

*The m.v. "Katelysia"*

## KATELYSIA, a General Purpose Tanker for Royal Dutch/Shell Group

The turbine tanker "Katelysia" built by the Rotterdamsche Droogdok Maatschappij N.V. for the Royal Dutch/Shell Group (Owners: N.V. Petroleum Maatschappij, "La Corona", The Hague) is the first ship completed of a large number of orders placed with Netherlands shipbuilding yards, including ships from 18,000 tons d.w. up to 31,000 tons d.w. The "Katelysia", 18,000 tons d.w., is a so-called general purpose tanker, the first of four similar ships to be constructed by the R.D.M. She is the 48th tanker built by the yard and the 26th built by the yard for the present owners, the first ship for the Royal Dutch/Shell Group having been delivered by the R.D.M. as early as 1908.

The presence in the Netherlands of a major oil company like the Royal Dutch/Shell Group has in the past decades time and again proved to be of immense value to the economic life of the country. Through it the Netherlands industrial world has been able

to have a share in providing the plant made necessary by the huge expansion of the oil industry, at the same time gaining the experience which enabled them to supply other customers in this field as well. Among the industries maintaining

close connections with the oil industries shipping and shipbuilding play a substantial part. The Royal Dutch/Shell Group are important customers for various shipping companies, both dry cargo and liner companies. The carriage of a substantial

quantity of goods is offered annually and thousands of staff members and their families are travelling in ships each year.

On the other hand the shipping industry ranks among the most important customers of the oil companies, for nearly 90 per cent. of the world's merchant tonnage now relies on oil. Supplies of oil of dependable quality, always available in the quantity needed at the places required are now recognised to be one of the most important factors of ship operation. This, of course, necessitates the maintenance of large scale shipping facilities, and it is here that the Netherlands shipbuilding industry is getting its chance to show what can be done in this connection.

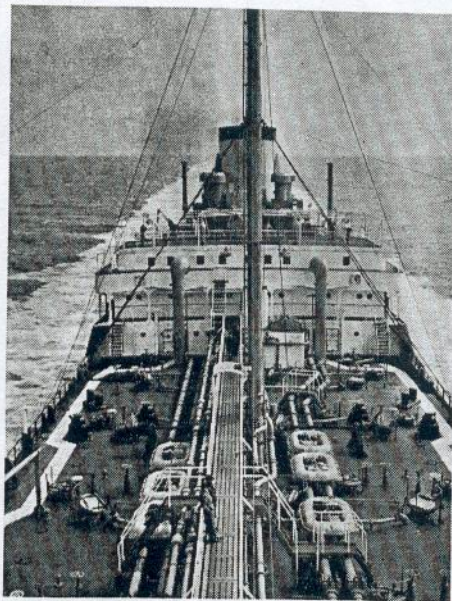
The Royal Dutch/Shell Group have as their subsidiary a shipping company which by one of its leaders has been described as "not insignificant". "When our present shipbuilding programme is completed", he said, "we will own under the Shell house-flag a total of 3<sup>1</sup>/<sub>2</sub> million tons deadweight, representing about 50 per cent. of our requirements".

It is a matter of considerable importance to Netherlands economic and industrial life that the Group, when setting out to plan the construction of new ships, have not forgotten the Dutch shipbuilding industry when it came to the placing of orders. As will be seen from the table published in another column these orders comprise a large number of ships. They constitute a major part of the present shipbuilding activity in the Netherlands and, as such, are providing employment for many hands for a number of years to come.

**Katelsia.** The turbine tanker *Katelsia* recently handed over by her builders the Rotterdamsche Droogdok Maatschappij N.V. to the owners, N.V. Petroleum Maatschappij "La Corona", which handles the Dutch shipping interests of the Royal Dutch/Shell Group, is the first ship of the present programme delivered by a Dutch yard. She is one of the so-called general purpose tankers with a deadweight of 18,000 tons of which type 16 ships are to be built in the Netherlands. She is the first of a series of four similar ships to be constructed by the R.D.M., the last of which is to be commissioned in 1956. The entire programme of the Royal Dutch/Shell Group is to be completed before 1957. The principal characteristics of the *Katelsia* are:

