WEST INDIA DOCKS FORGE

Introduction

Alongside the former Engineers' Yard at West India Docks is a long-disused forge. This short Report is based on a brief site recording visit in July 1981 plus some subsequent historical research.

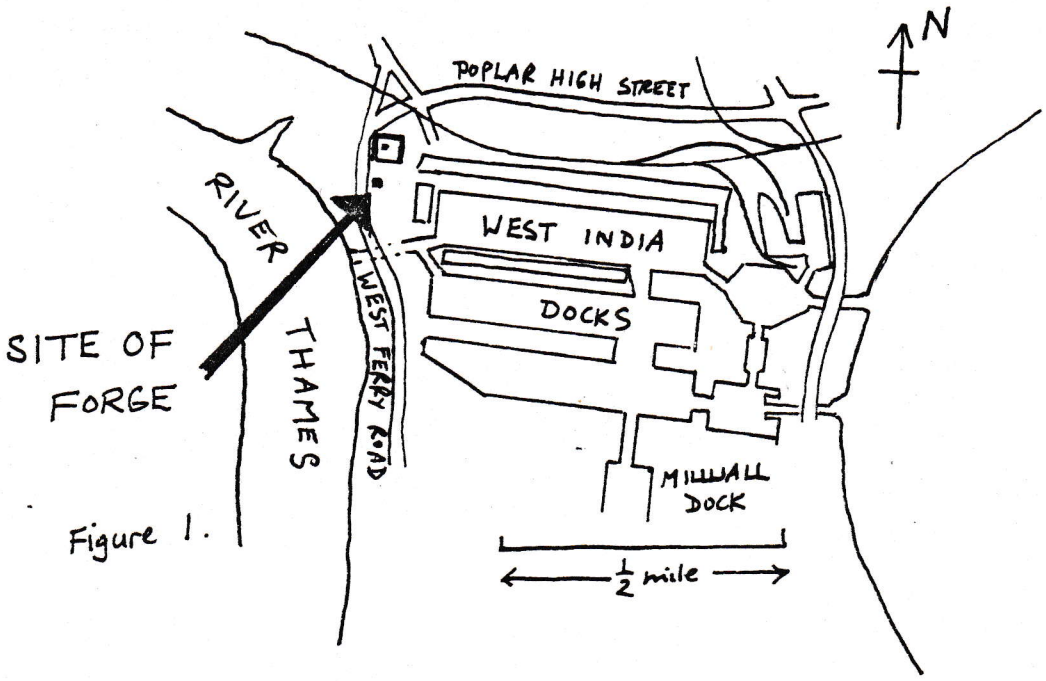
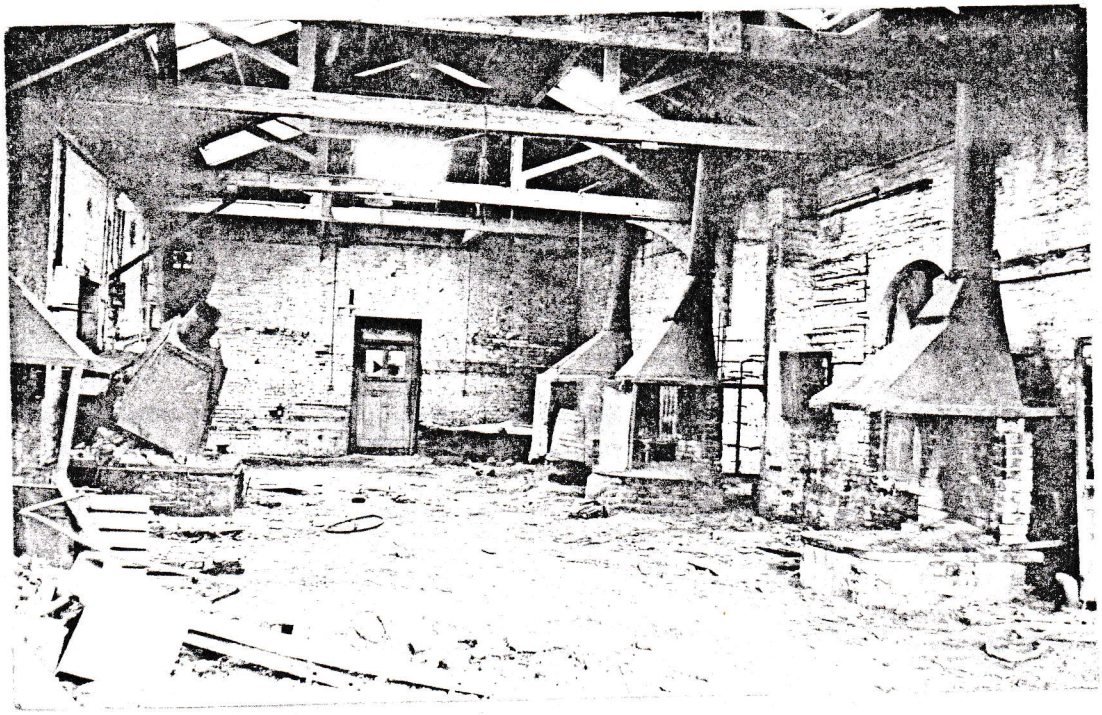


