

## MAURETANIA

### Some Documentary Highlights

held in the Marine Technology Special Collection, Newcastle University.

The Collection has some original company documents, some of which are unique, in addition to publications which describe the building, launching, operation, and scrapping of this famous passenger liner. The Collection is open to visitors by appointment where these materials can be consulted.

The liner MAURETANIA was the most famous ship built on Tyneside. She was the largest, fastest and most expensive passenger ship when she entered service in 1907. She and her sister LUSITANIA built at Clydebank allowed Cunard to regain supremacy on the prestigious North Atlantic route. She held the Blue Riband for the fastest crossing for much of her 28 year life, with a speed of around 26 knots (30 mph). She achieved this high speed by adopting Parsons' new steam turbine machinery, which when ordered was many times more powerful than the previous highest powered turbine.

Abbreviations used below:- SHWR = Swan, Hunter & Wigham Richardson Co. Ltd, Wallsend, near Newcastle upon Tyne, Northumberland, UK . MI = Metal Industries Co. Ltd., Rosyth and Charlestown, near Dunfermline, Fife, Scotland, UK.

The Collection has a selection of material, some unique, on her building and her breaking in 1935.

- **DOCUMENTS 1 & 2.** MAURETANIA technical particulars by her builders SHWR 1907.
- **DOCUMENTS 3.** MAURETANIA speed trial results conducted by her builders SHWR in November 1907.
- **DOCUMENTS 4.** MAURETANIA machinery building contract with Wallsend Slipway and Engineering Co. Ltd 1905.
- **DOCUMENTS 5.** MAURETANIA construction and on-board photographs by SHWR 1905-1907.
- **DOCUMENTS 6.** MAURETANIA construction in Souvenir Number of the 'The Shipbuilder' magazine November 1907.
- **DOCUMENTS 7.** MAURETANIA construction published in the leading engineering magazine 'Engineering' November 1907.
- **DOCUMENTS 8.** MAURETANIA auction catalogue of fittings for shipbreakers MI by auctioneers Hampton & Sons in 1935.
- **DOCUMENTS 9.** MAURETANIA photographs of breaking by MI at Rosyth ca.1935-1936.
- **DOCUMENTS 10.** MAURETANIA describing her breaking in the company history of MI shipbreaking at Rosyth and Charlestown by Ian Buxton, 1992.
- **DOCUMENTS 11.** MAURETANIA outturn record of material recycled by MI 1935.
- **DOCUMENTS 12.** MAURETANIA breaking described in Max Wilkinson's paper to the Manchester Association of Engineers 1940.
  
- **OTHER RESOURCES 1.** Ian Buxton's article "MAURETANIA and her Builders" in the journal Mariner's Mirror, 1996.
- **OTHER RESOURCES 2.** Tyne & Wear Museums & Archives ship model of 'MAURETANIA'.

- **DOCUMENTS 1 & 2.** MAURETANIA technical particulars by her builders SHWR 1907.

Her builders, 'Swan, Hunter & Wigham Richardson' (SHWR) had been formed by the merger in 1903 of two companies 'Swan, Hunter' and 'Wigham Richardson' so that they could compete for Cunard's 'express liners'. They extended their Wallsend yard with two covered berths to permit the construction of what would be their largest ship to date at 787 ft long and 88 ft breadth. Builders compiled the technical particulars of ships they had built, both as a record and as a reference for future designs. The Collection holds some of the technical data records by senior SHWR staff.

Reference: 'R.M.S."Mauretania" Finished Weight summary'. Swan Hunter & Wigham Richardson Limited, 1 sheet, 1907. Below is part of the page:-

R. M. S. 'Mauretania'  
Finished Weight August 1907  
Summary

Net steel and packing	14060	} 14490 as page 3
Rivets	430	
Stern and stern Castings	236	" " 34
Castings	100	" " 46
Smithwork	167	as returned in books
Boats Davits	23	do do
	376	

- **DOCUMENTS 1 & 2.** MAURETANIA Technical Particulars by her builders SHWR 1907.

A more detailed ledger of technical particulars was kept by the Drawing Office of SHWR – below is the draft entry page in pencil; the finished copy was inked up and recorded in a large ledger.

Reference: Reference: "Mauretania". Swan Hunter & Wigham Richardson Limited, [unpublished ledger], 1907, pp. Entry No.73 Mauretania, 2 pages. Part of the first page is shown:-

NO. 73	NAME <i>Mauretania</i>	CAPTAIN <i>Richard</i>
BIRTH No. 1	CLASS <i>Lloyds 100 A.1</i>	RULE <i>Special class</i>
Built at Wallsend	CERTIFICATES <i>Lloyds Classification</i>	TRADE <i>Passenger</i>
OWNERS <i>Cunard S.S. Co. Ltd.</i>		
KEEL LAID <i>18<sup>th</sup> 8/07</i>	FRAMED	PLATED <i>7% 6</i>
		LAUNCHED <i>20<sup>th</sup> 6/07</i>
		FINISHED
		TRIAL TRIP <i>Palmerston 15-21/07</i> <i>Official 3.6.07</i>