Length overall . . . . .	169.38	m.	555' 9"
Length b.p. . . . .	161.55	m.	530'
Breadth . . . . .	21.11	m.	69' 3"
Depth to upperdeck . .	11.89	m.	39'
Draught (average summer)	9.07	m.	29' 9"
Deadweight . . . . .	18,170	tons	
Gross tonnage . . . . .	12,134		
Speed, service . . . . .	14.5	knots	
S.h.p., service . . . . .	7,500		
	(at 100 r.p.m. of propeller)		
Number of crew . . . . .	55		

The *Katelsia* has been built under the special survey of Lloyd's Register of Shipping, for the 100 A1 class, "Carrying petroleum in bulk". The hull is of largely welded construction and built-up of prefabricated sections. The combined transverse and longitudinal system of framing was used. Two longitudinal and 12



transverse bulkheads divide the portion of the ship destined for the carriage of liquid cargo into 33 tanks, located between two cofferdams. The fore cofferdam separates the cargo spaces from the fore deep tank and the dry cargo hold situated above the deep tank. The after cofferdam separates the cargo spaces from the machinery space aft.

The bitumastic coatings in inaccessible places were applied by Messrs. J. L. H. Smit & Co. Bitumen N.V., Amsterdam. Primers, priming lacquers, varnishes, enamels and finishes were supplied by Molyn & Co.

In addition, fire-retardant polishing lacquer, supplied by Schreuder's Lakfabrieken N.V. was applied to the panelling.

The erections comprise a long poop, bridge deckhouse and forecastle. The

forecastle space and the lower portion of the amidships erection are arranged as store rooms. Amidships and in the forecastle tonnage spaces have been arranged. Quarters for the navigating officers and members of the catering department have been disposed over the remainder of the deckhouse.

**Deck Gear.** In addition to two masts, there are two pairs of derrick posts. Two steam winches on the upperdeck serve a 5-ton derrick on the foremast and the 1-ton and 5-ton derricks for the handling of the flexible cargo hoses in the loading station amidships, immediately abaft the bridge.

Two 1-ton derricks are attached to the derrick posts aft. These are used for the handling of the ship's stores.

The derricks of the *Katelsia* were supplied by Huisman N.V. Rotterdam. A steam windlass has been arranged on the forecastle and there are two steam warping capstans on the poop-deck.

The steering engine is of the four-ram electro-hydraulic type incorporating two electrically driven mutually independent pumping units, controlled by telemotor from the navigation bridge.

The lifesaving appliances of the *Katelsia* include four light-alloy lifeboats, each of 7.30 by 2.38 by 0.95 m. Of these two are placed on the upper bridgedeck and two are placed on the boatdeck aft. The starboard lifeboat placed amidships is a motorboat seating 30 persons, the remainder of the boats are hand-propelled and seat 34 persons.

All boats are made of seawater-resistant aluminium alloy and were supplied by Messrs. Verhoef, of Aalsmeer. The same firm also supplied the light-alloy accommodation ladder.

The *Katelsia* and the other 13 tankers built under the supervision of the technical staff of "La Corona" has been equipped with Schat's flush deck gravity davits, type HF.

The principal characteristics of this type of gear are: The keel height above the deck (from 3 ft. 6 in.) is exceedingly low. The winch has been mounted on the davit track, thus saving deck space and separate foundations. All sheaves are mounted on the davit system also saving foundations and ensuring correct alignment. The catapult release gear enables one man to bring the boat from the fully stowed and gripped inboard position to the outboard position in about 4 or 5 seconds. The same gear automatically releases the

davit arm securing hooks which hold the davit arm locked in position independently of falls or gripes.

In spite of the low stowage the davits conform to latest M.O.T. rules requiring a positive impulse against 25° of list. All winch mechanism is totally enclosed and watertight. All gearing runs in an oil bath, ensuring that the winch will always be in a free-running condition.

Power hoisting has been provided by portable electric motors.

De davits were supplied by the representative for Schat's davits in the Netherlands at Utrecht.

