



Flyer for the Hard Dock Cafe

Stanley Dock Heritage Market



3. Brief Description of the Tobacco Warehouse

3.1 Historic descriptions

Descriptions of the Tobacco Warehouse were produced by Edmund Kirby, Thomas Dinwiddy, Arthur Musker and others in July 1901 shortly after it was built, as evidence at the MDHB's appeal against the rating valuation of the warehouses. They provide a good indication of the structure and facilities of Tobacco Warehouse at that time. These are held in the Local Records Office (LRO 720 Kir/1860-5) and extracts are reproduced below:

a) Edmund Kirby states in his evidence:

...the new warehouses are capable of containing 60,000 hogsheads of tobacco.

In these modern warehouses...only one tier of hogsheads (are stacked) on each floor, and these warehouses are used also both for the purpose of sampling and as salesrooms besides, and it is most convenient not to have to remove one hogshead from the top of another in order to get to underneath. Then these new warehouses are fitted with lifts. They are very high warehouses, and owing to the convenience of these lifts, the top floor is as good as any one below it, in fact, I believe that owing to the way they are worked, more convenient, for all the stuff, I believe, is taken first to the top, and then dropped down to the other floors, where it is stored and often for considerable periods.

It consists of 14 floors, basement, ground floor about 15 feet high, other floors 7 or 8 feet. Top floor is lighted with special roofs to get the best possible light for sampling. It is a superior floor, and used for a superior purpose than mere storing. Each floor is divided into 6 compartments, basement has east and west compartments shorter than the others, because in them is the old dock wall on each side. Each compartment has a goods lift, and on the south side of the warehouse front, there are three staircases, each with a passenger lift. It is connected with the old warehouses by 3 bridges. The upper floors are built to carry 8 cwt/square yard, Old Stanley will carry 30 cwt/square yard. Very heavy iron doors shut it off from the quay.

b) Thomas Dinwiddy states in his evidence:

I have spent some time in analysing this building, and I am enabled to say that as far as the walls are concerned, they are in excess of the usual standard or scale for warehouse structures... There is in excess of 9 inches in the basement; and that the thickness goes through the whole of the walls probably, excepting the top floor; and so far as the structure is concerned - the actual bricks and mortar - it is a strong fabric and in excess of the requirements of the normal standard...

...the lifts have doors on both sides so that goods can be put in on one side and taken out at the other.

The top floor has two compartments with special north lights, like a weaving shed, 10 feet high. All tobacco comes out of the new warehouse from the old, by the bridges. All tobacco is delivered by road, brought to the quay and the lifts. The class of vessels that brings tobacco could not get into the dock.

c) Thomas Dinwiddy also provides a more comprehensive and very helpful description which can still suffice as the primary description of the building:

(The Tobacco Warehouse is)...of a magnitude unparalleled in the kingdom, containing 33 acres of floorspace in one construction...The actual dimensions being as follows:- all measured from top to top of floor. Basement 12 ft 6 in. Ground floor 16 ft 6 in. 11 intermediate floors 8 ft 6 in. Top floor 15 ft 8 in (to half up the weaving shed roof). It is built with wire cut bricks (from the Stanley District) the elevation being treated with red string courses and massive terracotta cornice and moulded overselling courses, the base plinth is of blue brick. Every floor is of fireproof construction in concrete carried on ranges of 12 cast iron columns in the span of the building with transverse and longitudinal iron girders. The whole of the cast iron columns are protected by fireclay tubular casings filled with concrete, the girder construction is also encased with fireproof material. The roofs are slated on close boarding with wrought (sic) iron principles, two out of the six sections are on the weaving shed principle with skylights having a North aspect. The remaining four sections are roofed in 3 spans between sectional walls 48 ft centre spans, slated on wrought iron principles with wrought iron ridge purlins close-boarded, and with skylights at intervals - ventilation is provided at each bay in the apex of the roof - a cast iron centre valley is continued round fronts behind parapets.

The windows throughout are of cast iron as also are the lintels and mullions.