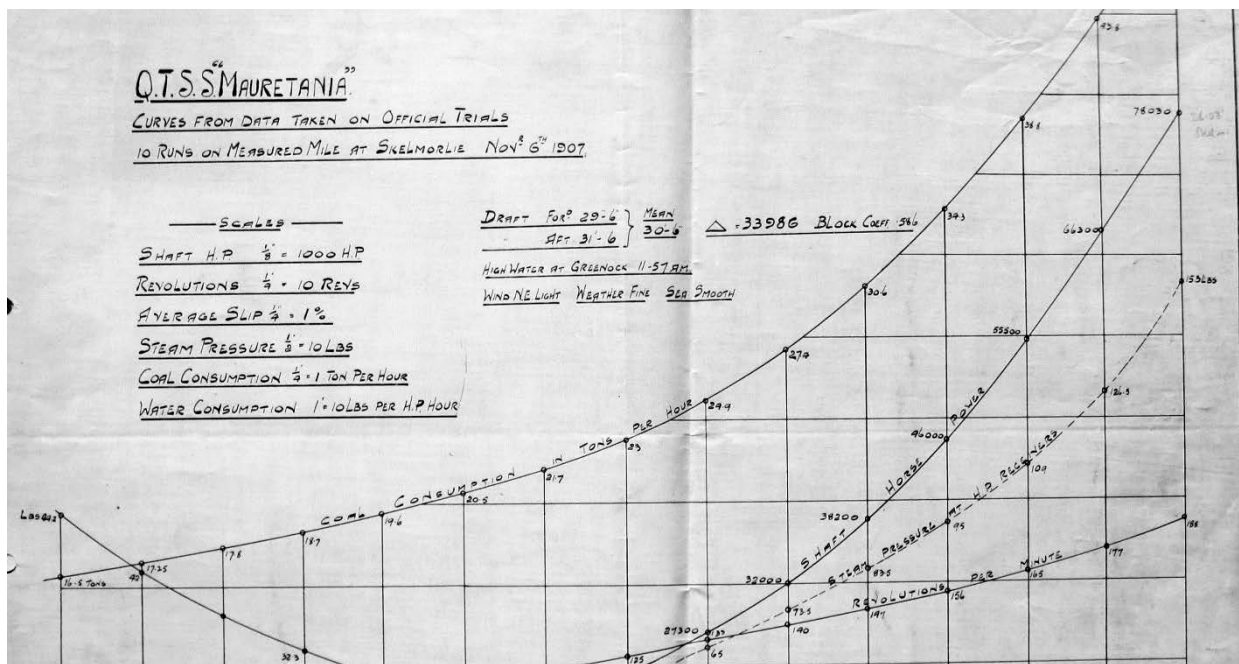
DIMENSIONS.				WEIGHTS.			
LENGTH OVERALL <i>784'0"</i>	LENGTH B.P. <i>760'0"</i>	BREADTH MLD. <i>84'6"</i>	BREADTH EXT. <i>84'10"</i>	FORGINGS - stem & stern castings			<i>236</i>
DEPTH MLD. <i>60'6"</i>	DEPTH OF HOLD (TANK TOP) <i>57'0"</i>	DEPTH OF FLOOR OR TANK <i>5'0"</i>		STEEL PLATES			<i>14060</i>
DEPTH EX. AT SIDE <i>61'2 1/2"</i>	DEPTH KEEL <i>1'0"</i>			IRON PLATES			
HEIGHT TWEEN DECKS, UPPER				STEEL ANGLES, &C.			
CLASSIFICATION.				IRON ANGLES, &C.			
1ST No. <i>196 67</i>	2ND No. <i>149 240</i>	E No.	GIRTH <i>94 92 1/2</i>	M.B. <i>43 75</i>	PACKING		
LENGTH <i>789'</i>	DEPTH <i>62'0"</i>	FR. SPACING	RISE OF FLOOR <i>12'</i>		MOULDINGS		
L <i>12-24</i>	L <i>14-26</i>	B <i>2-6 1/2</i>	B <i>6-92</i>	CUBIC No. (L x B x D) <i>4028225</i>	BILGE IN <i>5'8"</i>		
DECKING				LOSS AT BILGE <i>6.56 ft</i>	TUMBLE-HOME AT DECK <i>2 1/2"</i>		<i>430</i>
CAMBER OF BEAMS							<i>86</i>
							<i>170</i>
							<i>15002</i>

CONSTRUCTION.

- DOCUMENTS 3. MAURETANIA speed trial results conducted by her builders SHWR in November 1907.