The propelling machinery of the lifeboats consists of Coventry-Victor diesel engines, type W.D. 3, having a capacity of 9-11 h.p. The same firm is supplying fire-pump sets, type WD3 9-11 h.p., to all the ships building

under the supervision of the technical department of "La Corona". Coventry-Victor is represented in the Netherlands by Messrs. Franse, Amsterdam. Metaalwarenfabriek M. den Haan, Rotterdam, supplied the lanterns for navigation and emergency lighting. They are fitted with seamless oil reservoirs. Similar equipment is installed by this firm to all 18 tankers ordered by the Royal Dutch/Shell Group in the Netherlands and Germany.

The *Katylisia* has been provided with navigating equipment in accordance with the best modern practice. This equipment includes, in addition to the normal appliances, a gyrocompass with gyropilot and up-to-date wireless and radio telephony installation, radar, echosounder, etc.

The major portion of the wireless

installation destined for communication purposes is mounted in a single cabinet. The cabinet contains the medium wave telegraphy transmitter, type SMZ 219 (aerial output 200 Watt, 6 crystal-steered frequencies); the short-wave telegraphy transmitter, type SMZ 218 (aerial output 200 watt, 6 crystals for 6 frequencies bands); the medium wave telephony transmitter, type RH 52 10-Z (aerial output 80 Watt, 9 crystal-steered frequencies); the "Mercury" long-wave and medium receiver; the "Electra" medium-wave and short-wave receiver; the power supply, type SMD 115/60 for the above-mentioned transmitters is direct connected to the three-phase ship's mains.

The power supply for the receivers is connected to the 24-volt system.

All the apparatus can be controlled by the operator from his seat.

The emergency transmitter, type "Reliance", and the emergency receiver, type H2L7UB, are fed by an accumulator battery. The automatic alarm is of the "Vigilant" type, the signaller of the type Taa 5343.

Navigational aids consist of a "Lodestone" direction finder, MS 26 BX echo sounding gear and "Radiolocator" Mark IV radar. D.F. bearings can be taken in the medium wave and beacon bands. There is a fixed aerial. The 3 cm radar has ranges of 1,3,10 and 40 miles, the minimum distance of the smallest range being 30 yards. The 9-in. screen is fitted for variable as well as fixed markers.

The echo sounder is of the graphic type. When switching to "shallow" or "deep" the ranges are basically 0-120 feet and 0-120 fathoms. These ranges can be stepped up to either 720 feet or 720 fathoms.

One of the lifeboats has been equipped with a transmitter-receiver type RH 5308. The installation which is fitted in a watertight cabinet can be mounted and operated by any one within a few seconds.

The whole of the above apparatus was installed by Radio-Holland N.V., Amsterdam.

**Cargo-Handling Arrangement.** Cargo will be handled by four steam turbine-driven vertical centrifugal pumps in the after cofferdam which is arranged as the ship's main pump room. Each of the pumps has an output of 400 tons per hour. The pumps are disposed next to the main engine room, their steam turbines with their gearing being situated in the main machinery space. Also installed in the main pump room are two vertical duplex steam-driven stripping pumps.



Cargo is led through a piping circuit patented by the Anglo-Saxon Petroleum Co. (Royal Dutch/Shell Group). It enables the handling of different grades of liquid cargo simultaneously.

**Accommodation.** The accommodation provided in modern oil tankers for officers and crew usually are of a very high standard, owing to the conditions of the tanker trade which require the crew to remain a long time at sea, on long voyages interrupted only by short stays in port for handling cargo. The accommodation on board the *Katelsia* is no exception to this rule, all arrangements being of the high standard set by the shipping departments of the Royal Dutch/Shell Group.

Every member of the crew is provided with a large single-berth cabin. The master, chief engineer, chief officer and second engineer are accommodated in suites comprising a day-room, bedroom and bathroom.

Amidships a room has been arranged as office, which in addition, can be used as a study by the cadets.

In the poop deckhouse there are four messrooms, the largest, seating 25 persons, being that of the officers. On the boat deck aft a smoke room has been arranged for use by the officers and for the deck and engine room ratings there is a tastefully fitted recreation room.