Figure 1.



Interior looking south.

The door at the far end led into the adjacent Engineers' shop.

General Description of Site & Location

To the west of the West India Dock of 1801-6 and outside the original bonded dock area, there were a number of offices together with various workshops used for repairing and maintaining dock equipment. These buildings were built and maintained by the Dock Company and, together with other dock facilities, they passed to the Port of London Authority (PLA) on its formation in 1909. A forge/smithy was situated in the Engineers' Yard just south of the stores/workshops known as the "Quadrangle" and adjoining the present Dock Estate boundary wall along West Ferry Road (see figs. 1 & 2).

The Building & Its History

The building was approximately rectangular (about 75'x30'x25' to the top of the roof) and was built of London stock brick to a design which echoed that of the adjacent "Quadrangle" block which had been designed by John Rennie in 1824 and built in 1825. A plan of 1841 held by the PLA shows the "Quadrangle" as cooperage and storehouses. Its southern wing, to which access was from the Engineers' Yard, contained carpenters' shops. The yard also contained the building which is the subject of this Report, to the south, and marked as "smithy". (Other references refer to it as a forge.) Reference to extracts from the West India Dock Company's minutes indicates that this building also dates from 1825/6:

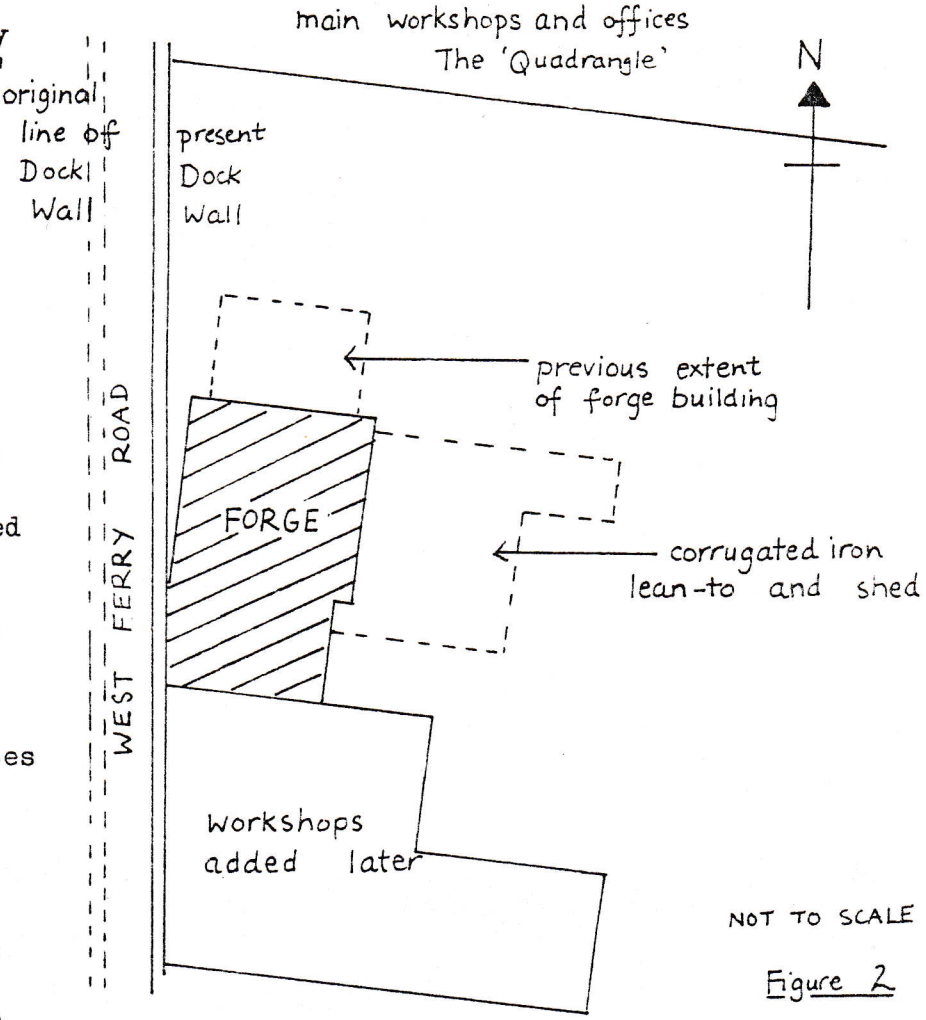


Figure 2

Plan showing forge site at time of survey

> "With respect to the works in hand at the docks, the Committee are glad to report that the Buildings at the Cooperage Yard are likely to be finished at an early period. The smithery is an exception and for which the Committee recommend that Mr. Rennie to furnish the plan and estimate that it may be commenced immediately." (i)
>
> and
>
> "In respect of the establishment for the new Smithery, the Committee recommend that Roden senior be appointed Foreman with 42/- per week pay, that Robinson, the scale maker, be allowed 36/- per week and Roden junior, as smith, also 36/- per week, and that the Secretary be desired to frame instructions as to the duties appertaining to each. As no other person will be required at the Smithery, the Committee cannot recommend the employment of Benjamine Roberts and his son, as solicited by him." (ii)

The building was constructed some way inside the original Dock Estate western boundary wall (fig. 2) but as a result of road widening shortly before 1894(iii) and relocation of the boundary eastwards, it was necessary to reconstruct the southern part of the building to incorporate the wall as a part of it, resulting in the 'cutting-off' of the