MAURETANIA's trials in the Clyde extended over four days 3<sup>rd</sup>-6<sup>th</sup> November 1907. The results are summarised in the graph below, showing a maximum speed of 26 knots, with 78,030 shp at 188 propeller rpm, burning 49.9 tons of coal per hour dated 6<sup>th</sup> November 1907:-

Reference: 'Q.T.S.S. "MAURETANIA". Curves from data taken on official trials 10 runs on measured mile at Skelmorlie Nov 6<sup>th</sup> 1907'. Swan, Hunter & Wigham Richardson Limited, 1907, 1 folded sheet, linen. Part of the sheet is shown here:-

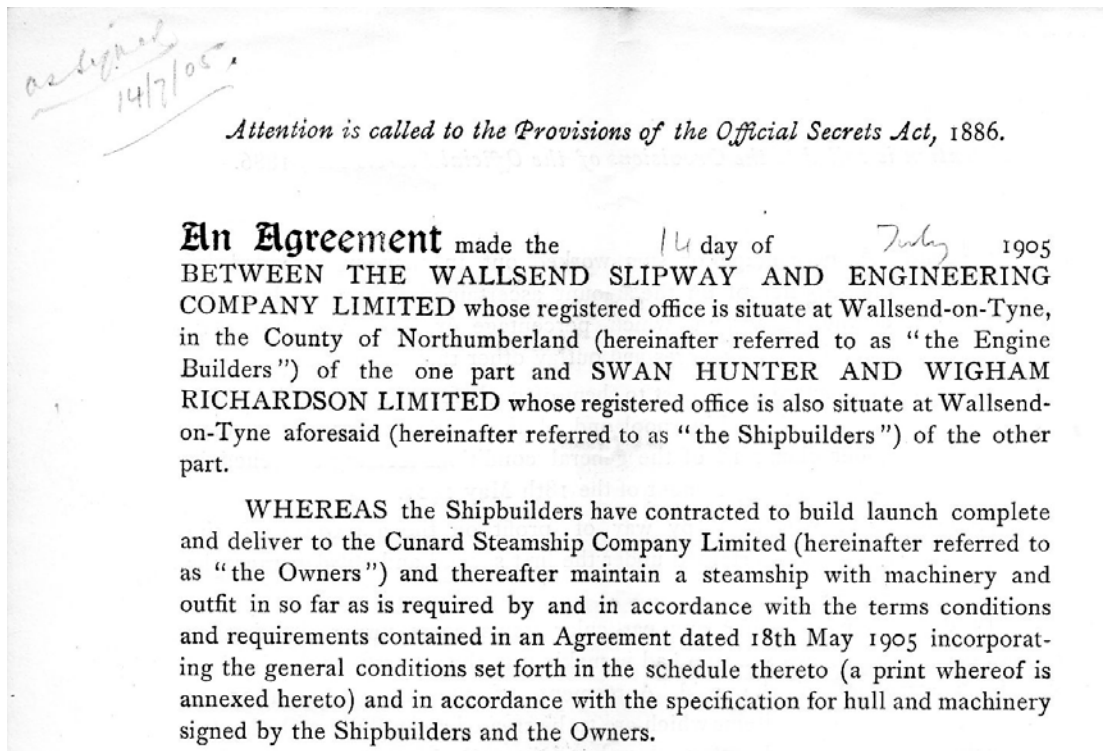


- DOCUMENTS 4. MAURETANIA machinery building contract with Wallsend Slipway and Engineering Co. Ltd 1905.



The machinery building contract between Cunard and SHWR was 'cost plus' rather than fixed price, as there were so many unknowns from the new steam turbines to the lavish public rooms. Cunard agreed to pay the actual costs of materials and labour plus percentages for overheads and profit. There was thus a corresponding cost plus contract between SHWR and Wallsend Slipway & Engineering for her machinery. The legal agreement dated 14 July 1905 spells out the details, with the machinery to be ready for trials by 18 November 1907. Although ours is not the signed copy, it is an identical printed version.

Reference: 'The Wallsend Slipway and Engineering Company Limited and Swan Hunter and Wigham Richardson Limited. Agreement.' Ingledew & Fenwick, Newcastle-on-Tyne, 14<sup>th</sup> July 1905, 4 pages on 1 folded-sheet. Part of page 2 is shown here:-



- **DOCUMENTS 5.** MAURETANIA construction and on-board photographs by SHWR 1905-1907.

The builders, SHWR, commissioned a series of construction progress photographs and on-board views of the completed ship. The Collection has a selection of these prints from the original glass negatives, although they are not our copyright.

Reference: "Mauretania". Swan, Hunter & Wigham Richardson Limited, 1905-1907, various photographs.

- **DOCUMENTS 6 & 7.** MAURETANIA in 'The Shipbuilder' and 'Engineering' of 1907.

Some of these photographs were also reproduced in lavish commemorative books when MAURETANIA was completed. The Collection possesses two of those splendid publications from 'The Shipbuilder' and 'Engineering' of 1907 which contain comprehensive text and illustrations as described below:-

- **DOCUMENTS 6.** MAURETANIA construction in Souvenir Number of the 'The Shipbuilder' magazine November 1907.

The magazine 'The Shipbuilder' was a splendidly produced monthly with much information on the contemporary shipbuilding scene and recent ships. For notable liners, it also produced a hardback souvenir number, covering the design, construction and trials.

*'The Cunard Express Liner "Mauretania"'. The Shipbuilder: A Quarterly Magazine devoted to the Shipbuilding, Marine Engineering and Allied Industries, vol.II, Nov 1907, Special Number / Souvenir Number, 164 pp, 165 figs, 5 plates. Price 1 shilling (= 5 new pence – about £5 in today's money). Three selected images are shown below:- Fig. 32 – View looking forward from after end of engine room. Fig. 44 – Sections through launching cradles. Plate i – The Cunard liner "Mauretania" passing down the River Tyne.:-*

The workmen and guests show just how huge the vessel was.

