

**THE ROYAL GUNPOWDER FACTORY**

**WALTHAM ABBEY**

1-24



## THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES 1	RCHME NUMBER	N.G.R. TL 37636 02580
NAME/FUNCTION Grand Magazine	START DATE 1790? 1867-8(rebuilt)	END DATE 1940? 1992 (ruin)	



### CARTOGRAPHIC DEPICTION

1783 WASC 900/1a  
 1801 WASC 900/58 + MR 580  
 1827 WASC 900/04 + MPH 271 ; Grand Magazine  
 and Barge House  
 1830 WO55 2694 ; Grand Magazine  
 1830 WASC 900/05  
 c1830 WASC 900/06  
 c1835 WASC 900/07  
 1861-186 WASC 900/10A  
 1865 WASC 900/13  
 1865 WASC 900/14  
 1871 SUPP5 682  
 1865 WASC 900/38 + SUPP5 975 ; Grand  
 Magazine  
 1865 WASC 900/42  
 1897 WASC 900/53C  
 c1910 WASC 900/65  
 c1910 WASC 900/79  
 1917 WASC 900/70  
 1917 WASC 900/72 ; 1  
 1919 WASC 900/74 ; 1  
 c1920 WASC 900/80 ; 1  
 1923 WASC 900/84 ; 1  
 1932 WASC 900/87 ; 1  
 >1940 WASC 900/91A ; 1  
 1954 A - B.34 ; 1  
 c1960 WASC 900/94 ; 1  
 c1963 WASC 900/97 ; 1  
 1972 WASC 900/102  
 1972 WASC 900/104  
 1976 WASC 900/113

### DOCUMENTARY REFERENCES

1807 Statement of Property WO55 2694 ; Magazine  
 for Receiving Powder  
 1830 Statement of Property WO55 2351 ; Receiving  
 Magazine  
 1841 Statement of Property WO55 2856 ; Receiving  
 Magazine  
 1851 Statement of Property WO55 3027 ; Grand  
 Magazine  
  
 Plans;  
 01 B01 - B07 ; Plans and Elevations 1860 to 1886  
  
 1908 RGPF Ledger WASC 1509 + WASC 1764 ; Wet  
 Guncotton Magazine  
 c1925 RGPF Ledger WASC 1680 ; Wet Guncotton  
 Magazine  
 c1945 RGPF Ledger WASC 1508 ; Wet Guncotton  
 Magazine (Disused)  
  
 1992 RARDE List ; Grand Magazine

PHOTOGRAPHY

HISTORIC

WASC 1039 Wet guncotton magazine (The Grand Magazine)  
WASC 1543/36-43 Grand Magazine int & ext

PHOTOGRAPHY

RCHME

1) 206/O/2 08 Mar 1993 Grand Magazine from North West  
206/O/3 08 Mar 1993 Grand Magazine from North West  
206/O/4 08 Mar 1993 Grand Magazine from South East

2) BB92/26223 1 Grand Magazine view from South West.  
BB92/26224 1 Grand Magazine view from South East.  
BB92/26225 1 Grand Magazine view from North East.  
BB92/26226 1 Interior Grand Magazine view from South East.  
BB92/26227 1 Interior Grand Magazine view from North East.  
BB92/26365 1 Drawing Grand Magazine 23.July.1885 (MOD Chessington)  
BB92/26372 1 Drawing 0.01.B.07 Grand Magazine 10.Dec.1887 (MOD Chessington)

RELATIONSHIPS WITH OTHER MONUMENTS

ASSOCIATED WITH: 2, 2a

CONDITION Good

DESCRIPTION

- 1) CONSTRUCTIONAL MATERIAL  
Brick in English bond
- 2) ROOF MATERIALS AND STRUCTURE  
Slate over brick vault
- 3) POWER SOURCE  
-
- 4) DIMENSIONS i) L 20m ii) W 14m iii) HT eave 3.6
- 5)

ROYAL COMMISSION ON THE HISTORICAL MONUMENTS OF ENGLAND


MOD Building No. 1  
The Grand Magazine  
The Royal Gunpowder Factory  
Waltham Abbey  
Essex

NBR No: 91447  
NGR: TL 37636 02580

The Grand Magazine is a single-storey brick building which appears to have been built in the second half of the nineteenth century. Relatively isolated at the northernmost end of the Royal Gunpowder site, and surrounded by a canal system, the building functioned as a factory magazine for the last stage of storage of gunpowder, in barrels, before shipment from the site.

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30-9-93.  
O.K.

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER	OLD SERIES 2	RCHME NUMBER	N.G.R. TL 37635 02575
NAME/FUNCTION Porch		START DATE 1865-6	END DATE 1940?
			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
<p>1865 WASC 900/13 1865 WASC 900/14 1871 SUPP5 682 1865 WASC 900/38 + SUPP5 975 ; Porch 1865 WASC 900/42 ; Porch 1897 WASC 900/53C c1910 WASC 900/65 c1910 WASC 900/79 1917 WASC 900/70 ; 2 1917 WASC 900/72 ; 2 1919 WASC 900/74 ; 2 c1920 WASC 900/80 ; 2 1923 WASC 900/84 ; 2 1932 WASC 900/87 ; 2 &gt; 1940 WASC 900/91A 1954 A - B.34 ; 2 c1960 WASC 900/94 c1963 WASC 900/97</p>		<p>1908 RGPF Ledger WASC 1509 + WASC 1764 ; Porch c1925 RGPF Ledger WASC 1680 ; Porch c1945 RGPF Ledger WASC 1508 ; Porch (Disuse)</p>	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME 1) 206/P/18 10 Mar 1993 From South	
RELATIONSHIPS WITH OTHER MONUMENTS			
ASSOCIATED WITH: 1, 2a			
CONDITION Poor			

DESCRIPTION

- 1) CONSTRUCTIONAL MATERIAL  
Brick in Flemish bond
- 2) ROOF MATERIALS AND STRUCTURE  
Flat tiles and cement in layers
- 3) POWER SOURCE  
-
- 4) DIMENSIONS i) L - ii) W - iii) HT 2m
- 5) The building has largely been demolished, however the south west corner does survive to its full height with the remains of a window opening on the south wall.

# THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES 2a	RCHME NUMBER	N.G.R. TL 37624 02567
NAME/FUNCTION Wet Guncotton Magazine		START DATE 1915?	END DATE 1955?
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION  1917 WASC 900/70 1917 WASC 900/72 1919 WASC 900/74 ; 2a c1920 WASC 900/80 ; 2a 1923 WASC 900/84 ; 2a 1932 WASC 900/87 ; 2a > 1940 WASC 900/91A ; 2a 1954 A - B.34 ; 2a c1960 WASC 900/94 ; 2a c1963 WASC 900/97 1972 WASC 900/102 1972 WASC 900/104 1976 WASC 900/113		DOCUMENTARY REFERENCES  Plan; 02a B01 - 1915 ; Site plan and Details of Roof etc.  c1925 RGPF Ledger WASC 1680 ; Wet Guncotton Magazine	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS  ASSOCIATED WITH: 1, 2			
CONDITION Fair <i>Demolished</i>			



DESCRIPTION

1) CONSTRUCTIONAL MATERIAL  
Formerly timber framed on a low brick sill wall

2) ROOF MATERIALS AND STRUCTURE

-

3) POWER SOURCE

-

4) DIMENSIONS i) L 22.3m ii) W 10.9m

5) The building has been demolished, an asphalt covered concrete floor slab remains. The timber framed walls were formerly attached to vertical mounting bolts set into low brick sill walls.

**THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY**

NUMBER	OLD SERIES 3a	RCHME NUMBER	N.G.R. TL 37623 02536
NAME/FUNCTION Earth Closet		START DATE 192?	END DATE 1945
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION  1923      WASC 900/84 ; 3a 1932      WASC 900/87 > 1940    WASC 900/91A		DOCUMENTARY REFERENCES  c1925    RGPF Ledger WASC 1680 ; E.C.	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS  ASSOCIATED WITH:                      PART OF:                      CONSISTS OF: CUTS:      CUT BY:    ABUTTS:    ABUTTED BY:    OVERLIES:    UNDERLIES:			
CONDITION      GOOD: FAIR: POOR: VERY BAD: DESTROYED: ?BURIED:			

DESCRIPTION

- 1) CONSTRUCTIONAL MATERIAL  
a) BRICK b) CONCRETE c) BRICK AND CONCRETE d)TIMBER e) CAST IRON f) CORRUGATED IRON
- 2) ROOF MATERIALS AND STRUCTURE  
a) SLATE b) TILE c) BRICK d) CONCRETE e) TIMBER AND SHEETING f) CORRUGATED IRON
- 3) POWER SOURCE  
a) MUSCLE b) WATER c) STEAM d) GAS e) ELECTRICITY f) COMBUSTION ENGINE
- 4) DIMENSIONS i) L      ii) W      iii) HT      iv)DIA
- 5)

## THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES 4	RCHME NUMBER	N.G.R. TL 37557 02546
NAME/FUNCTION Guncotton Stove No.6		START DATE 1903	END DATE 1945 197? (demolished)
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION  1923      WASC 900/84 ; 4 GC Stove No.6		DOCUMENTARY REFERENCES  Plan; 04      B01 - 16/5/1916 ; Details of New GC Drying Stove  1908      RGPF Ledger WASC 1509 + WASC 1764 ; Guncotton Stoves c1925      RGPF Ledger WASC 1680 ; Guncotton Stoves c1945      RGPF Ledger WASC 1508 ; Guncotton Stoves  1991      Mott McDonald survey ; Burnt out 1968 (All.1)	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS  ASSOCIATED WITH: 7, 10			
CONDITION ?Buried			
DESCRIPTION  5)      No surface remains of this stove were discovered. The site of the guncotton stove lies beneath a deposit of river gravel, estimated depth 1m, dumped during the widening of the River Lee in the 1970s. Remains of this stove may survive buried beneath this deposit.			

## THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES 5	RCHME NUMBER	N.G.R. TL 37620 02528
NAME/FUNCTION Water Warden & Police Hut		START DATE pre 1821, post 1801	END DATE 1945? 1958? (demolished)

NO PHOTOGRAPHY  
AVAILABLE

<p><b>CARTOGRAPHIC DEPICTION</b></p> <p>1827 WASC 900/04 + MPH 271 ; Watch House          1830 WO55 2694          1830 WASC 900/05          c1830 WASC 900/06          c1835 WASC 900/07          1861-1868 WASC 900/10A          1865 WASC 900/13          1865 WASC 900/14          1871 SUPP5 682          1865 WASC 900/41A          1865 WASC 900/42          1897 WASC 900/53C          c1910 WASC 900/65          c1910 WASC 900/79          1917 WASC 900/70          1917 WASC 900/72          1919 WASC 900/74          c1920 WASC 900/80          1923 WASC 900/84 ; 5          1932 WASC 900/87 ; 5          &gt; 1940 WASC 900/91A ; 5          1954 A - B.34 ; 5</p>	<p><b>DOCUMENTARY REFERENCES</b></p> <p>1908 RGPF Ledger WASC 1509 + WASC 1764 ;          Water Warden &amp; Police Watch House          c1925 RGPF Ledger WASC 1680 ; Water Warden &amp;          Police Watch House          c1945 RGPF Ledger WASC 1508 ; Water Warden &amp;          Police Watch House (disuse)</p>
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PHOTOGRAPHY HISTORIC	PHOTOGRAPHY RCHME
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<b>RELATIONSHIPS WITH OTHER MONUMENTS</b>			
ASSOCIATED WITH:	PART OF:	CONSISTS OF:	
CUTS:	CUT BY:	ABUTTS:	ABUTTED BY: OVERLIES: UNDERLIES:

CONDITION	GOOD: FAIR: POOR: VERY BAD: DESTROYED: ?BURIED:
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DESCRIPTION

- 1) CONSTRUCTIONAL MATERIAL  
a) BRICK b) CONCRETE c) BRICK AND CONCRETE d)TIMBER e) CAST IRON f) CORRUGATED IRON
- 2) ROOF MATERIALS AND STRUCTURE  
a) SLATE b) TILE c) BRICK d) CONCRETE e) TIMBER AND SHEETING f) CORRUGATED IRON
- 3) POWER SOURCE  
a) MUSCLE b) WATER c) STEAM d) GAS e) ELECTRICITY f) COMBUSTION ENGINE
- 4) DIMENSIONS i) L      ii) W      iii) HT      iv)DIA
- 5)

## THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY


NUMBER	OLD SERIES 7	RCHME NUMBER	N.G.R. TL 37535 02513
NAME/FUNCTION Engine/Fan House	START DATE 1903	END DATE 1945 197? (demolished)	
			
CARTOGRAPHIC DEPICTION 1923 WASC 900/84 ; 7 Engine House		DOCUMENTARY REFERENCES 1908 RGPF Ledger WASC 1509 + WASC 1764 ; Engine House c1925 RGPF Ledger WASC 1680 ; Engine House c1945 RGPF Ledger WASC 1508 ; Engine House	
PHOTOGRAPHY HISTORIC	PHOTOGRAPHY RCHME 1) 206/N/1 10 Mar 1993 Machine mounting block from South East		
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: 4, 10			
CONDITION Poor			
DESCRIPTION 1) CONSTRUCTIONAL MATERIAL Concrete 2) ROOF MATERIALS AND STRUCTURE - 3) POWER SOURCE Electricity 4) DIMENSIONS i) L 0.99m ii) W 0.92m iii) HT 0.62m 5) All that remains of this structure is the cast concrete base partly buried by river gravel deposited during the 1970s. On the top of the block is a sandstone block into which are set four vertical mounting bolts. This feature is associated with two smaller concrete blocks 7m to the south and 7.4m to the north.			

## THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES 8	RCHME NUMBER	N.G.R. TL 37600 02506
NAME/FUNCTION Guncotton Stove No.7		START DATE 1903	END DATE 1945 197? (demolished)
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION  1923      WASC 900/84 ; 8 GC Stove No.8		DOCUMENTARY REFERENCES  1908      RGPF Ledger WASC 1509 + WASC 1764 ; Guncotton Stove c1925     RGPF Ledger WASC 1680 ; Guncotton Stove c1945     RGPF Ledger WASC 1508 ; Guncotton Stove  1991      Mott McDonald survey ; Burnt out 1968 (All.1)	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS  ASSOCIATED WITH: 9, 14			
CONDITION ?Buried			
DESCRIPTION  5)          The internal revetment wall of this stove and its earthen traverse has been demolished. Its position may be marked by a slight scarp on its southern side.  The floor of this stove may remain buried.			



**THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY**


NUMBER	OLD SERIES 9	RCHME NUMBER	N.G.R. TL 37582 02488
NAME/FUNCTION Engine/Fan House		START DATE 1903	END DATE 1945 1992 (ruin)
			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
1923 WASC 900/84 ; 9 Engine House		1908 RGPF Ledger WASC 1509 + WASC 1764 ; Engine House c1925 RGPF Ledger WASC 1680 ; Engine House c1945 RGPF Ledger WASC 1508 ; Engine House	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME 1) 206/N/2 10 Mar 1993 From North West	
RELATIONSHIPS WITH OTHER MONUMENTS			
ASSOCIATED WITH: PART OF: CONSISTS OF: CUTS: CUT BY: ABUTTS: ABUTTED BY: OVERLIES: UNDERLIES:			
CONDITION GOOD: FAIR: POOR: VERY BAD: DESTROYED: ?BURIED:			

DESCRIPTION

- 1) CONSTRUCTIONAL MATERIAL  
a) BRICK b) CONCRETE c) BRICK AND CONCRETE d)TIMBER e) CAST IRON f) CORRUGATED IRON
- 2) ROOF MATERIALS AND STRUCTURE  
a) SLATE b) TILE c) BRICK d) CONCRETE e) TIMBER AND SHEETING f) CORRUGATED IRON
- 3) POWER SOURCE  
a) MUSCLE b) WATER c) STEAM d) GAS e) ELECTRICITY f) COMBUSTION ENGINE
- 4) DIMENSIONS i) L      ii) W      iii) HT      iv)DIA
- 5)

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER	OLD SERIES 10	RCHME NUMBER	N.G.R. TL 37495 02505
NAME/FUNCTION Guncotton Stove No.5		START DATE 1903	END DATE 1945 197? (demolished)
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION  1923      WASC 900/84 ; 10 Guncotton Stove No.5		DOCUMENTARY REFERENCES  1908      RGPF Ledger WASC 1509 + WASC 1764 ; Guncotton Stove c1925     RGPF Ledger WASC 1680 ; Guncotton Stove c1945     RGPF Ledger WASC 1508 ; Guncotton Stove  1991      Mott McDonald survey ; Burnt out 1968 (All.1)	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS  ASSOCIATED WITH: 4, 7			
CONDITION ?Buried			
DESCRIPTION  5)          No surface remains of this stove were discovered. The site of the guncotton stove lies beneath a deposit of river gravel, estimated depth 1m, dumped during the widening of the River Lee in the 1970s. Remains of this stove may survive buried beneath this deposit.			

## THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES 11	RCHME NUMBER	N.G.R. TL 37455 02473
NAME/FUNCTION Guncotton Stove No.4	START DATE 1894-5	END DATE 1945 197? (demolished)	
			
<b>CARTOGRAPHIC DEPICTION</b>  1923      WASC 900/84 ; 11 Guncotton Stove No.4		<b>DOCUMENTARY REFERENCES</b>  1908      RGPF Ledger WASC 1509 + WASC 1764 ; Guncotton Stove c1925      RGPF Ledger WASC 1680 ; Guncotton Stove c1945      RGPF Ledger WASC 1508 ; Guncotton Stove  1991      Mott McDonald survey ; Burnt out 1968 (All.1)	
<b>PHOTOGRAPHY HISTORIC</b>		<b>PHOTOGRAPHY RCHME</b> 1) 206/N/3 10 Mar 1993 From West pole marks edge of slab	
<b>RELATIONSHIPS WITH OTHER MONUMENTS</b>  ASSOCIATED WITH: 16, 17			
<b>CONDITION</b> Poor			
<b>DESCRIPTION</b> 1)          CONSTRUCTIONAL MATERIAL -  2)          ROOF MATERIALS AND STRUCTURE -  3)          POWER SOURCE - COMBUSTION ENGINE  4)          DIMENSIONS i) L 6.3 ii) W -  5)          This stove was formerly rectangular in shape surrounded by an earthen traverse. The stove has been demolished, the concrete floor slab remains edged by grey engineering bricks remains although partly buried beneath the modern track.			

**THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY**

NUMBER	OLD SERIES 14	RCHME NUMBER	N.G.R. TL 37575 02462
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NAME/FUNCTION Guncotton Stove No.8	START DATE 1903	END DATE 1945 1992 (ruin)
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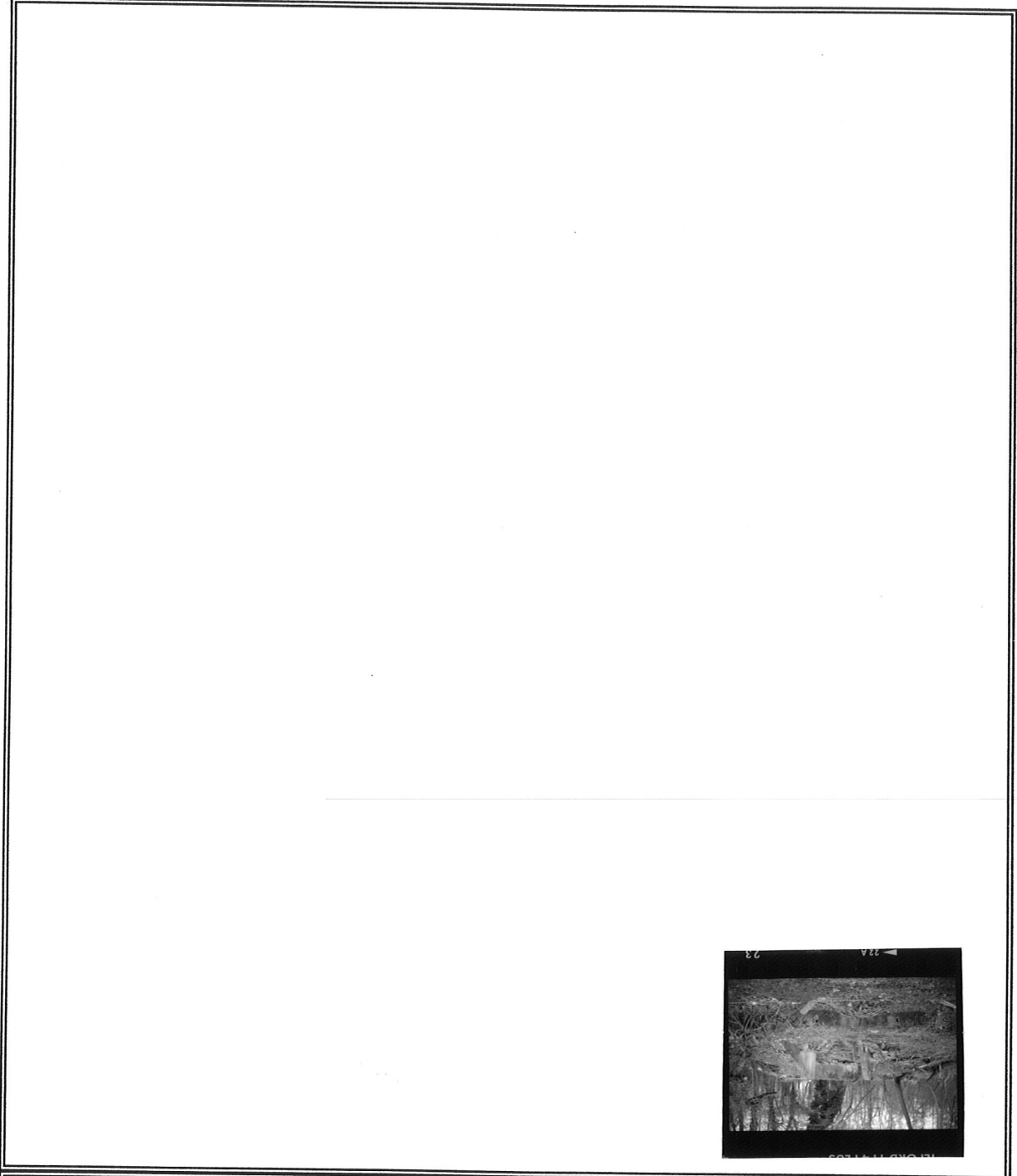


<p><b>CARTOGRAPHIC DEPICTION</b></p> <p>1923 WASC 900/84 ; 14 Guncotton Stove No.8</p>	<p><b>DOCUMENTARY REFERENCES</b></p> <p>Plan; 14 B01 ; No.14 Guncotton Stove</p> <p>1908 RGPF Ledger WASC 1509 + WASC 1764 ; Guncotton Stove</p> <p>c1925 RGPF Ledger WASC 1680 ; Guncotton Stove</p> <p>c1945 RGPF Ledger WASC 1508 ; Guncotton Stove</p> <p>1972 ERDE List ; Guncotton Stove / Burnt out</p> <p>1991 Mott McDonald survey ; Burnt out 1968 (All.1)</p> <p>1992 FARDE List ; Guncotton Stove / Burnt out</p>
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<p><b>PHOTOGRAPHY HISTORIC</b></p>	<p><b>PHOTOGRAPHY RCHME</b></p> <p>1) 206/P/19 10 Mar 1993 Detail of inlet pipe</p> <p>206/P/20 10 Mar 1993 Detail of flanged elbow</p> <p>206/P/21 10 Mar 1993 Pipe along Northern side</p> <p>206/P/22 10 Mar 1993 Steps on West side</p> <p>206/P/23 10 Mar 1993 Stove from East</p> <p>2) BB92/26294 Guncotton Stove 14 with internal Cast Iron pipes</p>
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<p><b>RELATIONSHIPS WITH OTHER MONUMENTS</b></p> <p>ASSOCIATED WITH: 8, 9</p>
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<p><b>CONDITION</b> Good</p>
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CONTINUATION SHEET	NUMBER
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**THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY**