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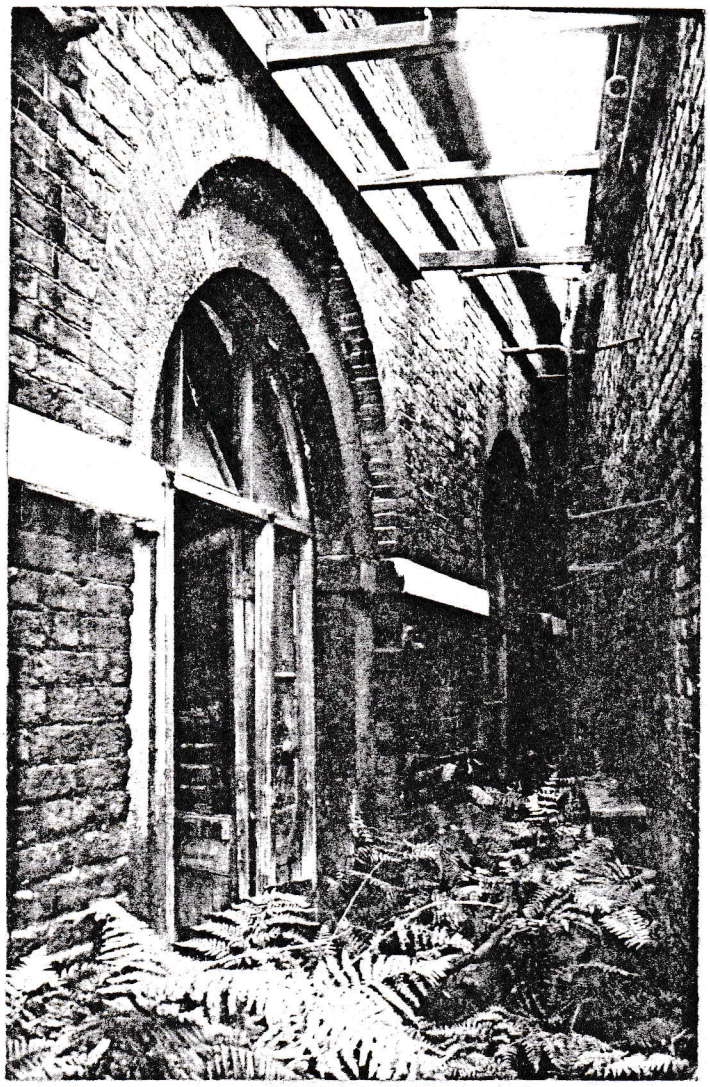
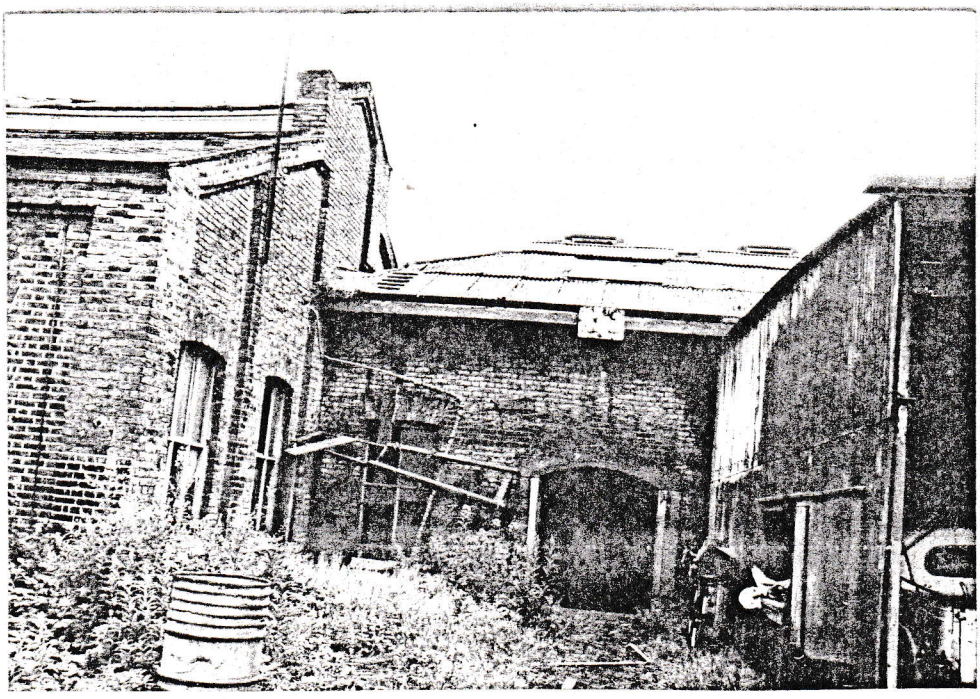
(i) Extract from the Court Minutes of 23 August 1825
(ii) Extract from Committee of Superintendence Minutes of 16 March 1826
(iii) Road widened under L.C.C. Parliamentary powers of 1891



The building, which early Plans show as standing alone, has been hemmed in by realignment of the Docks Estate boundary wall to the west (opposite), addition of the Engineers' shops to the south and by a corrugated-iron open shed to the east (below).



south-west corner (photo p.3 top). Various additional buildings also affected the structure: a brick-built Engineers' shop was constructed, incorporating the south wall (c. 1890) (left of photo p.3 bottom) which was modified to provide a doorway between the two buildings. At the same time two windows within this wall were bricked-up. In addition, various steel-framed corrugated-iron sheds were in situ to the east and appear to have served as a store and delivery bay (right of photo p.3 bottom). It was evident that the angle between the forge and boundary wall had been roofed over and fitted with racks where tools could be stored (photo p.3 top). Plans show that some time before 1889 a wooden building was attached at right angles to the north end of the "smithery" which, with part of the "smithery" building became the sawmills (presumably associated with the nearby carpenters' shops) and a Goad Insurance Plan of 1891 shows that a further addition to the wooden building housed a coal and iron store; there was also a further separate wooden construction lying to the south-east of the forge building which contained a chain annealing furnace. (By 1920 this had become a chain testing shop) This arrangement of buildings around the forge remained constant for some years - plans of 1920 and 1938 show no change. However, the forge building itself, when surveyed, differed from the original which was symmetrical about the E - W line. Plans show that the sawmill/stores additions and the building's northern section had been demolished by 1955 and a new north brick wall built which incorporated a large sliding door. A conjectured sketch elevation has been prepared to give an impression of the original east (front) face of the building as built (fig.3).