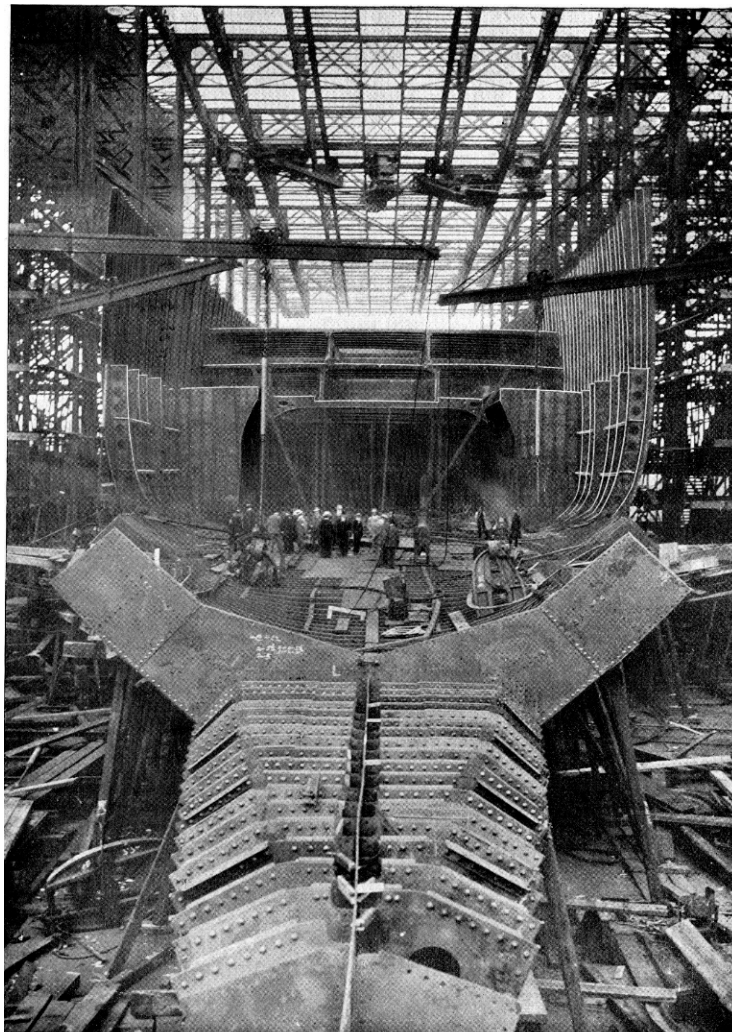


Fig. 32.—View looking forward from after end of Engine Room.