#### DESCRIPTION

- 1) CONSTRUCTIONAL MATERIAL  
Brick and earthwork
- 2) ROOF MATERIALS AND STRUCTURE  
Galvanised metal sheet
- 3) POWER SOURCE  
Electricity and steam heating
- 4) DIMENSIONS iv) DIA 10.8m

- 5) The stove comprises a circular internal brick wall in English bond revetting a earthen traverse. The entrance to the stove was from the eastern side. The lower part of the entrance porch from the canal side is constructed of shuttered concrete and has been added to the original structure. The stove originally consisted of a timber roundhouse in the centre of the traverse. The building sat on a concrete platform 9.15m in diameter. The wall sills were attached to the platform by vertical mounting bolts set into the concrete. The conical roof of the building was supported by a central post. Within the building were numerous copper nails and the remains of removable ventilation panels. The roundhouse was separated from the revetment wall by a gully 0.765m in width and 0.3m deep. This gully was entered from the west up a flight of timber steps running up the traverse and then over into the gully.

The building was heated by a pipe that entered from the north connected to engine house 9. The support stanchions of the pipe may be traced from the engine house to the stove. On entering the stove this pipe formerly connected to a flanged cast iron bend, bore 30cm. This in turn connected to a flanged vertical straight cast iron pipe 106.5cm in length. This pipe then joined through a T junction to a series of horizontal cast iron flanged curves, bore 30.7cm, set on bricks within the outer gully described above. To the north of the entry curve are five full curves and one short and to the south five full curves. To the top of each curve is bolted a cast iron flanged elbow, diameter bore 12.5cm, giving a total of twelve entry pipes. A circular plate is bolted to the end sandwiched a galvanised pipe and sheet of gauze between it and the end of the elbow. This galvanised pipe would have formerly entered the side of the stove.

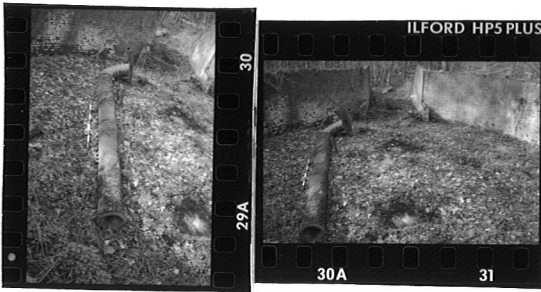
Historic artefacts - Circular steam heating pipe, any other metal fittings

**THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY**

NUMBER	OLD SERIES 16	RCHME NUMBER	N.G.R. TL 37458 02441
NAME/FUNCTION Engine/Fan House		START DATE 1894-5	END DATE 1945 1992 (part buried)
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION  1923 WASC 900/84 ; 16 Engine House		DOCUMENTARY REFERENCES  1908 RGPF Ledger WASC 1509 + WASC 1764 ; Engine House c1925 RGPF Ledger WASC 1680 ; Engine House c1945 RGPF Ledger WASC 1508 ; Engine House	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS  ASSOCIATED WITH: 11, 17			
CONDITION Buried			
DESCRIPTION  5) The site of this engine house is covered by river gravel dumped during the widening of the River Lee in the 1970s. A small concrete block 0.71m x 0.58m with four vertical mounting bolts may mark the turn of the heating pipe to stove 17.			



## THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES 16a	RCHME NUMBER	N.G.R. TL 37500 02445
NAME/FUNCTION Guncotton Stove No. 15		START DATE 1904	END DATE 1945 1992 (ruin)
			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
1923 WASC 900/84 ; 16a Guncotton Stove No.15		c1925 RGPF Ledger WASC 1680 ; Guncotton Stove No.15 c1945 RGPF Ledger WASC 1508 ; Guncotton Stove No.15  1972 ERDE List ; Guncotton Stove/Burnt out 1991 Mott McDonald survey ; Burnt out 1968 (All.1) 1992 RARDE List ; Guncotton Stove/Burnt out	
PHOTOGRAPHY HISTORIC WASC 1333-/7 No 15 Cordite stove 5.10.1940		PHOTOGRAPHY RCHME 1) 206/N/30 12 Mar 1993 Detail of Warm Air Pipe 206/N/31 12 Mar 1993 From East  2) BB92/26355 16A,18A,22A Guncotton Stoves Plans & Elevations (MOD Chessington)	
RELATIONSHIPS WITH OTHER MONUMENTS			
ASSOCIATED WITH: 17a, 18a			
CONDITION      Good			

DESCRIPTION

1) CONSTRUCTIONAL MATERIAL  
Brick and earthwork

2) ROOF MATERIALS AND STRUCTURE  
-

3) POWER SOURCE  
electric lighting and steam ?heating

4) DIMENSION iv)DIA 10.75m

5) The stove comprises a circular internal brick wall in English bond 2.37m in height revetting an earthen traverse. The entrance to the stove was from the western side. The entrance to the stove formerly comprised a timber framework on the opposite side of the canal supporting a corrugated iron roof over the canal. The stove was approached through a covered porch. The brick sill wall of which remains, which supported a timber frame covered by asbestos sheeting. The stove originally consisted of a timber roundhouse in the centre of the traverse. The building sat on a concrete platform 9.35m in diameter, edged by grey engineering bricks. The timber wall sills were attached to the platform by vertical mounting bolts set into the concrete. The roof building was supported by a central post 17cm x 17cm. The roundhouse was separated from the revetment wall by a gully 0.66m in width and 0.28m deep. This gully was entered from the east up a flight of timber steps running up the traverse and then over into the gully. Natural lighting within the building was provided by reinforced glass windows. Artificial lighting was provided by 'Maxlume' lighting boxes formerly suspended on the exterior of the building outside the windows. The cabling for these lights was enclosed in metal pipes.

The building was heated by a single pipe entering from the engine house 17a to the south. The pipe was constructed from rolled metal sheets attached to flanged ends. The pipe was attached to the building by a circular roof plate with a diameter of 101cm and bore of 30.5cm. This joined to a flanged curve and then to two flanged straights each 2.45m in length. The pipe was insulated by fibrous abestos secured by chicken wire and protected by an outer galvanised sheet metal coat.

Historic artefacts - Intact window panes, Maxlume light boxes, any other metal fittings, large steam pipe

## THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES 17	RCHME NUMBER	N.G.R. TL 37421 02430
NAME/FUNCTION Guncotton Stove No.3		START DATE 1904	END DATE 1945 197? (demolished)
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION  1923      WASC 900/84 ; 17 Guncotton Stove No.3		DOCUMENTARY REFERENCES  1908      RGPF Ledger WASC 1509 + WASC 1764 ; Guncotton Stove c1925     RGPF Ledger WASC 1680 ; Guncotton Stove c1945     RGPF Ledger WASC 1508 ; Guncotton Stove  1991      Mott McDonald survey ; Burnt out 1968 (All.1)	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS  ASSOCIATED WITH: 11, 16			
CONDITION      ?Buried			
DESCRIPTION  This guncotton stove was formerly circular in shape and surrounded by an earthen traverse. No surface remains of this stove were located. The are is covered by a deep depsit of river gravel dumped during the widening of the River Lee in the 1970s.  This stove may survive as a buried archaeological feature.			

## THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES 17a	RCHME NUMBER	N.G.R. TL 37491 02417
NAME/FUNCTION Engine/Fan House		START DATE 1904	END DATE 1945 1992 (ruin)



<b>CARTOGRAPHIC DEPICTION</b>  1923      WASC 900/84 ; 17a Engine House	<b>DOCUMENTARY REFERENCES</b>  Plans 17a      B01.B02 ; Plans and Elevations 1904  c1925    RGPF Ledger WASC 1680 ; Engine House
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<b>PHOTOGRAPHY HISTORIC</b>	<b>PHOTOGRAPHY RCHME</b> 1) 206/N/29 12 Mar 1993 From East
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<b>RELATIONSHIPS WITH OTHER MONUMENTS</b>  ASSOCIATED WITH: 16a, 18a
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<b>CONDITION</b> Poor
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<b>DESCRIPTION</b> 1) <b>CONSTRUCTIONAL MATERIAL</b> Concrete  2) <b>ROOF MATERIALS AND STRUCTURE</b> Asbestos?  3) <b>POWER SOURCE</b> Electricity  4) <b>DIMENSIONS</b> i) L 4.05m ii) W 3.35m  5)      The building has been demolished, a concrete floor slab remains with vertical mounting bolts for a timber framed building. There is a concrete mounting block with four bolts set into it in the middle of the building. To the north and south of the engine house are small concrete blocks formerly covered by a timber and asbestos superstructure.
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## THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES 18	RCHME NUMBER	N.G.R. TL 37545 02413
NAME/FUNCTION Guncotton Stove No.9		START DATE 1903	END DATE 1945 1992 (ruin)
<p><b>CARTOGRAPHIC DEPICTION</b></p> <p>1923 WASC 900/84 ; 18 Guncotton Stove No.9</p>		<p><b>DOCUMENTARY REFERENCES</b></p> <p>1908 RGPF Ledger WASC 1509 + WASC 1764 ; Guncotton Stove  c1925 RGPF Ledger WASC 1680 ; Guncotton Stove  c1945 RGPF Ledger WASC 1508 ; Guncotton Stove</p> <p>1972 ERDE List ; Guncotton Stove/Burnt out  1991 Mott McDonald survey ; Burnt out 1968 (All.1)  1992 RARDE List ; Guncotton Stove/Burnt out</p>	
<p><b>PHOTOGRAPHY HISTORIC</b></p>		<p><b>PHOTOGRAPHY RCHME</b></p> <p>1) 206/P/24 10 Mar 1993 Detail of roof fragments  206/P/25 10 Mar 1993 Pipe details  206/P/26 10 Mar 1993 Showing concrete porch abutting  206/P/27 10 Mar 1993 From East pole in centre posthole</p>	
<p><b>RELATIONSHIPS WITH OTHER MONUMENTS</b></p> <p>ASSOCIATED WITH: 13, 22</p>			
<p><b>CONDITION</b>      Good</p>			

#### DESCRIPTION

1) CONSTRUCTIONAL MATERIAL  
Brick and earthwork

2) ROOF MATERIALS AND STRUCTURE  
Galvanised sheet

3) POWER SOURCE  
Electricity and steam heat

4) DIMENSIONS iv)DIA 10.8m

5) The stove comprises a circular internal brick wall in English bond 2.41m in height revetting an earthen traverse. The entrance to the stove was from the eastern side. The lower part of the entrance porch, formerly supporting a timber superstructure, from the canal side is constructed from shuttered concrete and has been added to the original structure. The stove originally consisted of a timber roundhouse in the centre of the traverse. The building sat on a concrete platform 9.25m in diameter. The wall sills were attached to the platform by vertical mounting bolts set into the concrete. The conical roof of the building was supported by a central post. Within the building were numerous copper nails and the remains of removable ventilation panels and fragments of galvanised exterior gutters. The roundhouse was separated from the revetment wall by a gully 0.68m in width and 0.42m deep. This gully was entered from the west up a flight of timber steps running up the traverse and then over into the gully.

The building was heated by a pipe that entered from the south connected to engine house 13. The support stanchions from this pipe may be traced from the engine house to the stove. On entering the stove this pipe formerly connected to a flanged cast iron bend, bore 30.4cm. This in turn connected to a flanged vertical straight cast iron pipe 121.5cm in length. This pipe then joined through a T junction to a series of horizontal cast iron flanged curves, bore 30.7cm, set on bricks within the outer gully described above. To the north of the entry curve are five full curves and one short and to the south five full curves. To the top of each curve is bolted a cast iron flanged elbow, diameter bore 12.5cm, giving a total of twelve entry pipes. A circular plate is bolted to the end sandwiched a galvanised pipe and sheet of gauze between it and the end of the elbow. This galvanised pipe would have formerly entered the side of the stove. The pipe work in this stove is partly smashed.

Historic artefacts - Circular steam heating pipe, any other metal fittings

**THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY**

NUMBER	OLD SERIES 18a	RCHME NUMBER	N.G.R. TL 37475 02389
NAME/FUNCTION Guncotton Stove No.16		START DATE 1904	END DATE 1945 1992 (ruin)
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION  1923 WASC 900/84 ; 18a Guncotton Stove No.16		DOCUMENTARY REFERENCES  1908 RGPF Ledger WASC 1509 + WASC 1764 ; Guncotton Stove No.16 c1925 RGPF Ledger WASC 1680 ; Guncotton Stove No.16 c1945 RGPF Ledger WASC 1508 ; Guncotton Stove No.16  1972 ERDE List ; Guncotton Stove/Burnt out 1991 Mott McDonald survey ; Burnt out 1968 (All.1) 1992 RARDE List ; Guncotton Stove/Burnt out	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME 2) BB92/26355 16A,18A,22A Guncotton Stoves Plans & Elevations (MOD Chessington)	
RELATIONSHIPS WITH OTHER MONUMENTS  ASSOCIATED WITH: 16a, 17a			
CONDITION Good			

#### DESCRIPTION

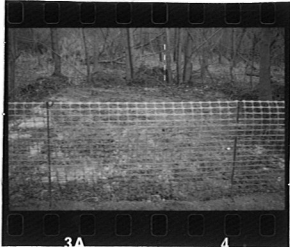
- 1) CONSTRUCTIONAL MATERIAL  
Brick and earthwork
- 2) ROOF MATERIALS AND STRUCTURE  
Odd pieces of roofing felt found within the building
- 3) POWER SOURCE  
Electricity and steam heat
- 4) DIMENSIONS iv)DIA 10.7m
- 5) The stove comprises a circular internal brick wall in English bond 2.35m in height revetting an earthen traverse. The entrance to the stove was from the western side. The netrance to the stove comprsed a timber framework supporting a corrugated iron roof over the canal. The stove was approached through a covered porch, the brick sill wall of which remains. The stove originally consisted of a timber roundhouse in the centre of the traverse. The building sat on a concrete platform 9.25m in diameter, edged by grey engineering bricks. The timber wall sills were attached to the platform by vertical mounting bolts set into the concrete. The roof building was supported by a central post 17cm x 17cm. The roundhouse was separated from the revetment wall by a gully 0.66m in width and 0.28m deep. This gully was entered from the west up a flight of timber steps running up the traverse and then over into the gully. Natural lighting within the building was provided by reinforced glass windows 40.5cm x 29.5cm. Artificial lighting was provided by 'Maxlume' lighting boxes formerly suspended on the exterior of the building outside the windows. The cabling for these lights was enclosed in metal pipes. Also lying within the building were the remains of removable ventilation boards with copper knobs.

The building was heated by a single pipe entering from the engine house 17a to the north. The pipe was constructed from rolled metal sheets attached to flanged ends. The pipe was attached to the building by a circular roof plate with a diameter of 98cm and bore of 30cm. This joined to a flanged curve and then to two flanged straights each 2.44m in length. The pipe was insulated by fibrous abestos secured by chicken wire and protected by an outer galvanised sheet metal coat.