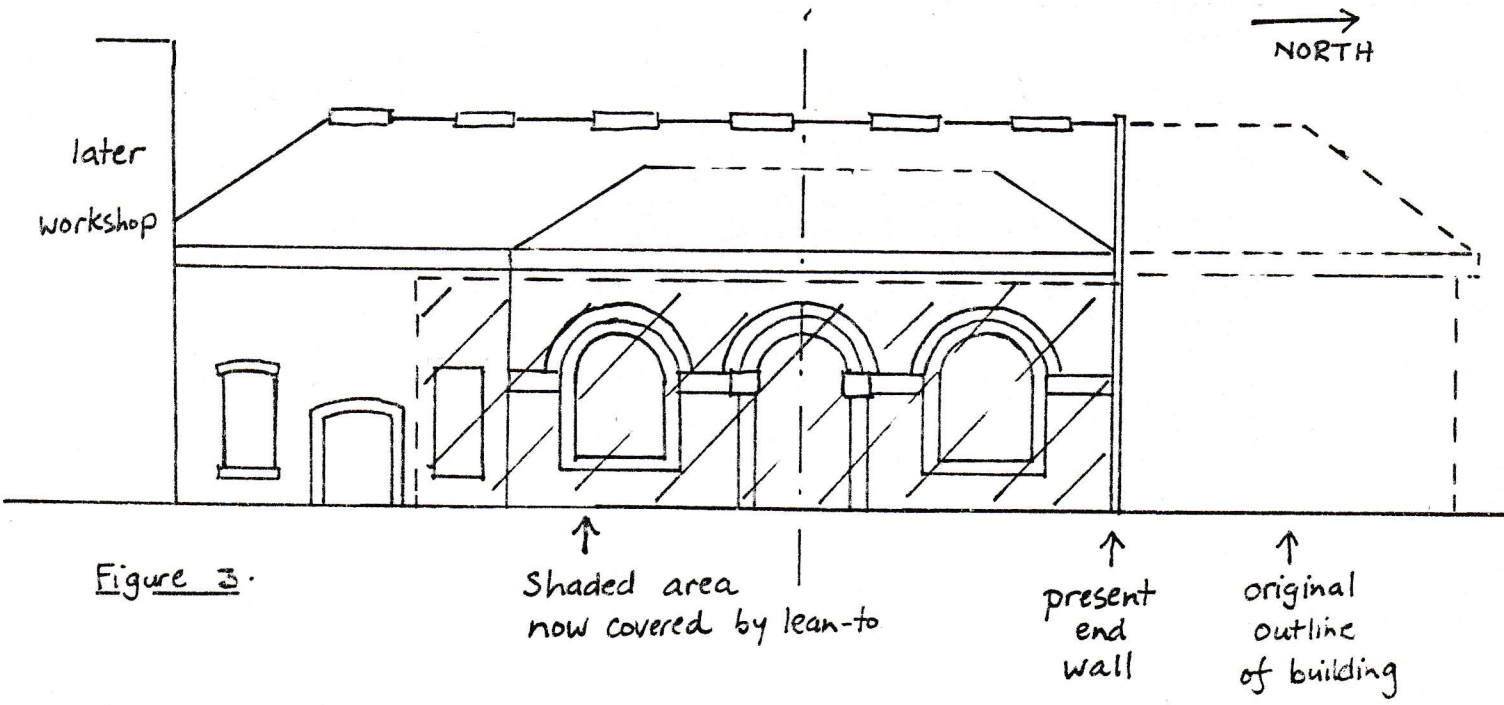


Figure 3.

Sketch elevation of east (front) face of forge building

The arched windows and the segmented stone arch doorway (E on fig.4) reflected the design of these features in the "Quadrangle" buildings. Detail of one of the doorways is shown in photo p.3 top. All door and windowframes were of wood except those in the newer north wall.

The forge roof was on a wooden queen post truss framework of a shape similar to that on the "Quadrangle" buildings though the asbestos sheet roofing material was obviously a replacement for the original (presumably slate). It had seven large wooden-framed roof lights, irregularly spaced, to illuminate the working area. Several side windows had been bricked-up due to the changed building construction/additions and thus it was essential to have another light source. Electric light fittings were also in evidence. Along the ridge of the roof were six small louvred ventilators.