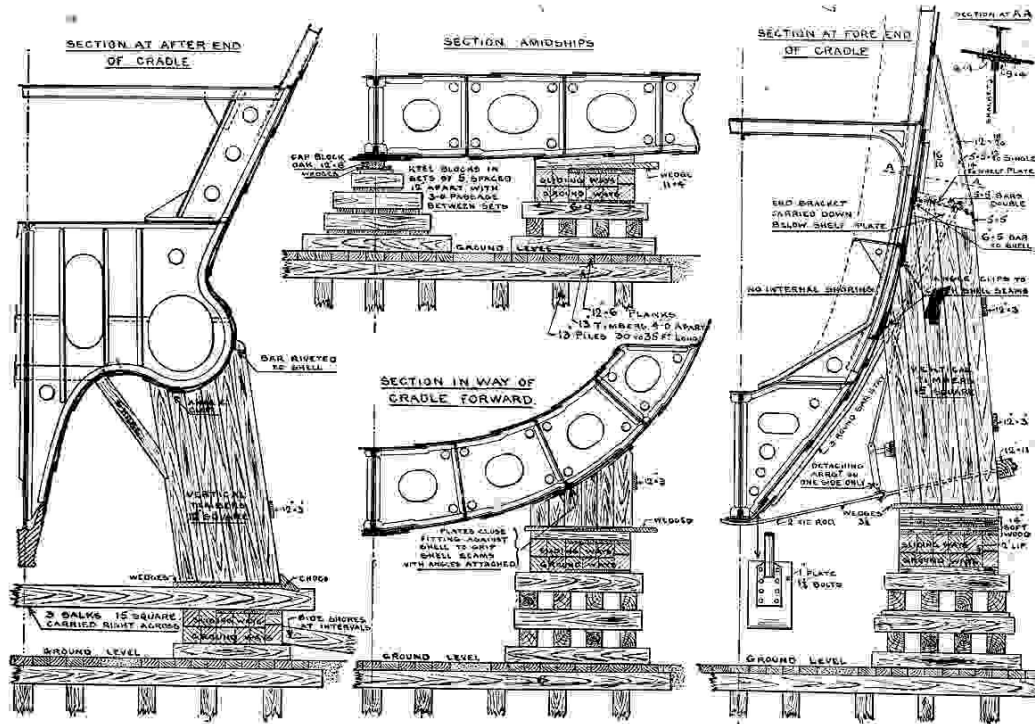
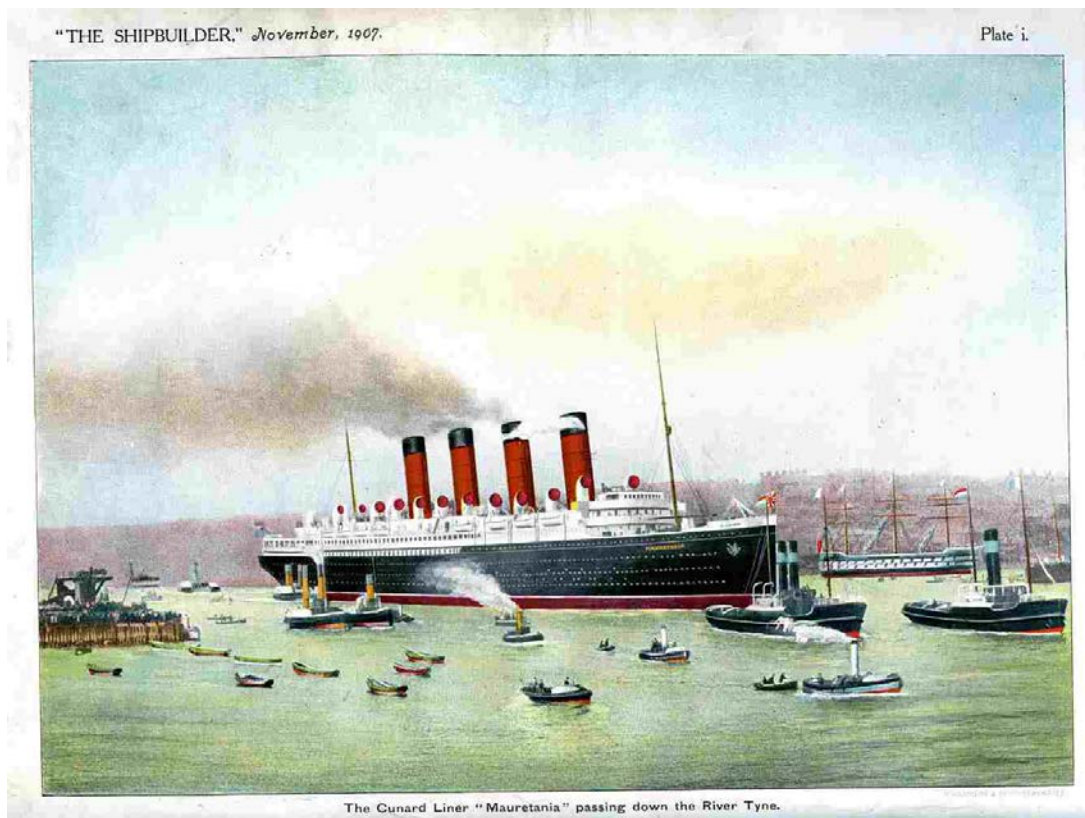


Fig. 44.—Sections through Launching Cradles.

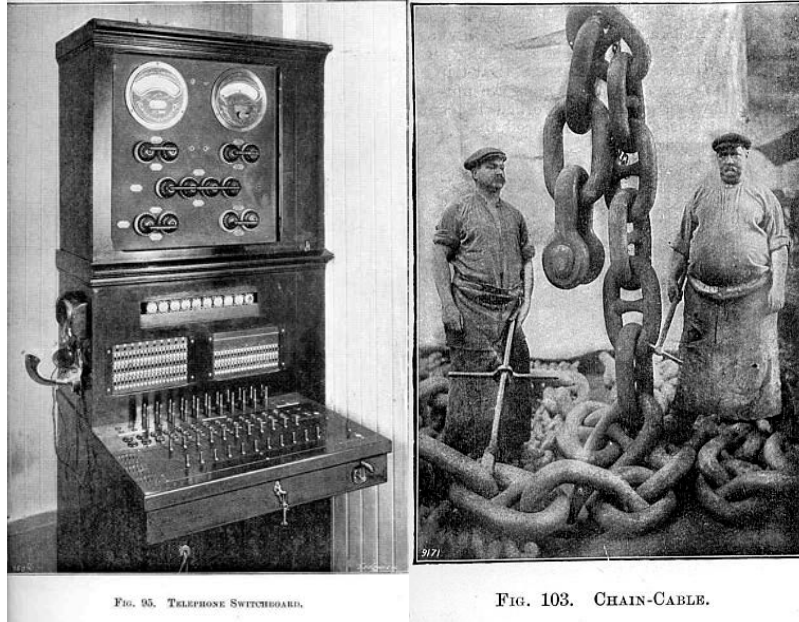


- **DOCUMENTS 7.** MAURETANIA construction published in the leading engineering magazine 'Engineering' November 1907.

Containing high quality articles with illustrations and photographs which are similar to those in 'The Shipbuilder'.

Reference: '*The Cunard Turbine-Drive Quadruple-Screw Atlantic Liner "Mauretania" constructed by Messrs. Swan, Hunter, and Wigham Richardson, Limited, Wallsend-on-Tyne. Engine'd by The Wallsend Slipway and Engineering Company, Limited*'. Reprinted from "Engineering", Engineering, London, 1907, 56 pp, 38 plates. Price 4 shillings (£20 in today's money). Two selected images are shown below:- Fig. 95 – Telephone switchboard. Fig. 103 – Chain-cable.