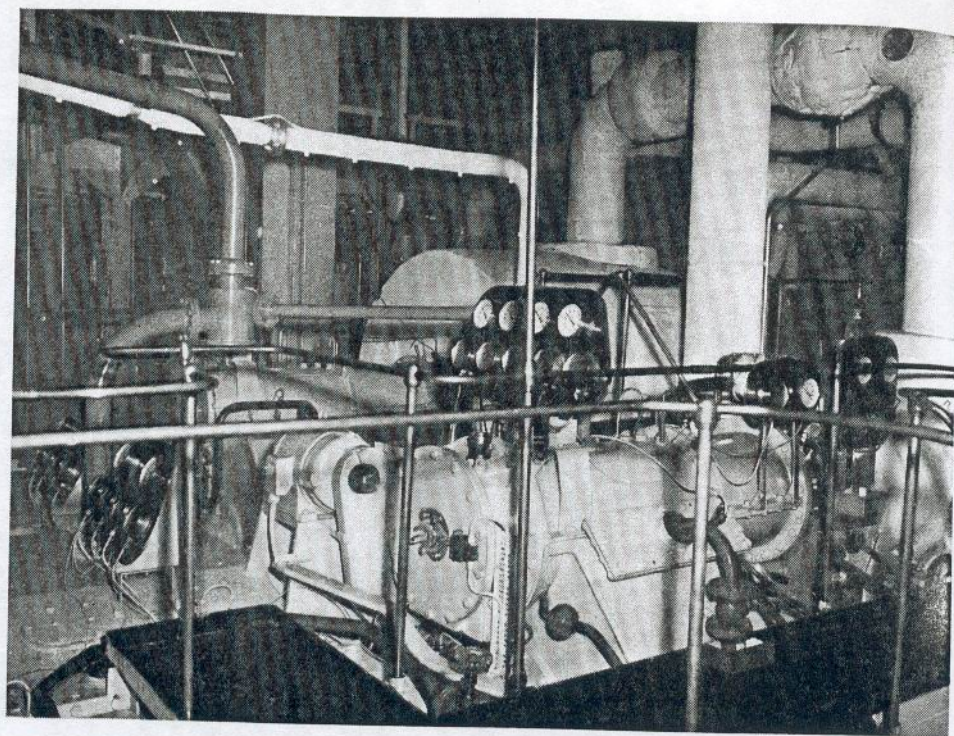
The ship's upholstery, curtains and carpets were supplied and installed by Wed. G. M. Hengreen, Rotterdam, the chairs and benches having been supplied by Peiffer and fitted with Goodwill foam rubber, by Stroomer's Trading Cy., both of Rotterdam.

The doors were supplied by N.V. Houtindustrie Picus, Eindhoven.

The galleys, butchery, wash places, toilets and bathrooms were fitted with acid- and grease-resistant tiles, made in special profiles for the use on board ships. These tiles, were supplied by C.V. v.h. van Lent & Co., Rotterdam, representatives of the German makers.

Nedalo N.V., of Hengelo (O.), designed and manufactured practically all the apparatus installed in the galley and pantries.

Nedalo engineers, with their specialised experience of long standing in the design and manufacture of electrical apparatus for the shipbuilding industry, have developed this plant for 440 volts A.C. to the requirements of the shipowners in close co-operation with K.E.M.A.-Arnhem and to the specification of Lloyd's Register of



Shipping and the Netherlands Shipping Inspection.

The range with 6 large boiling-plates and 3 baking-ovens, the double-deck bread oven with bread-prover, the vegetable steaming-oven, the salamander-grill and a 5-gallon boiler in the galley have been made for 440 volts A.C. A 75-gallon calorifier, also for 440 volts A.C., and supplied by the same firm has been installed amidships.

For the various pantries Nedalo have made hot-cupboards, boilers and percolators suitable for 115 volts A.C. In addition, they supplied for all this apparatus switchboards, which have been fitted with hand-switches, fuses, pilot-lights, automatic switches and safety-devices.

Nedalo N.V. have provided their apparatus with their well-known steel armoured heating-elements, having practically unlimited life which is of great importance on board a ship.

The other tankers of this type being built in Holland and abroad, under the supervision of the technical department of "La Corona", will all be fitted with identical gear supplied by the same manufacturer.

Hobart N.V., Rotterdam, supplied one of its SE-300 type mixers with attachments and model as well as its E. 6007 type potato peeler.

