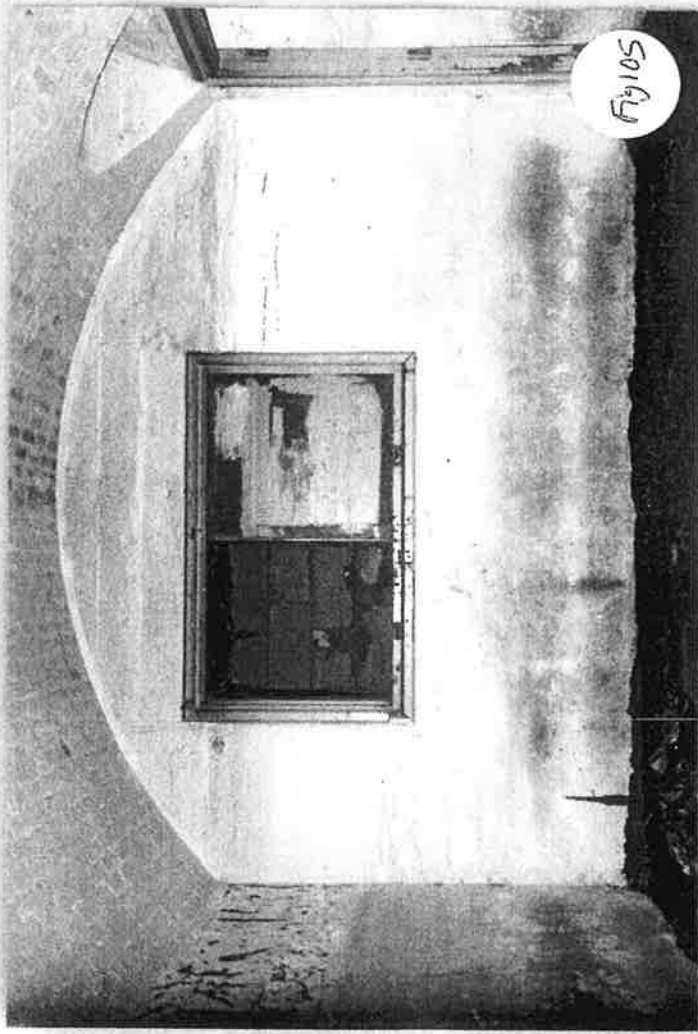


Fig 102



Fig 103



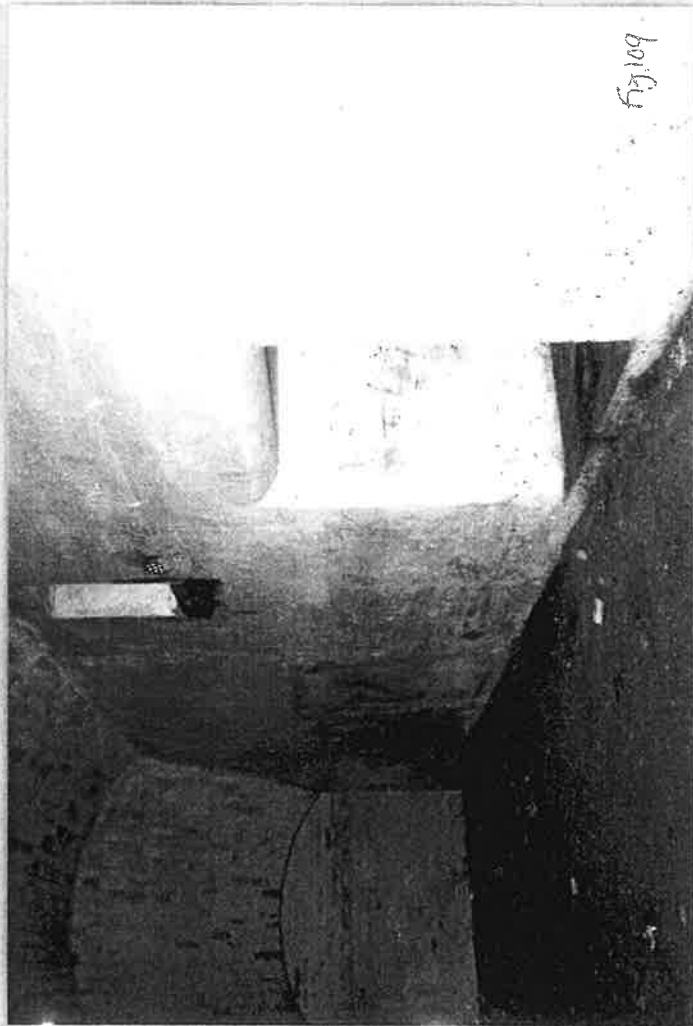


Fig 109

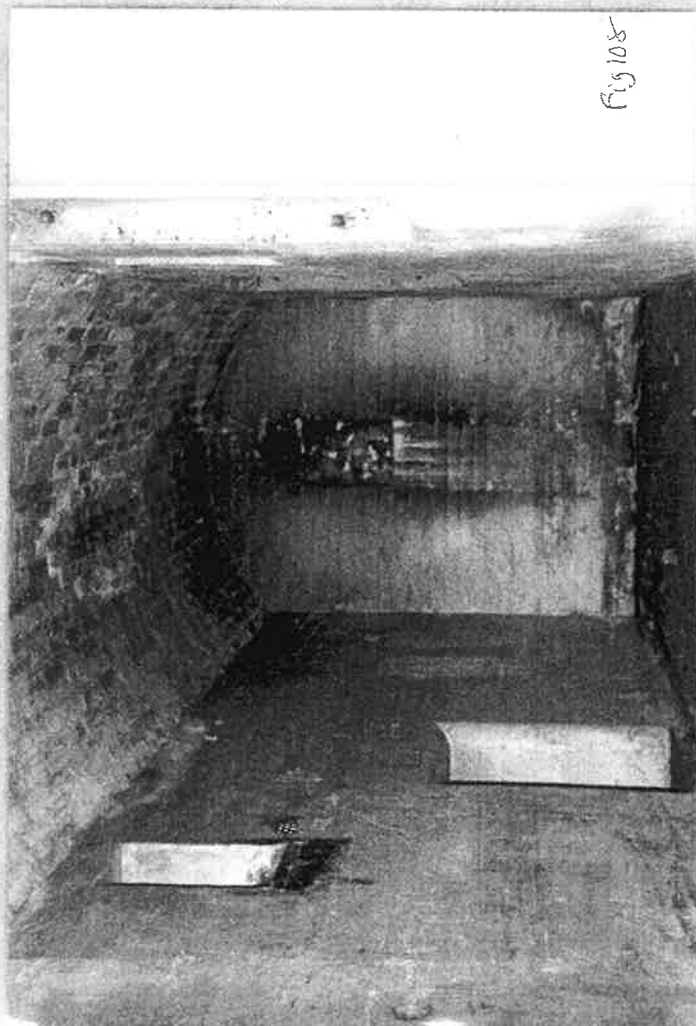


Fig 108

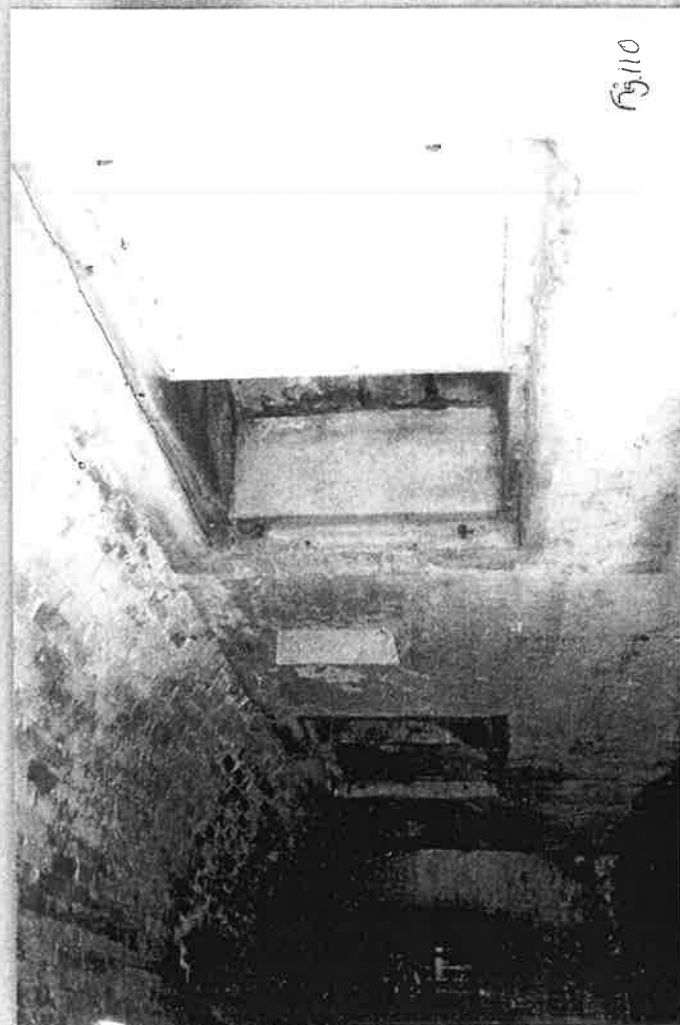


Fig 110

Figs. 111-114

MAGAZINE LAMP

Copy of a magazine lamp of the type that might have been used in the magazine from 1901, replacing an earlier pattern.
(Extracted from D. Wood and VTC Smith, *Fortbase*)