Note another recent innovation - the shipboard telephone system:-

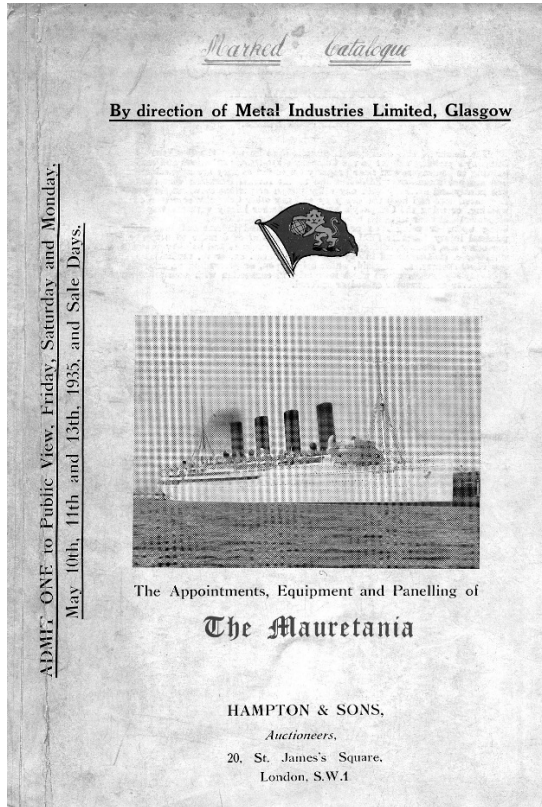


- **DOCUMENTS 8.** MAURETANIA auction catalogue of fittings for shipbreakers MI by auctioneers Hampton & Sons in 1935.

With the largest archive of the British shipbreaking industry, the Collection has a good selection of material on her breaking by Metal Industries Limited at Rosyth in 1935. Before she left Southampton, an auction of her fittings was held over eight days, which attracted great interest. Items included panelling, furniture, lights, carpets, bathroom fittings, lifeboats, flags and even coat hangers. Our copy of the catalogue uniquely has the prices and buyers pencilled in.

Reference: 'The appointments, equipment and panelling of the "Mauretania"'. By direction of Metal Industries Limited, Glasgow. Hampton & Sons, Auctioneers, London, UK, 1935, 191 pp. Three selected images are shown below:- The Front Cover, part of page 51 (note hand-written sale prices of each lot on bottom LH corner), and part of an unnumbered summary page are shown here:-





THE  
**MAURETANIA**  
SOUTHAMPTON DOCKS.

---

FIRST CLASS, B DECK—Starboard and Centre Cabins, Corridors.

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*Third Day's Sale,*  
On THURSDAY, MAY 16th, 1935,  
At 11.30 o'clock.  
(In the First Class Dining Saloon on C Deck)

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**IMPORTANT NOTICE.**

Those Lots marked with an asterisk thus \* will be delivered when the Ship is at Rosyth.  
(See CONDITIONS OF SALE.)

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*First Class.*  
**B Deck, Starboard Side**  
Cabins B.5, 9 and 11

Lot		
5 10 .	790	Two small mahogany wardrobes, with panelled doors and drawers beneath, 4 similar wardrobes (fronts and linings only)
2 . .	791	A Doulton's white glazed ware lavatory basin with plated fittings, in mahogany casing, slope top bevelled mirror over, cupboard, small drawers, and soap bracket
2 - .	792	A similar lot

9 10

The auction yielded £15,000, and visitors to her at Rosyth paid another £1000 at 1 shilling per head – donated to local charities. MI had paid £77,000 for the ship and had breaking costs on top, but overall made a healthy profit including sales of scrap steel, non-ferrous materials and timber. MI prepared the summary 'outturn' hand-written record of lots sold. Part of the fourth page of four for the 7<sup>th</sup> and 8<sup>th</sup> auction days is shown here:-

163	12	19 .	186	41	26	5 <sup>th</sup> Day	1522	16 .	
164	82	9 .	184	228	8 .	6 <sup>th</sup> Day	1071	96	
165	119	26	188	249	8 .	7 <sup>th</sup> Day	929	46	
166	18	7	189	324	15 .	8 <sup>th</sup> Day	2280	116	
			190	255	11 .				
			191	107	16 .				
							<b>TOTAL</b>	<b>£14,877 1:-</b>	
<b>£ 929 46</b>			<b>2280 11 6</b>						

- DOCUMENTS 9.** MAURETANIA photographs of breaking by MI at Rosyth 1935-1936. **DOCUMENTS 10.** MAURETANIA describing her breaking in the company history of MI shipbreaking at Rosyth and Charlestown by Ian Buxton, 1992.

The Collection has the best collection of original photographs of her breaking at Rosyth, a few of which are also reproduced in Ian Buxton's "Metal Industries" published by the World Ship Society in 1992.