Interior Features & Equipment

The only substantial items of equipment left inside the building were the six hearths (H 1-6 fig.4). All were of brick construction with an iron band to restrain expansion

Plan of Forge showing Equipment

Key

A Brick arched windows (2 northern ones bricked-up)
B Stone arched doorway
C Site of other windows (bricked-up)
D Sliding door across end entrance for large machinery and equipment
E Segmented stone arch doorway
F Wall-mounted crane
G Pivot for second crane
H^{1-6} Hearths
I Areas with wooden flooring laid
J Concrete bed for heavy equipment or machinery
K Work bench
L Locker
M^{1-2} Electricity supply and fuse points
N Pipe set into floor (air supply?)
R Ramp down from ground level outside building
S Site of shafting to adjacent Engineers' shop
T Water tap

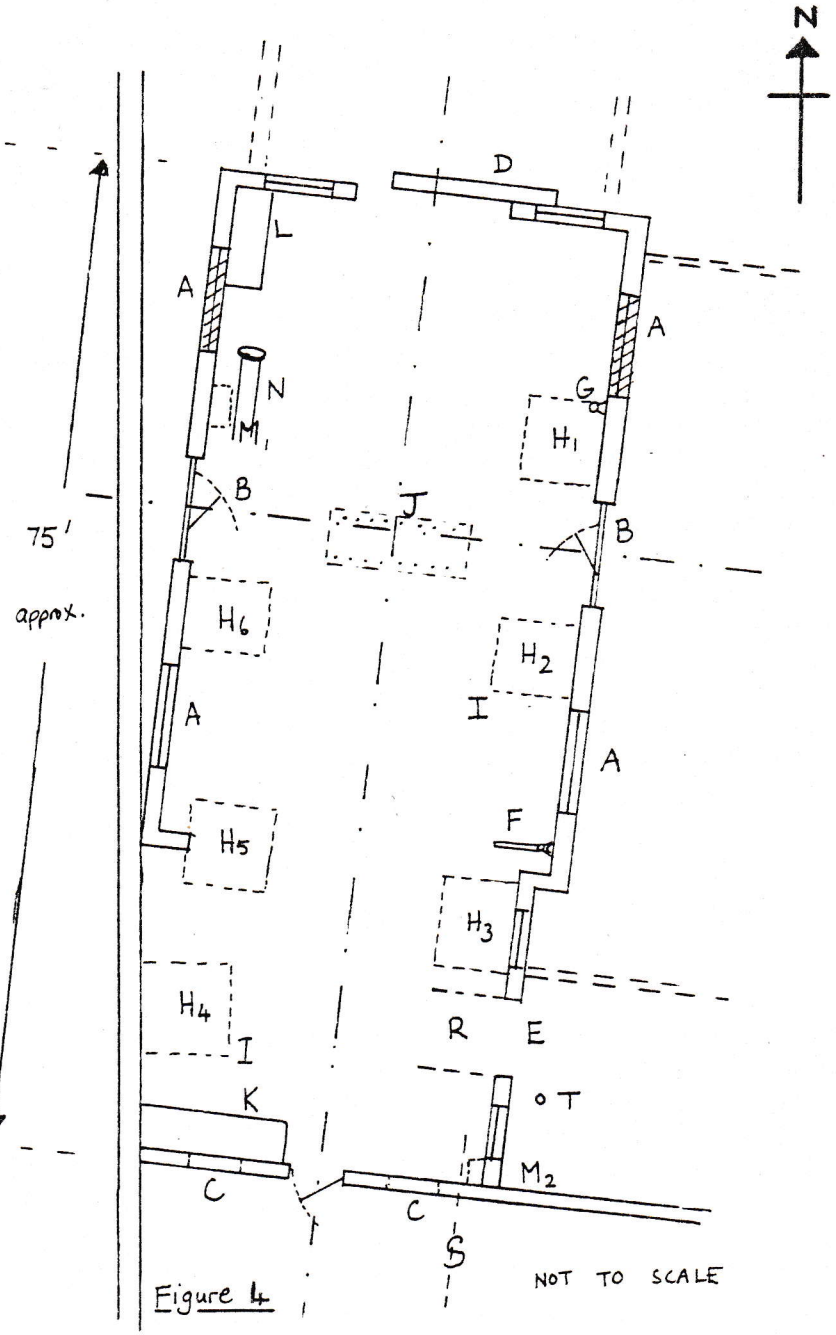


Figure 4

and cowls made of sheet steel which appeared to be 'home-made'. There were no signs of manually-operated bellows but evidence suggested that there had been a system which distributed compressed air to all the hearths; electrical switchgear at M^1 was presumably associated with an electric motor and compressor of which there was no trace. An iron pipe of approximately 5" diameter sloped upwards from the floor at this point (N) and could have been the main duct for the air supply to the hearths. At the side of one of the hearths (H^6) an iron pipe emerged from the floor shaped like a nozzle and this could have been the air supply line to this particular hearth. Levers which still existed alongside some of the hearths (e.g. H^2) may have controlled such a supply.

Mounted on the wall above and behind one hearth (H^6) was a tank, presumably for water, with two pipes, one to its top and one to the bottom, both leading behind the hearth; it was possibly part of a cooling system. However, the only water supply which could be traced was the tap on a standpipe outside one of the doors (T) - there was no supply to the hearths. A set of switchgear at M^2 could have been associated with a second electric motor which probably drove an overhead line shaft which led through the south wall of the forge into the adjacent Engineers' shop at S. The bearing for this was still in place, together with a large oil stain on the wall (top left corner of far wall in photo p.1). If machinery in that shop was driven from a motor in the forge, it seems a little strange that it should have been located in such a dusty area.

The floor was of hardened earth, though in a few places wooden floorboards and metal sheets were found (I). A large piece of equipment had been set into the floor by bolts in a concrete base at J but there was no way of telling what this would have been. The only other items of note were a wall-mounted hand-operated crane at F and mountings for another at G, and various collections of nails driven into the wall to provide tool racks, using the wooden frames of the bricked-up windows.