The ship's laundry of the *Katelsia* is equipped with machinery supplied by Machinefabriek "Reineveld", of Delft. The equipment comprises a Reineveld round-door washer, type R.D.M., with a diameter of 80 mm. The inner and

outer drums have been made of stainless steel, while valves for hot and cold water as well as for direct admission of steam are fitted.

In addition, there is a centrifuge, E.N.T.C. of 50 mm. diameter, which is driven by a 1½ h.p. motor. The inner drum is made of stainless steel, the outer drum being of steel plating protected by anti-corrosive paint. The shaft of the inner drum is running on ball-bearings. A safety device prevents opening of the cover when the centrifuge is in operation.

For drying purposes a Tornado tumbler, type E.T.R.D. 1,000 by 600, is installed. It is electrically driven by a one-h.p. rotary current motor. The air heater has a heating surface of 10 sq.m.

In addition to this equipment there is a mangling machine, type E.K.M. 1750 by 450, complete with return feeding device and exhaustor, and also a boiler of stainless steel, an ironing board and an a bin for the reception of dirty clothing.

**Machinery Equipment.** The main propelling machinery is arranged to drive a single screw. It comprises one set of double-reduction geared turbines, consisting of one H.P. and one L.P. turbine. They were manufactured by Werkspoor, Amsterdam, to a design of the Parsons and Marine Engineering Turbine Research and Development Association (Great Britain). Each of the turbines is fitted with a separate astern unit. The normal output of this machinery, at 100 r.p.m. of the propeller, is 7,500 r.p.m.

Steam is produced in two Foster Wheeler watertube boilers, manufactured by the Rotterdam Drydock Company.

The auxiliary units of the *Katelysia* are driven by steam or by electricity. Electricity for power and lighting is supplied by two "Werkspoor" turbo-generators with a capacity of 550 kW at 6,000 r.p.m. The generators are of the impulse type. Steam pressure is 485 p.s.i. at 190° F. The condenser has a cooling surface of 1,000 sq.ft.

The 2 turbo-generators are generating current at 450 volts (60 cycles). For lighting purposes 115 volts is used. In addition, there is a diesel generator

having an output of 200 kW to be used in case there is no steam available.

Messrs. Caird & Rainer, Ltd., London, represented in the Netherlands by Ir. J. Janszen, supplied a salt water heater and drain cooler for the Butterworth system. The same firm also supplied one steam/steam generator and coil drain cooler/feed water heater.

Messrs. Laurence, Scott & Electromotors, Ltd., Norwich and Manchester, also represented by Ir. J. Janszen, supplied three-phase A.C. motors and starters for various purposes.

Engineroom and boilerroom ventilation is provided in a pressurized system.

For the engineroom ventilation two 38" Marine Dual Duty Axial Flow fans are used. These fans have been manufactured by Messrs. Woods of Colchester Ltd., who are represented in the Netherlands by Technische Handelsonderneming Vanandel N.V., Rotterdam. Each of the fans gives 22,000 c.f.m. at 1.25" s.w.g. with both motors running, whereas with one motor idling 14,700 c.f.m. at .55" s.w.g. is obtained, maintaining maximum efficiency.

For the boilerroom these figures are 16,500 c.f.m. at 1.25" s.w.g. and 12,250 c.f.m. at .72" s.w.g. respectively.