Fig 112
LIGHTING FIXTURE

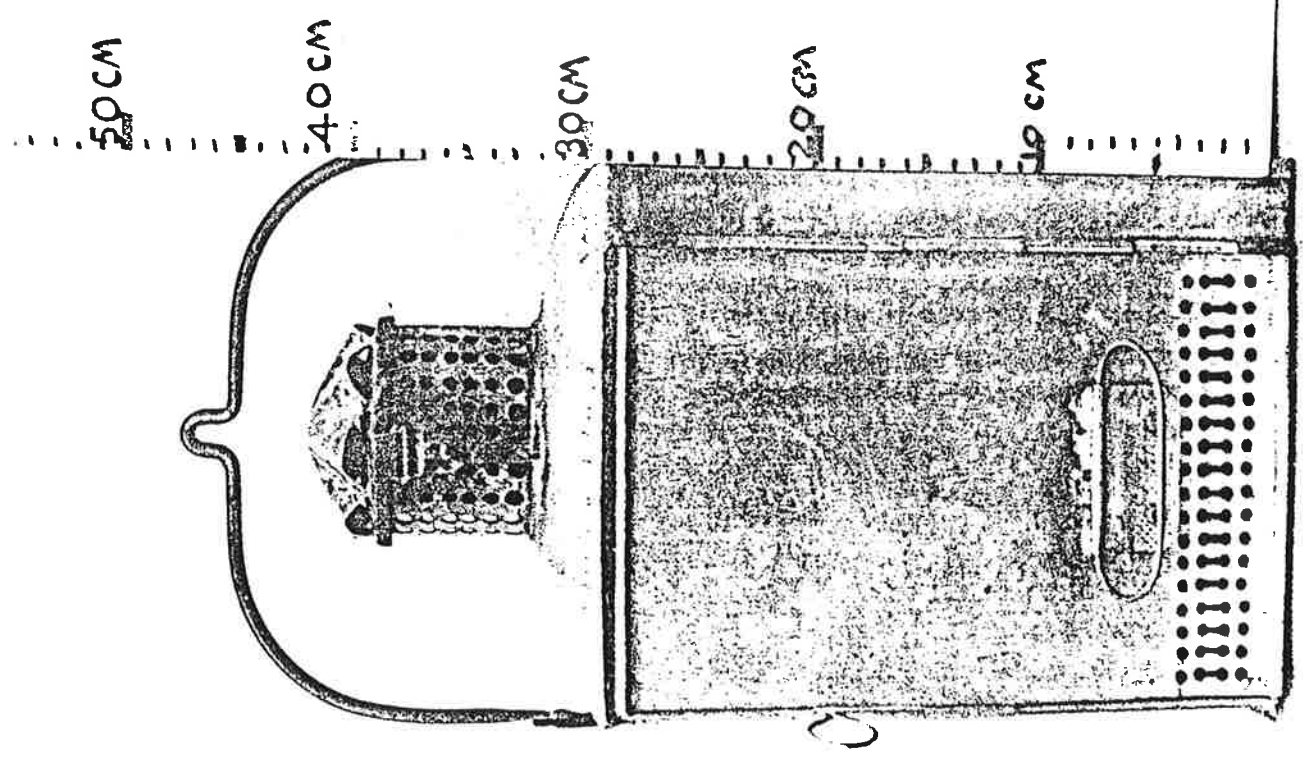


Fig 112

REPRODUCTION 1901 PATENT LAMP

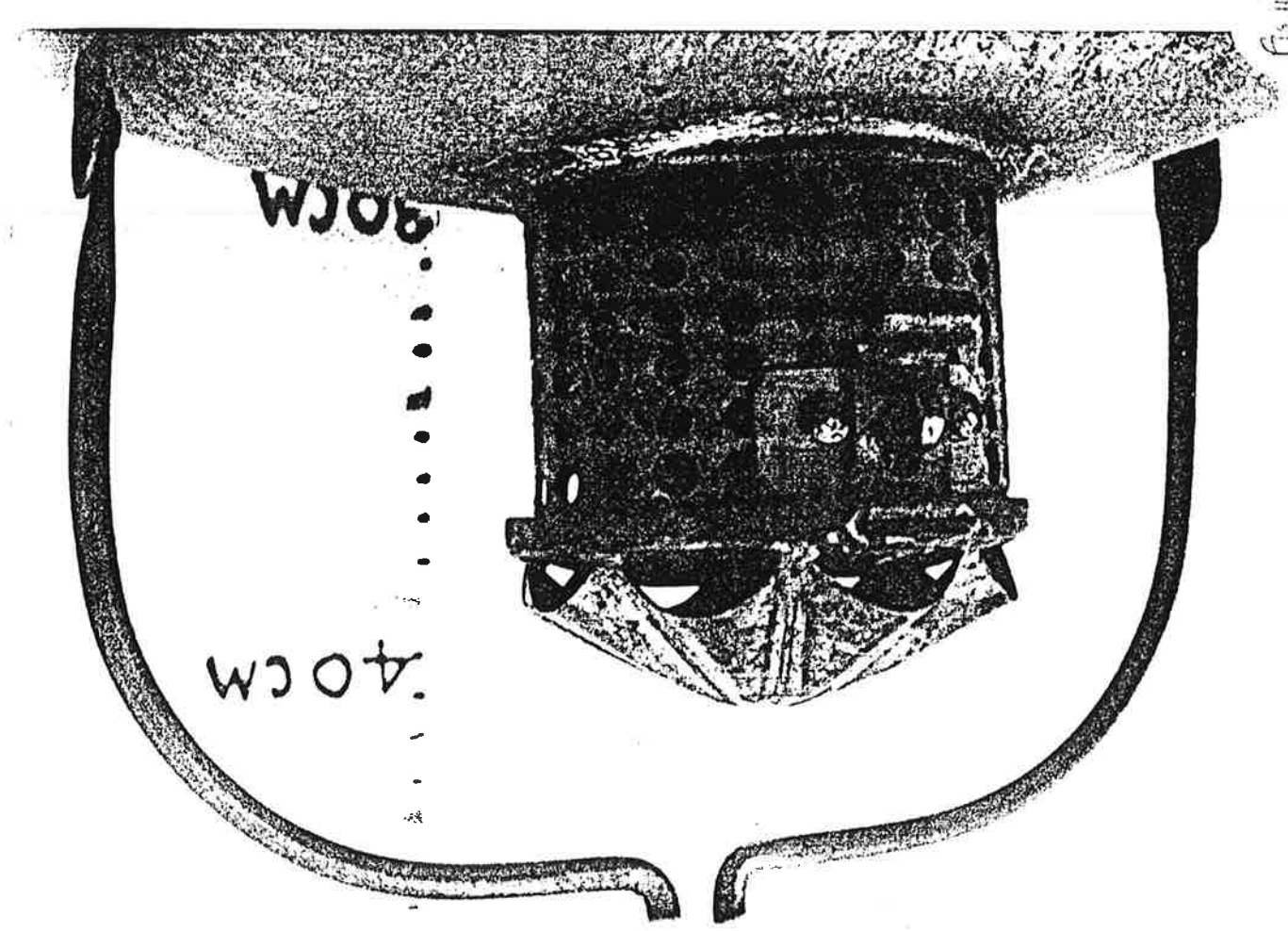


Fig 113

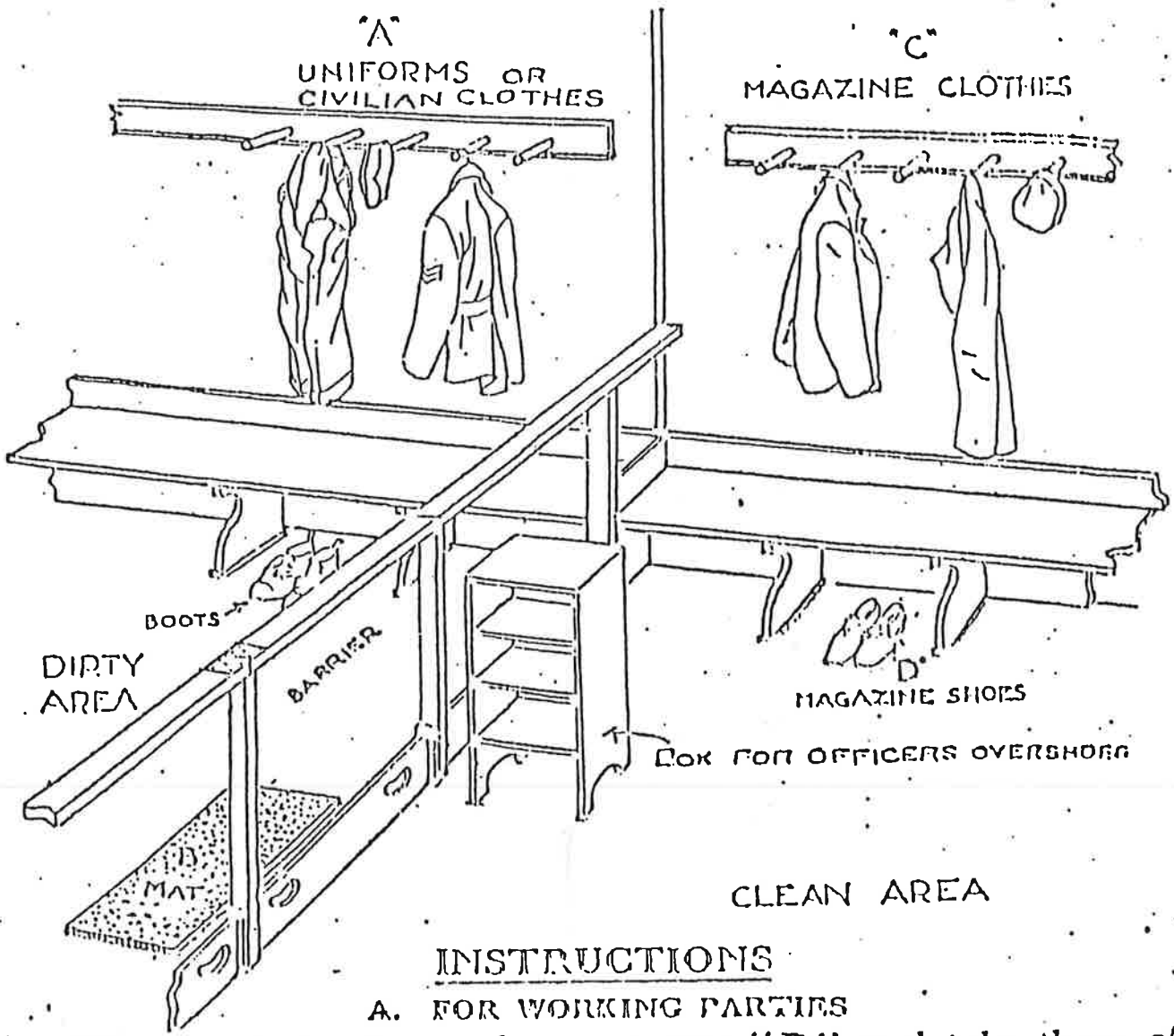
EXAMPLE OF A WARNING NOTICE
DISPLAYED IN MAGAZINES
(Extracted from D. Wood and VTC Smith
Fortbase)

A CLEAN AREA

Fig. 115

(Referred to in A.P.2608.)

**A COPY OF THIS POSTER IS TO BE DISPLAYED
CONSPICUOUSLY AT EACH ENTRANCE TO EVERY
MAGAZINE AND LABORATORY**



INSTRUCTIONS

A. FOR WORKING PARTIES

1. Wipe your boots or shoes on mat "B" and take them off.
2. Take off your uniform or outer garments and hang them on pegs "A."
3. Pass the barrier in your socks and underclothes and then put on the magazine clothes "C" and magazine shoes "D" and go to your work.
4. On leaving the clean area the order of the above directions will be reversed.

B. ALL OTHER PERSONS

1. Turn down ends of trousers and brush them clean.
2. Wipe your boots or shoes as clean as possible on mat "B."
3. Place each foot in succession past the barrier into an overshoe or golosh over your ordinary footwear.

Fig. 116



CARETAKERS QUARTERS

(Photographed by VTC Smith, July 2000)