References: 'Metal Industries: Shipbreaking at Rosyth and Charlestown' by Ian Buxton, World Ship Society, 1992, 104 p. An excellent account on shipbreaking at Rosyth and Charlestown including the German warships scuttled as Scapa Flow in 1919 and liners such as the Leviathan and Mauretania. The front cover is shown below.

'[Photographs of shipbreaking by MI]'. Metal Industries Limited, Rosyth, Scotland, ca.1935-1936, 2 untitled volumes & many of the photos without captions or dates. Includes German warships scuttled as Scapa Flow in 1919 and liners such as the "Mauretania", "Leviathan", and others. The album is a unique general one of ships broken up by MI. One selected image is shown below for 'Mauretania':-

Front cover of Ian's book 1992.

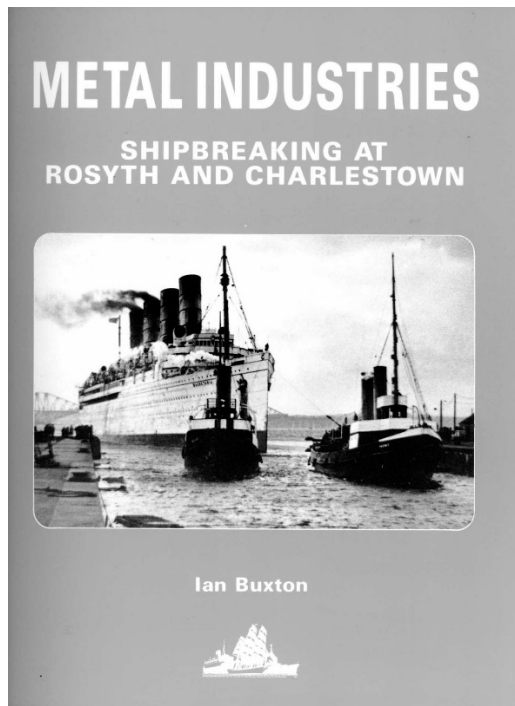


Photo in ca.1935-36 showing workmen clambering over the ship using oxy-acetylene cutters. Note the lack of any safety clothing or equipment, except for goggles (just visible) worn by the cutter.



- **DOCUMENTS 11.** MAURETANIA outturn record of material recycled by MI 1935.

A summary page in a hand-written company ledger showing materials recycled, including ferrous metals (steel and iron), non-ferrous metals (bronze, copper, etc), together with sundry other materials (teak, firewood, glass, etc). It shows estimated and actual prices obtained.

Reference: "Mauretania" in Metal Industries Limited, Inventory of ships demolished [unpublished ledger], ca.1935-36, page no. 'Job 48 Mauretania commenced 21 Aug 1935'. Part of the ledger page is shown below:-

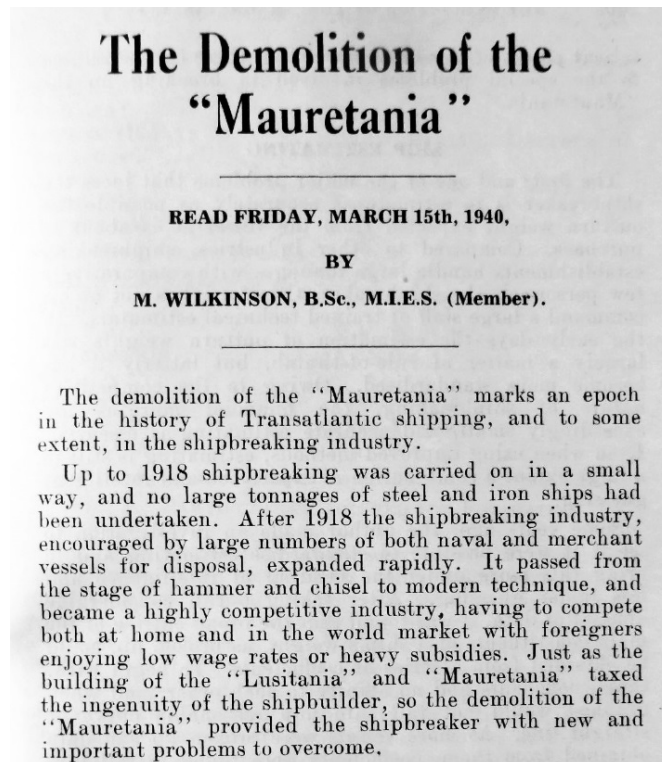
INVENTORY OF SHIPS DEMOLISHED									
NAME <i>Mauretania</i>		Type <i>liner</i>		Job <i>48</i>		Purchased			
						Commenced <i>21<sup>st</sup> AUG 1935</i>			
						Completed			
STEEL			SUNDRIES			NON FERROUS			
Material	Est.	Actual	Material	Est.	Actual	Material	Est.	Actual	
<i>Steel. Scrap.</i>	<i>21020</i>	<i>19283</i>	<i>Iron</i>	<i>10</i>	<i>4 14 1</i>	<i>bind. Hbbs.</i>	<i>24</i>	<i>24</i>	<i>13 19</i>
<i>Basic Galing</i>	<i>100</i>	<i>621</i>	<i>Magnesia</i>	<i>50</i>	<i>61 13 3</i>	<i>bind. Plates</i>	<i>24</i>	<i>25</i>	<i>15 22</i>
<i>cast Iron</i>	<i>2000</i>	<i>1603</i>	<i>Robes - Canvas</i>	<i>5</i>	<i>14 11 2</i>	<i>bind. Jars</i>		<i>3</i>	<i>8 5 20</i>
<i>Anchor - cable</i>	<i>165</i>	<i>109</i>	<i>Teak</i>	<i>500</i>	<i>44 16 2</i>	<i>BRASS</i>	<i>210</i>	<i>12</i>	<i>6 1 22</i>
<i>Narrow Shafts</i>	<i>300</i>	<i>223</i>	<i>Line</i>		<i>123 10 1</i>	<i>Gunmetal?</i>	<i>312</i>	<i>343</i>	<i>12 1 1</i>