Historic artefacts - Intact window panes, Maxlume light boxes, Ventilation boards, any other metal fittings, large steam pipe




## THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES 20	RCHME NUMBER	N.G.R. TL 37420 02365
NAME/FUNCTION Guncotton Stove No.2		START DATE 1894-5	END DATE 1945 197? (demolished)
			
CARTOGRAPHIC DEPICTION  1923      WASC 900/84 ; 20 Guncotton Stove No.2		DOCUMENTARY REFERENCES  1908      RGPF Ledger WASC 1509 + WASC 1764 ; Guncotton Stove c1925      RGPF Ledger WASC 1680 ; Guncotton Stove c1945      RGPF Ledger WASC 1508 ; Guncotton Stove  1991      Mott McDonald survey ; Burnt out 1968 (All.1)	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME 1) 206/N/4 10 Mar 1993 From West pole marks edge of slab	
RELATIONSHIPS WITH OTHER MONUMENTS  ASSOCIATED WITH: 21			
CONDITION      Poor			
DESCRIPTION 1)      CONSTRUCTIONAL MATERIAL -  2)      ROOF MATERIALS AND STRUCTURE -  3)      POWER SOURCE -  4)      DIMENSIONS i) L 8m      ii) W 6.25m  5)      This stove was formerly rectangular in shape surrounded by an earthen traverse.			

## THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES 21	RCHME NUMBER	N.G.R. TL 37445 02370
NAME/FUNCTION Engine/Fan House		START DATE 1894-5	END DATE 1945 1992 (ruin)
NO PHOTOGRAPHY AVAILABLE			
CARTOGRAPHIC DEPICTION  1923      WASC 900/84 ; 21 Engine House		DOCUMENTARY REFERENCES  1908      RGPF Ledger WASC 1509 + WASC 1764 ; Engine House c1925      RGPF Ledger WASC 1680 ; Engine House c1945      RGPF Ledger WASC 1508 ; Engine House	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME	
RELATIONSHIPS WITH OTHER MONUMENTS  ASSOCIATED WITH: 20			
CONDITION    Poor			
DESCRIPTION			
1)      CONSTRUCTIONAL MATERIAL Concrete			
2)      ROOF MATERIALS AND STRUCTURE -			
3)      POWER SOURCE Electricity			
4)      DIMENSIONS    i) L 0.103m    ii) W 0.92m			
5)      The building surrounding the engine house has been demolished. A concrete mounting block remains with a sandstone block on the top into which are set four vertical bolts. The feature is partly buried by river gravel dumped during the 1970s.			

## THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES 22	RCHME NUMBER	N.G.R. TL 37525 02357
NAME/FUNCTION Guncotton Stove No.10		START DATE 1897	END DATE 1945 1992 (ruin)
			
<p><b>CARTOGRAPHIC DEPICTION</b></p> <p>1923      WASC 900/84 ; 22 Guncotton Stove No.10</p>		<p><b>DOCUMENTARY REFERENCES</b></p> <p>1908      RGPF Ledger WASC 1509 + WASC 1764 ;             Guncotton Stove</p> <p>c1925      RGPF Ledger WASC 1680 ; Guncotton Stove</p> <p>c1945      RGPF Ledger WASC 1508 ; Guncotton Stove</p> <p>1972      ERDE List ; Guncotton Stove/Burnt out</p> <p>1991      Mott McDonald survey ; Burnt out 1968 (All.1)</p> <p>1992      RARDE List ; Guncotton Stove/Burnt out</p>	
<p><b>PHOTOGRAPHY HISTORIC</b></p>		<p><b>PHOTOGRAPHY RCHME</b></p> <p>1) 206/Q/7    12 Mar 1993 Guncotton stove from East</p> <p>            206/Q/8    12 Mar 1993 Southern side of stove earthen                     bank removed</p>	
<p><b>RELATIONSHIPS WITH OTHER MONUMENTS</b></p> <p>ASSOCIATED WITH: 13, 18</p>			
<p>CONDITION      Fair</p>			

#### DESCRIPTION

1) CONSTRUCTIONAL MATERIAL  
Brick and earthwork

2) ROOF MATERIALS AND STRUCTURE  
-

3) POWER SOURCE  
Electricity and steam heat

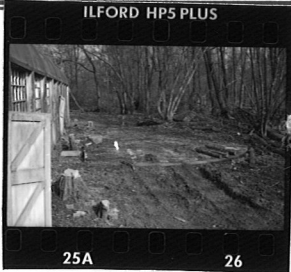
4) DIMENSIONS iv)DIA 10.7m

5) The stove comprises a circular internal brick wall in English bond, 2.55m in height, revetting an earthen traverse. The traverse has been partly removed on the southern side. The entrance to the stove was from the eastern side. Any porch arrangements on this stove have been removed and the canal immediately in front of the stove has been filled. On the opposite side of the former canal is a timber frame that originally supported a corrugated iron roof over the canal linking it to the porch. The stove originally consisted of a timber roundhouse in the centre of the traverse. The building sat on a concrete platform 9.15m in diameter. The wall sills were attached to the platform by vertical mounting bolts set into the concrete. The roundhouse was braced against the brick wall by a series of horizontal joists, the holes for which are visible in the brick wall. The roof of the building was supported by a central post, 17cm x 17cm. Within the building were numerous copper nails and fragments of reinforced glass. The roundhouse was separated from the revetment wall by a gully 0.6m in width and 0.5m deep. This gully was entered from the west up a flight of timber steps running up the traverse and then over into the gully.

The building was heated by a pipe that entered from the north connected to engine house 13. The support stanchions for this pipe may be traced from the engine house to the stove. The roundhouse was heated by cast iron pipes as in stoves 14 and 18. In this stove all but two of the flanged curves have been removed. These curves have a bore of 29.5cm and have flanged elbows bolted to their upper surface with a bore of 13.5cm. A circular plate bolted on the end sandwiched a galvanised metal pipe and sheet of gauze between it and the end of the elbow.

Historic artefacts - Circular steam heating pipe, any other metal fittings.

## THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES 22a/a	RCHME NUMBER	N.G.R. TL 37460 02320
NAME/FUNCTION Guncotton Stove No.17		START DATE 1894-5?	END DATE 1936?
			
CARTOGRAPHIC DEPICTION  1923      WASC 900/84 ; 22a Guncotton Stove No.17		DOCUMENTARY REFERENCES  c1925      RGPF Ledger WASC 1680 ; Guncotton Stove No.17  1991      Mott McDonald survey (All.1)	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME 1) 206/N/26 12 Mar 1993 Former Guncotton stove from South 2) BB92/26355 16A,18A,22A Guncotton Stoves Plans & Elevations (MOD Chessington)	
RELATIONSHIPS WITH OTHER MONUMENTS ASSOCIATED WITH: 28a, 29    CUT BY: 22a			
CONDITION      Poor			
<p>DESCRIPTION</p> <p>1)      CONSTRUCTIONAL MATERIAL          Brick in English bond</p> <p>2)      ROOF MATERIALS AND STRUCTURE          -</p> <p>3)      POWER SOURCE          -</p> <p>4)      DIMENSIONS    iv)DIA 9.35m</p> <p>5)      The circular stove surrounded by an earthen traverse was demolished when the Quinan stove 22a was built. The central concrete floor slab edged by grey engineering bricks survives. To the west of the Quinan stove are the brick foundations of the porch to this stove.</p>			

## THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER	OLD SERIES 22a	RCHME NUMBER	N.G.R. TL 37452 02320
NAME/FUNCTION Quinan Stove		START DATE 1936	END DATE 1945 1992 (derelict)
<b>CARTOGRAPHIC DEPICTION</b>  > 1940    WASC 900/91A ; 22a 1954    A - B.34 ; 22a c1960    WASC 900/94 ; 22a c1963    WASC 900/97 1972    WASC 900/102 1972    WASC 900/104 1976    WASC 900/113		<b>DOCUMENTARY REFERENCES</b>  Plans 22        B01 - B28 ; Plans and Elevations 1034 to 1936  1972    ERDE List ; Quinan Stove (derelict) 1992    RARDE List ; Quinan Stove (derelict)	
<b>PHOTOGRAPHY HISTORIC</b>		<b>PHOTOGRAPHY RCHME</b> 1) 206/N/25 12 Mar 1993 Quinan stove from South East 206/L/30 09 Mar 1993 Quinan stove from South 206/L/31 09 Mar 1993 Pipework along West side of quinan stove 206/L/32 09 Mar 1993 Pipework along West side of quinan stove 206/R/2 17 Mar 1993 Detail of pipework to West 206/R/3 17 Mar 1993 Showing wireholes to open & close vents 206/R/10 18 Mar 1993 Detail of Northern bay 206/R/11 18 Mar 1993 Detail of Northern bay 206/R/12 18 Mar 1993 Tanks along East side of Building 206/R/13 18 Mar 1993 Shoe Room on North side of building from East  2) BB92/26207 22A Quinan Stove view from North East. ✓ BB92/26208 22A Quinan Stove view from South West. ✓ B92/26209 22A Detail of heating pipes to Quinan Stove view from South West. ? BB92/26210 22A Quinan Stove view from South East. ✓	
<b>RELATIONSHIPS WITH OTHER MONUMENTS</b>  ASSOCIATED WITH: 22a/1, 22a/2, 22a/3 CUTS: 22a/a    OVERLIES: 22a/a			
CONDITION        Fair			

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER

CONTINUATION SHEET



#### DESCRIPTION

1) CONSTRUCTIONAL MATERIAL  
Pre-cast concrete

2) ROOF MATERIALS AND STRUCTURE  
Cast concrete

3) POWER SOURCE  
?Steam heat and electricity

4) DIMENSIONS i) L 40.4m ii) W 9.77m iii) HT 4.45m

5) The Quinan stove is named after Kenneth B Quinan, an American citizen, sometime manager of the Cape Explosives factory, South Africa. During the first world war he was employed to design and build explosive factories for the British government. He died in 1948. It is not known if he was directly involved in the design and construction of the stove at Waltham or whether the stove takes its name from his method of drying guncotton.

The stove replaces an earlier circular stove also designated 22a (styled in this report 22a/a). The eastern side of the Quinan stove cuts the earlier stove whose concrete floor remains insitu. To the west of the stove between it and the canal the brick footings of the porch to the earlier stove remain.

The stove consists of 18 bays with a semicircular cast concrete roof. The end bays are of double width with a double gable. These bays served as loading areas and were served by a double door adjacent to the canal and double doors on each of the gable walls. The gable walls at either end were lit by 5 narrow metal windows, width 0.51m height 1.5m, each with ten lights. The windows along the east wall measure width 1.29m x height 1.5m. Along the eastern wall are three double doors, each door is protected by a toeboard to delineate the dirty and clean area. At the northern end of the building is a small shoe room. It is constructed from a timber frame with a softboard over and is covered by roofing felt. Inside the building is a shoe box with four compartments. Along the west side of the building in the recess created by the projecting end bays the building was lit by thirty two ten light windows. The tangled mass of pipes in this area was probably a light timber superstructure. With the tangled mass were light fitting that may have been set against the outside of the windows.

Against the eastern wall are two concrete tanks, each tank is composed of two compartments. Measuring 0.76m x 0.69m depth 0.62m and a larger asphalt lined tank 3.09m x 1.04m depth 0.495m. The two tanks are served by the internal gully described below and are connected by a metal pipe.



## THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER  
22a

CONTINUATION SHEET

Internally the floor is surfaced in smooth asphalt and the walls are lined with painted ?calico. Along the west wall are fifteen bays. Each bay is 2.05m in width, each is separated from its neighbour by a concrete partition wall length 1.89m height 2.35m. Each bay was served by a warm ?air pipe, bore 0.175m from the exterior. A mark on the wall between the two windows probably indicates where the drying pan was attached to the wall. Within each bay are four leg holes indicating a pan base of 0.98m x 0.96m. Along the eastern wall a gully, width 0.18m depth 0.125m runs for the whole length of the building and discharges into two concrete tanks described above. By each of the double doors along the eastern wall was a fire reel.

The heating to the stove was controlled from fanhouse 22a/3 this was protected by a corrugated iron traverse 22a/1. From the fanhouse two pipes crossed over the traverse the upper and larger pipe, bore 0.685m and a lower pipe bore 0.31m. After crossing the canal these pipes formed a T junction with two pipes running parallel to the west side of the stove. The upper pipe bore reduced to 0.435m and the lower reduced to 0.275m. Opposite to each bay an outlet pipe, bore 0.175m left the upper and lower pipe to form a Y junction in order that only one pipe enters each bay. The flow of warm air from each pipe was controlled by a swinging plate within the pipes. These could be controlled through a stainless pipe, bore 10mm, set into the wall of each bay that presumably formerly housed a wire.

Historic artefacts - salvage section of pipe work to show method of working, i.e. section of upper and lower pipes where they join to the Y sections and additional pipe sections with swing plate.

**THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY**

NUMBER  
22a

CONTINUATION SHEET

Wooden notice found inside the Quinan stove

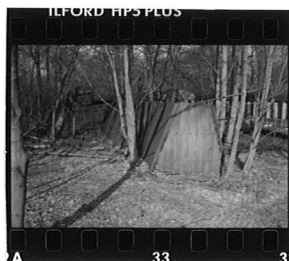
PAN No	TIME LOADED	TEMP	TIME UNLOADED	TIME LOADED	TEMP	TIME UNLOADED
1						
6						
11						
2						
7						
12						
3						
8						
13						
4						
9						
14						
5						
10						
15						

SHIFT  
No OF PANS      LOADED  
UNLOADED

## THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER 22a/1	OLD SERIES	RCHME NUMBER	N.G.R. TL 37435 02323
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NAME/FUNCTION Traverse	START DATE 1936	END DATE 1992
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CARTOGRAPHIC DEPICTION

DOCUMENTARY REFERENCES

Plans;  
22      B06,B13 - 16 Plans and Details of Traverse

PHOTOGRAPHY  
HISTORIC

PHOTOGRAPHY  
RCHME  
1) 206/L/33 09 Mar 1993 Traverse from South

RELATIONSHIPS WITH OTHER MONUMENTS


ASSOCIATED WITH: 22a, 22a/2

CONDITION      Good


DESCRIPTION

- 1)      CONSTRUCTIONAL MATERIAL  
        Corrugated iron
  
- 2)      ROOF MATERIALS AND STRUCTURE  
        -
  
- 3)      POWER SOURCE  
        None COMBUSTION ENGINE
  
- 4)      DIMENSIONS i) L 19.26m ii) W 3.2m iii) HT 3.1m
  
- 5)      The traverse is constructed from corrugated iron with battered sides reinforced by flat bottom standard guage rails. The corners are strengthened by angle irons, the ends are vertical. The interior of the traverse is presumed to be packed with earth and gravel. The traverse served to protect the ?fanhouse 22a/3 from the Quinan stove 22a.

## THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER 22a\2	OLD SERIES	RCHME NUMBER	N.G.R. TL 37445 02296
NAME/FUNCTION Traverse		START DATE 1936?	END DATE 1992
			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
		Plans; 22 B06,B13 - B16 ; Plans and Details of Traverse	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME 1) 206/L/34 09 Mar 1993 Traverse from South West	
RELATIONSHIPS WITH OTHER MONUMENTS			
ASSOCIATED WITH: 22a, 22a/1, 22a/3			
CONDITION      Good			
DESCRIPTION			
1)      CONSTRUCTIONAL MATERIAL Corrugated iron, angle irons, flat bottom rails			
2)      ROOF MATERIALS AND STRUCTURE -			
3)      POWER SOURCE None			
4)      DIMENSIONS i) L 9.3m    ii) W 3m      iii) HT 3.1m			
5)      The traverse has battered corrugated iron sides with vertical ends. The corners are reinforced by angle irons and the sides strengthened by standard gauge flat bottomed rails. The traverse is presumed to be filled with earth and gravel. The traverse served to protect the area to the south of the Quinan stove 22a.			

## THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER 22a/3	OLD SERIES	RCHME NUMBER	N.G.R. TL 37428 02324
NAME/FUNCTION Engine/Fan House		START DATE 1936	END DATE 1945?
			
CARTOGRAPHIC DEPICTION		DOCUMENTARY REFERENCES	
		Plan; 22      B08 - 1/5/1936 ; Details of Fan House	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME 1) Fanhouse 206/L/35 09 Mar 1993 Ruins of fanhouse from West	
RELATIONSHIPS WITH OTHER MONUMENTS			
ASSOCIATED WITH: 22a, 22a/1, 22a/2			
CONDITION      Demolished			
DESCRIPTION			
1)      CONSTRUCTIONAL MATERIAL Brick in English bond			
2)      ROOF MATERIALS AND STRUCTURE Slate			
3)      POWER SOURCE Electricity ?steam heat			
4)      DIMENSIONS i) L 7.55m ii) W 7.40m			
5)      The building was constructed on a concrete raft from brick with metal framed windows. A large number of slates lying in the area indicate that it was probably roofed in slate. Set in the base of the wall on the eastern side are two metal pipes each with a bore of 30.5cm. From this building two sheet metal pipes with bores of 31cm and 68.5cm crossed over the top of the traverse 22a/1 to serve the pipes along the west side of the Quinan stove 22a.			

THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY			
NUMBER	OLD SERIES 23	RCHME NUMBER	N.G.R. TL 37542 02302
NAME/FUNCTION Guncotton Stove No.11		START DATE 1904	END DATE 1945 1992 (ruin)
<b>CARTOGRAPHIC DEPICTION</b>  1923      WASC 900/84 ; 23 Guncotton Stove No.11		<b>DOCUMENTARY REFERENCES</b>  1908      RGPF Ledger WASC 1509 + WASC 1764 ; Guncotton Stove c1925      RGPF Ledger WASC 1680 ; Guncotton Stove c1945      RGPF Ledger WASC 1508 ; Guncotton Stove  1972      ERDE List ; Guncotton Stove 1992      RARDE List ; Guncotton Stove	
<b>PHOTOGRAPHY HISTORIC</b>		<b>PHOTOGRAPHY RCHME</b> 1) 206/L/1 08 Mar 1993 Pipe detail 206/L/2 08 Mar 1993 Pipe detail 206/Q/2 12 Mar 1993 Detail of warm air inlets 206/Q/9 12 Mar 1993 From west porch served by Railway and Canal	
<b>RELATIONSHIPS WITH OTHER MONUMENTS</b>  ASSOCIATED WITH: 36, U1			
<b>CONDITION</b> Good			

#### DESCRIPTION

1) CONSTRUCTIONAL MATERIAL  
Cast concrete

2) ROOF MATERIALS AND STRUCTURE  
-

3) POWER SOURCE  
?steam heating

4) DIMENSIONS iv)DIA 10.6m

5) The stove comprises a circular internal cast concrete wall 2.44m in height, revetting an earthen traverse. The entrance to the stove was from the western side. The stove was served by both a narrow gauge railway siding RCHM 263 and from the adjacent canal. As the rails approached the stove they entered into the covered porch and the wagons dropped down onto wooden rails. The stove originally comprised a timber roundhouse in the centre of the traverse. This building sat on a concrete platform 9.2m in diameter. The wall sills were attached to the platform by vertical mounting bolts set into the concrete. The roof of the building was supported by a central post, 17cm x 17cm. The roundhouse was separated from the revetment wall by a gully 0.65m in width and 0.4m deep. This gully was entered from a flight of timber steps running up the traverse and over into the gully. Within the building are some frafments of reinforced window glass.

The building was heated by a pipe that entered from the south connected to engine house U1 (30). The support stanchions for this pipe may be traced from the engine house to the stove. This roundhouse was unusually heated pipes formed from rivetted sheet metal rather than the more normal cast iron as seen in stoves 14 and 18. The arrangement of the pipes was however similar with the external pipe joining to a flanged curve and then to a straight before connecting to the horizontal circular pipe each with abore of 30cm. This circular pipe was similarly made up from a series of flanged curves. To the top of each curve was bolted a cast iron flanged elbow bore 12.5cm. Many of these elbows retained a length of galvanised metal pipe 30cm in length bolted to the end of the elbow by a circular metal flange plate with a piece of metal gauze screening the hole. This galvanised pipe formerly attached to the side of the roundhouse.

Historic artefacts - At least some sections of the heating pipe ought to be retained as this is the only example of the rivetted form. Also of interest are the cast iron elbows with the sections of galvanised pipe attached, these are the only examples of galvanise side pipes seen on the site. Any other light fittings and metal fittings .

**THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY**

NUMBER

OLD SERIES  
24

RCHME NUMBER

N.G.R.

NAME/FUNCTION  
Earth closet

START DATE

END DATE

NO PHOTOGRAPHY  
AVAILABLE

CARTOGRAPHIC DEPICTION

DOCUMENTARY REFERENCES

PHOTOGRAPHY  
HISTORIC

PHOTOGRAPHY  
RCHME

RELATIONSHIPS WITH OTHER MONUMENTS


CONDITION      Demolished

DESCRIPTION

5)      Not Found



## THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY

NUMBER U1	OLD SERIES 30	RCHME NUMBER	N.G.R. TL 37548 02272
NAME/FUNCTION Engine/Fan House		START DATE 1904	END DATE 1945? 1992 (ruin)
			
CARTOGRAPHIC DEPICTION  1923      WASC 900/84 ; 30 Engine House		DOCUMENTARY REFERENCES  1908      RGPF Ledger WASC 1509 + WASC 1764 ; Engine House c1925      RGPF Ledger WASC 1680 ; Engine House c1945      RGPF Ledger WASC 1508 ; Engine House	
PHOTOGRAPHY HISTORIC		PHOTOGRAPHY RCHME 1) 206/Q/10 12 Mar 1993 Concrete block with Abestos shelter North of central Engine house	
RELATIONSHIPS WITH OTHER MONUMENTS  ASSOCIATED WITH:                      PART OF:                      CONSISTS OF: CUTS:                      CUT BY:                      ABUTTS:                      ABUTTED BY:                      OVERLIES:                      UNDERLIES:			
CONDITION      GOOD: FAIR: POOR: VERY BAD: DESTROYED: ?BURIED:			

DESCRIPTION

- 1) CONSTRUCTIONAL MATERIAL  
a) BRICK b) CONCRETE c) BRICK AND CONCRETE d)TIMBER e) CAST IRON f) CORRUGATED IRON
- 2) ROOF MATERIALS AND STRUCTURE  
a) SLATE b) TILE c) BRICK d) CONCRETE e) TIMBER AND SHEETING f) CORRUGATED IRON
- 3) POWER SOURCE  
a) MUSCLE b) WATER c) STEAM d) GAS e) ELECTRICITY f) COMBUSTION ENGINE
- 4) DIMENSIONS i) L ii) W iii) HT iv)DIA
- 5) FREE TEXT

**THE ROYAL GUNPOWDER FACTORY - WALTHAM ABBEY**

NUMBER	OLD SERIES	RCHME NUMBER 263	N.G.R. TL37532 02307 TL37547 02358
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NAME/FUNCTION Section of narrow gauge railway	START DATE	END DATE 1945
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NO PHOTOGRAPHY  
AVAILABLE

CARTOGRAPHIC DEPICTION	DOCUMENTARY REFERENCES
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PHOTOGRAPHY HISTORIC	PHOTOGRAPHY RCHME
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RELATIONSHIPS WITH OTHER MONUMENTS  
ASSOCIATED WITH: 23

CONDITION Fair

DESCRIPTION  
  
Section of 18" guage railway leading to guncotton stove  
23.