The Work of the Forge

The forge was used by the Dock Company's personnel and, later, by PLA craftsmen up to 1921 when a contract for all ship and engineering repairs was made between PLA and Harland and Wolff and at that time the forge and surrounding area was leased to them. Their London operations closed in 1971 although possibly operations at West India Dock may have ceased a little earlier as part of rationalisation measures; work would then have been carried out at their site in the Royal Docks.

The forge/smithy was used in connection with chain and equipment repairs. A notebook(i) found there listing work carried out in the period April 1960 to October 1962 gives an indication of the type of jobs carried out. Tasks carried out in a week in March 1962 included several concerned with the central granary (since demolished) - perhaps for special repairs being undertaken at this particular time, whereas others would seem to have been regular tasks such as forging a spanner, on lock gate stanchions, repairing of chain gear. Other work noted in the record includes some on railway equipment and wagons (for the Dock's internal rail system).

Conclusion

The forge building saw nearly a century and a half of continuous work until rationalisation due to the declining use of the docks eradicated its need. Now gutted, the building was for many years surrounded by activity. There are many questions still unanswered, especially in respect of numbers of people employed and working arrangements with the adjacent Engineers' shop and, indeed, whether the whole of the West India and Millwall Docks complex was covered from this site. Should any member be able to offer further information it would be welcomed for inclusion in a future Newsletter - contact Peter King, Flat 10 The Dell, 32 Harefield Road, Uxbridge, Mddx UB8 1PH if you can help.

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This Report has been prepared by: Jim Barr, Peter King, David Thomas & Youla Yates.

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ACKNOWLEDGEMENTS

We are grateful for the help given through the researches of Mr. Sid Miller of the Port of London Authority, and for assistance from the staff at Tower Hamlets Central Reference Library and the Map Room of the British Museum.

We should also like to thank the Port of London Authority for giving permission for the survey visit in July 1981.

PLANS USED INCLUDE THE FOLLOWING:

Ordnance Survey sheet VII - 80	1868	5' : 1 mile	British Museum Map Room
" "	1894/6	5' : 1 mile	"
" "	1937	5' : 1 mile	"
" sheet TQ 3680 & 3780	1969	25" : 1 mile	Tower Hamlets Cent.Ref.Lib.
Goad Insurance Plan Vol.XII Plan 352	March 1891	1" : 80'	British Museum Map Room

Plans held by the Port of London Authority, London Dock House

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(i) This notebook plus additional photographs will be deposited at Tower Hamlets Central Reference Library, Bancroft Road, E 1.