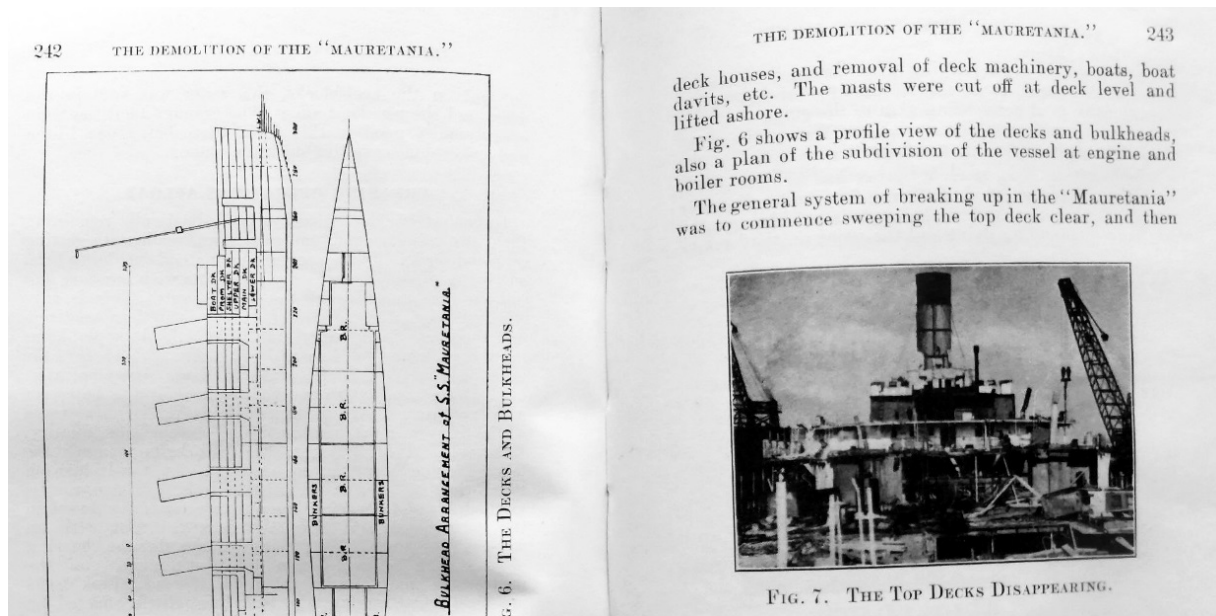
Reference: "MAURETANIA and her Builders" by Ian Buxton's in Mariner's Mirror, vol.82, February 1996, pp 55-73.

- **DOCUMENTS 12.** MAURETANIA breaking described in Max Wilkinson's paper to the Manchester Association of Engineers 1940.

Max Wilkinson was the manager of MI's Rosyth yard in 1935.

Reference: 'The Demolition of the "Mauretania"'. By M. Wilkinson. Read Friday 15<sup>th</sup> March 1940. Published in: Manchester Association of Engineers Transactions, Session 1939-40, paper no.6, pp 229-262. Part of pages 229, 243-244 are shown below:-





- **OTHER RESOURCES 1.** Ian Buxton's article "MAURETANIA and her Builders" in the journal Mariner's Mirror, 1996.

Gives details of how the builder was selected, progress, problems and costs – Cunard ended up paying £1.812M for their most successful ship.

Reference: "Mauretania and her builders". Ian Buxton. In: The Mariner's Mirror, Vol. 82, London, 1996. Pp. 55-73, ill.

- **OTHER RESOURCES 2.** Tyne & Wear Museums & Archives ship model of 'MAURETANIA'.

The Museum has a splendid model of MAURETANIA in their Discovery Museum, Newcastle upon Tyne, and a number of artefacts from the ship.

**How to contact the Collection:**

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Armstrong Building  
Queen Victoria Road  
Newcastle upon Tyne  
NE1 7RU  
United Kingdom

**Email:** [marine.archive@newcastle.ac.uk](mailto:marine.archive@newcastle.ac.uk)

**Telephone:** +44 (0) 191 20 83522 (direct line)  
or +44 (0) 191 20 86718 (Enquiries, School of Engineering, Armstrong Building)

**URL:** [www.ncl.ac.uk/engineering/about/facilities/marineoffshoresubseatechnology/specialcollection](http://www.ncl.ac.uk/engineering/about/facilities/marineoffshoresubseatechnology/specialcollection)