The ground floor level next to the 42 ft interval road (Pneumonia Alley) is provided in each section with three pairs of wrought iron sheeted gates running on top rollers - this road is spanned by 3 wrought iron enclosed bridlevays connecting old Stanley Warehouse on the first floor level.

On the North front next the dock the whole ground floor is supported by massive cast iron stanchions and deep box girders and enclosed next the quay wall with massive wrought iron gates and overhead rollers.

The delivery and distribution of goods from floor to floor is by hydraulic lifts contained in brick shafts 17 feet square constructed in the centre of each section of the building enclosed on each level with wrought iron hinged door on one side and a sliding door on another to enable loading and discharging at the same time.

The passenger approach is by three hydraulic lifts 4 ft 6 in by 3 ft 4 in worked by overhead gear and wire rope one in the centre and two others at either end of the building enclosed by Borstick collapsing gates at each level and running in the well of the stone staircase.

Hydraulic lifts are worked by six 15 in geared rams contained in pairs in 3 brick pit chambers 20 ft deep. - the shafts from the pits to the respective lifts is contained in brick channels 4 ft deep and 2 ft 6 in over all.

There are additional 7 in rams in pits 6 ft square and 12 ft deep working catheads for hydraulic hoists. The contractor for the hydraulic work were Messrs. Easton and Anderson of London.

Fire Protection. The water service is carried by main traversing a 3 ft brick arch culvert on the whole length of the back front next dock with traverse culverts through each of the six sections of the warehouse.

A six inch sea water main and 4 inch fresh water main ascend each staircase with fire hydrants and branches to each floor - On each of the three staircases there are 6 hydrants fitted in wall boxes.

Basement is constructed with walls 3 ft 9 in thick it rises above the road level enabling some light and ventilating windows between the road surface and the ceiling level - it is dry and available for storage.

On my view there was surface water on the floor next the road frontage but this was due to the loading areas being uncovered at the time awaiting the builders to finish - the walls and concrete were perfectly dry.

At the time of my view (April 1st 1901) the entire first floor of the new warehouse was stored with tobacco through every section.

Three sections of the ground floor at the east end was at the same time stored with sugar...

The contract cost stated in the St George's Dock Arbitration by the Dock Board's Engineer to have been £300,000, is a remarkably small figure for such an extensive building. In addition to the structural contract by Messrs Morrison, concrete piers for foundations were put in and carried to the bedrock through the made soil filled in on reclaiming the site from the old Stanley Dock; these foundations were supplied at the Mersey Board's cost as also was quay wall (of concrete with 18 in granite kerbs) which forms the foundation of the North front - Many supplementary works were also done by the Mersey Board staff, such as the fire hydrants, constituting brick chambers for the Hydrant rams, the conduits for water and Hydrant mains.

c) Arthur Musker states in his evidence:

...In addition there are 10 hydraulic jigger hoists on dockside for lifting the tobacco from steamer to quay and vice versa each powerful enough to raise nett loads of 20 cwt a height of 60 ft at a speed of 360 ft/minute. Th convey the hydraulic pressure to the 25 lifts, there is a very perfect system of pressure and return water pipes.

Musker then provides a more detailed description of the hydraulic system and its water requirements.

He goes on to state:

A very efficient water service for fire prevention is provided...

The warehouses are also being fitted with a very efficient lighting service consisting of about 350 fixed 50 cp (candlepower) lights, 80 fixed 16 cp lights and 350 connections for portable leads. The wiring is done in the best manner and Simplex tubing is used throughout.

d) Other unattributed notes from March 1901 provide details of the diminishing thickness of the walls and the cast iron columns:

*Ground floor walls - 3 ft 2 in thick
1st, 2nd, 3rd and 4th floors - 2 ft 5 in thick
5th, 6th, 7th and 8th floors - 2 ft thick
9th, 10th and 11th floors - 1 ft 6 in thick*

Dimensions of columns		
Level	Circumference	Diameter
Basement	4ft 9 in	1 ft 6 in
Ground	4 ft 4 in	1 ft 4.5 in
1st	4 ft 1 in	1 ft 3.5 in
2nd	3 ft 8 in	1 ft 2 in
3rd	3 ft 6.5 in	1 ft 2 in
4th	3 ft 6.5 in	1 ft 2 in
5th	3 ft 2 in	1 ft
6th	3 ft .5 in	1 ft
7th	2 ft 8 in	10 in
8th	2 ft 8 in	10 in
9th	2 ft 8 in	10 in
10th	2 ft 5.5 in	9.25 in
11th	2 ft 2 in	8 in
12th	2 ft 2 in	8 in

3.2 Additional description

The historic descriptions of the Tobacco Warehouse provide a very clear picture of the Tobacco Warehouse but for the purposes of this Conservation Statement, some additional description is provided.

3.2.1 Elevations

West Elevation

The west elevation fronts directly on to Regent Road with a band of red rock-faced sandstone which extends up for the whole of the ground floor, with massive quoins and a plinth. Above the plinth the elevation is mostly red/brown pressed bricks with red and blue engineering brick details and a profusion of terracotta detailing on the 11th and 12th floor levels, what was described by the cartoonist and architectural critic as “...above the snow line”! The elevation is divided into a hierarchy of orthogonal grids by five pairs of carefully articulated full-height projecting panels or pilasters and string courses of red and blue engineering bricks. The first, third and fifth pairs of pilasters have terracotta brick quoins and they extend upwards above the parapet with pairs of rounded panels with blind cartouches, to give them dominance and to enrich the silhouette of the building. The top of the elevation has a large and dominant cornice, corbeled out on large terracotta brackets. The second and fourth pairs of pilasters are capped by single pediments across the panels.

The West elevation effectively faces on to the river beyond and so announces its presence and purpose at high level, to be seen by approaching ships. Between the second and third pair of pilasters and the third and the fourth pair at the 11th floor level are cartouches bearing the pronounced wording “Tobacco” and “Warehouse”. Between the central pair at

the very summit is a cartouche bearing the pronounced wording “1900 MDE” (Mersey Dock Estate).

The only windows in this elevation are: small square cast iron windows between the central pair of pilasters; pairs of larger cast iron windows with cast iron cills, heads and mullions between the second and fourth pairs of pilasters, separated by narrow spandrels of alternating red/brown and terracotta bricks and; a band of large cast iron windows at high level on the ground floor with heavy voussoirs. All windows have small rectangular glazing panels which form the smallest components of the orthogonal grids of the elevation.



West elevation



Ground floor window in sandstone base

North Elevation

The North elevation fronts on to the dock and faces the North Warehouse across the dock. It is set back approximately 2m from the quay edge behind a granite and concrete quayside which has a series of bulbous cast iron capstans. The ground floor/quayside level was originally mostly open, except at the East and West ends, but had sliding doors which have now been removed. The quayside openings were later infilled with brick walls, flush with the elevation in the centre and at the East but recessed behind the elevation at the West end. These infilled walls have also now been removed. Unlike the round cast iron columns inside (and on the earlier warehouses) the colonnade on the ground floor is made up of riveted steel stanchions and beams, with piers of blue engineering bricks where the cross walls abut the outer walls and at the inner ends of the original quayside walls.

At the eleventh floor, the pilasters are in terracotta and are each corbeled out into two narrower pilasters. Alternate principal pairs of pilasters are emphasised by tall windows up the full height, separated vertically by spandrels of alternating red/brown and terracotta bricks. They terminate at the top with window round-arches with a keystone and enclosing a circular panel, all in terracotta. The pairs of principal pilasters in the centre of each of the 6 compartments/sections have a pediment to the height of the top of the parapet. At twelfth floor level a series of shorter pilasters in red engineering bricks further enliven the high-level cornice.

The elevation of predominantly red/brown bricks is divided into a hierarchy of orthogonal grids by: a) horizontal features of the quay wall and the tall ground floor opening at the base; a heavy cornice of terracotta and a solid parapet at the top and; string courses of projecting red engineering bricks between every second floor and; b) by vertical features of panels, pilasters, lines of windows, large cast iron downpipes and three sets of external metal fire escape staircases. The basic horizontal architectural rhythm is dictated by the six rectangles of the six internal compartments. Each of the six rectangles is divided by three pairs of principal pilasters, with a pediment at the top of the central pair, and into seven bays of windows.

The rectangular panels of red/brown brick between the principal pairs of pilasters have square cast iron windows on each floor, within recessed vertical panels. The brick panels on each side of the cross walls have single windows and the two inner panels in each compartment have double windows, separated horizontally by cast iron mullions and vertically by spandrels of red/brown bricks.

Huge circular cast iron downpipes with large hopper heads at every floor are located in line with the internal cross walls. Lifting gear is provided with pulleys at first floor level and pulleys and control balconies at 9th and 10th floor levels. Three sets of partially complete fire escapes run from the eleventh floor to the first floor with a platform at each level and a staircase between each platform.



North Elevation



East Elevation

The East elevation is identical to the West elevation in composition and fronts directly onto the pavement on Great Howard Street. The building thus occupies the whole of the East-West length of the site: it could not be longer!

South Elevation

The South elevation fronts on to the passage between the Tobacco Warehouse and the South Warehouse, which is known as Pneumonia Alley. Its fenestration and ground floor doorways make it the most complex of the elevations but, it is similar to the North elevation and its composition is also based upon the six internal compartments. Its fenestration also dictated by the three full height internal staircases at the crosswalls between Section A and B, C and D and E and F. This elevation has a blue brick plinth along its full length, to the height of the raised ground floor, approximately 1m high, which has windows serving the basement behind cast iron grilles.

The fenestration which serves the three staircases consists of alternating circular windows with red engineering brick surrounds and small rectangular windows which have been reduced from their original size. On each side of these circular window are off-set small round headed windows with red engineering brick arched heads and blue brick cills (in lieu of the single square windows in the North elevation). One line of these windows with arched heads serves its relevant staircase but the other is within the adjoining compartment. The most easterly and westerly bays do not have windows.

On the ground floor, each compartment has three loading bays, which had sliding doors (now removed), with blue brick reveals and three intervening windows with arched brick heads and brick cills. Most of the arched window heads are red brick but underneath the three bridges, the whole wall, including the arched brick heads are blue brick.

At the junctions of the five cross-walls are pairs of solid cast iron doors, three of them serving staircases and the others providing access to the ground floor. Some of these doorways have blue brick round arched heads and reveals but others have red brick round arched heads and red/brown and blue brick reveals. At the East and West end are single doors with red brick round arched heads and abutting the red sandstone at the corners of the building, approached by stone steps.

The South elevation has a system of lifting gear comprising pulleys over a window in each compartment and projecting pulleys on brackets like a ship's prow at first floor level, with vertical access ladders at the side. The wire ropes came through the pulleys from the hydraulic jiggers inside the window via a specially adapted conduit and then up to further a fixed pulley suspended on a brackets at 10th floor level and up to a sliding pulley which travelled on wire ropes fixed to brackets at 9th floor level. Each of these high level brackets had an access platform and the adjacent windows opened fully to facilitate access.

The elevation has a variety of large cast iron downpipes, canted to suit their routes and in recessed channels at ground floor level. There are also retrofitted cast iron soil and vent pipes serving former toilets.

Conservation Statement For Tobacco Warehouse, Stanley Dock, Liverpool



West end of South elevation



East end of South Elevation



Original drawing of part of South elevation, showing larger openings at staircases and wire rope spans at 9th Floor level

3.2.2 Interior

The Tobacco Warehouse is built of fire-proof construction with extensive use of cast iron, concrete and brick and no significant use of timber. The interiors have no decorative fabric and are all entirely austere, functional and repetitive. The external walls and cross walls are brickwork, which were painted white. All columns, beams and ceilings are treated with a coating of fireclay. All cross-walls had a doorway at the North and South end with a pair of double iron doors on each side of the wall on short return walls and each with a double hasp and staple lock, but most of these doors have been removed.

The principal I-beams which supports the floor run E-W from end to end and are 10 inches x 6 inches of 1/2 inch gauge iron. The secondary I- beams run N-S are 7 inches x 3 3/4 inches of 1/4 inch gauge iron at 1m centres, creating a smoothed-out ribbed appearance in the ceiling. All floors are concrete.

Curiously, the building has no staircase or pedestrian lifts which provide internal access from the ground floor to upper floors. The only access to the upper floors is from the staircases accessed from the external ground floor doorways, the bridge from the South Warehouse or by the goods lifts.

Within each of the six compartments adjacent to the South elevation was a hydraulic jigger, and although five of these remain, the one in Compartment A (the most westerly section) has been removed.

The ground floor has a very generous floor to ceiling height of approximately 5m. Floors 1-11 all have identical appearance and floor to ceiling heights of 2.12m to the underside of the principal beams. Some of the upper floors had added toilet blocks adjacent to the staircases constructed in brick. Some floors had timber offices constructed in timber.

The top floor is the most different in character and appearance as: it has fewest (and thinnest) columns; it has no windows in the walls, although it does have a few small ventilation grilles with timber sliding shutters and is top-lit by the North lights and roof-lights in the hipped roof; it is open to the underside of the roof which is higher than elsewhere - approximately 4.5m to underside of the trusses: the roof structure and boarded roof is visible. Compartments C and F have North Lights, with glazing in the steeper North facing slopes and a covering of blue slates on the shallower South facing slopes but the other four compartments each have three hipped roofs with their ridges running N-S. The hipped roof structure comprises trusses of riveted angle-iron restrained by wrought iron tie bars. They are covered with sarking boards and corrugated sheets.



Exposed columns, beam and floor



Ground floor Jigger



View through doorways in cross-walls on ground floor



Timber office on 8th floor (removed)



Timber office on 2nd floor (removed)



Toilet block on 11th Floor



North Lights



Hipped roof



Lift shaft



Raised secure structure in SE corner



Closable ventilation grill



Sign

Basement

The basement has a floor to ceiling height of just under 4m, with the floor below the level of the water in the adjacent dock but it is remarkably dry. As it supports the entire building above and its contents, it has the biggest columns (1 ft 6 inches in diameter).

A channels runs E-W through the basement to accommodate services and hydraulic pipes are fixed below the ceiling. A series of alcoves with arched brick heads extend into Pneumonia Alley to receive tobacco. Between the alcove are pairs of windows with canted cills and reveals.

The goods lifts and staircases extend down to the basement.



Hydraulic pipes and underside of stairs



Alcove in South wall

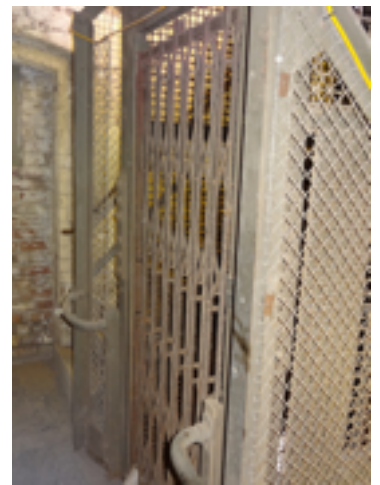


Windows in South Wall

Staircases and Personnel Lifts

Three full height original staircases are located adjacent to the South elevation where cross-walls abut it. The staircases have cantilevered stone steps fixed in the walls which wrap around a central core with a small personnel lift. The steps have risers and trade of 200mm and the steps are approximately 900mm wide but due to protective grills to the lift, have a usable width of approximately 0.82 m. Each flight is lit by a circular window and a round arched window, with bevelled reveals to increase the light. Each landing had an external doorway but these have been infilled to create a small window. The stairs have wrought iron hand rails.

At the top of each of the first landings is a security gate with a double padlock. A seawater and a fresh water riser runs up each stairwell and most landings have a fixed timber fire hose cupboard.



Staircase and personnel lift details