Newbuildings Royal Dutch/Shell Group in Netherlands Yards

Name	Tonnage (deadweight)	Yard	Launching	Trials
Katelysia	18.000	R.D.M.	Oct. 1953	May 1954
Koratia	18.000	Wilton-Fijenoord	Oct. 1953	June 1954
Korovina	18.000	Wilton-Fijenoord	Febr. 1954	June 1954
Krebsia	18.000	P. Smit Jr.	March 1954	June 1954
Kenia	18.000	N.D.S.M.	Aug. 1954	Oct. 1954
Kalydon	18.000	R.D.M.	Oct. 1954	Oct. 1954
Korenia	13.000	Wilton-Fijenoord	Oct. 1954	Jan. 1955
Cinulia	13.000	P. Smit Jr.	Nov. 1954	Jan. 1955
Vasum	31.000	N.D.S.M.	Nov. 1954	April 1955
Crania	13.000	C. v. d. Giessen	Nov. 1954	June 1955
Kryptos	18.000	P. Smit Jr.	Dec. 1954	March 1955
Kermia	18.000	N.D.S.M.	Jan. 1955	Sept. 1955
Kylix	18.000	N.D.S.M.	Jan. 1955	April 1955
Camitia	13.000	N.D.S.M.	Jan. 1955	May 1955
Kalidos	18.000	C. v. d. Giessen	Febr. 1955	May 1955
Kopionella	18.000	R.D.M.	Febr. 1955	May 1955
Khasiella	18.000	Wilton-Fijenoord	April 1955	July 1956
Kraussina	18.000	N.D.S.M.	June 1955	Sept. 1955
Kara	18.000	P. Smit Jr.	Aug. 1955	July 1955
Kosicia	18.000	R.D.M.	Jan. 1956	July 1955
Vivipara	31.000	Wilton-Fijenoord	July 1956	Oct. 1956
		N.D.S.M.	Sept. 1956	Nov. 1956

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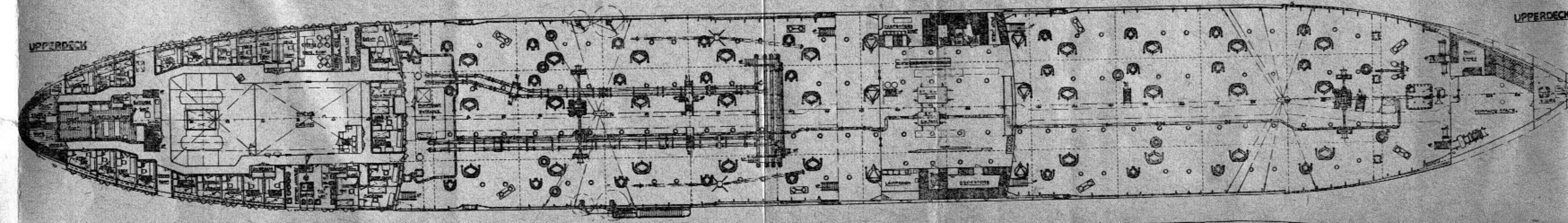
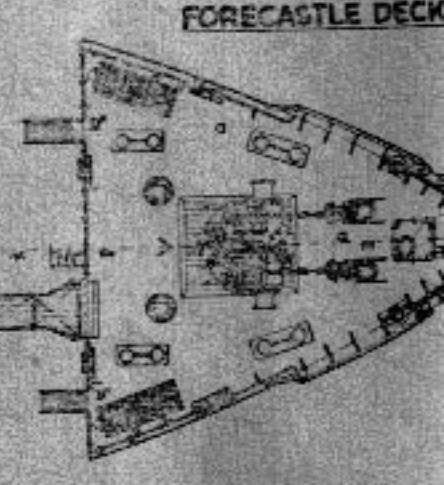
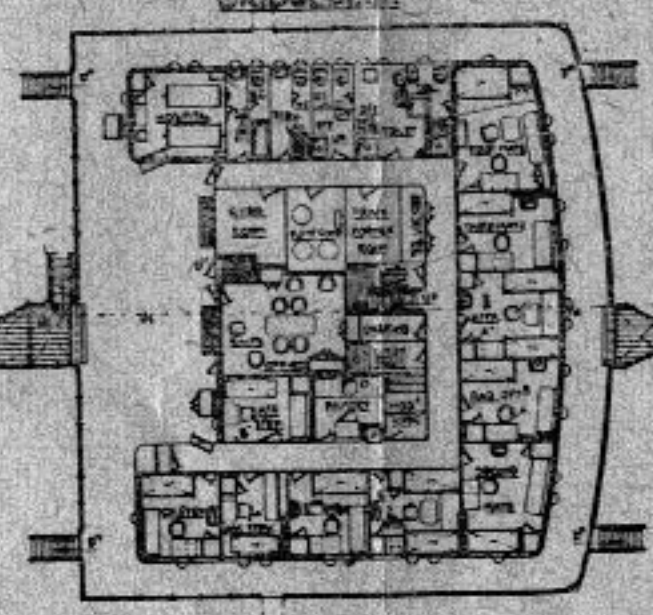
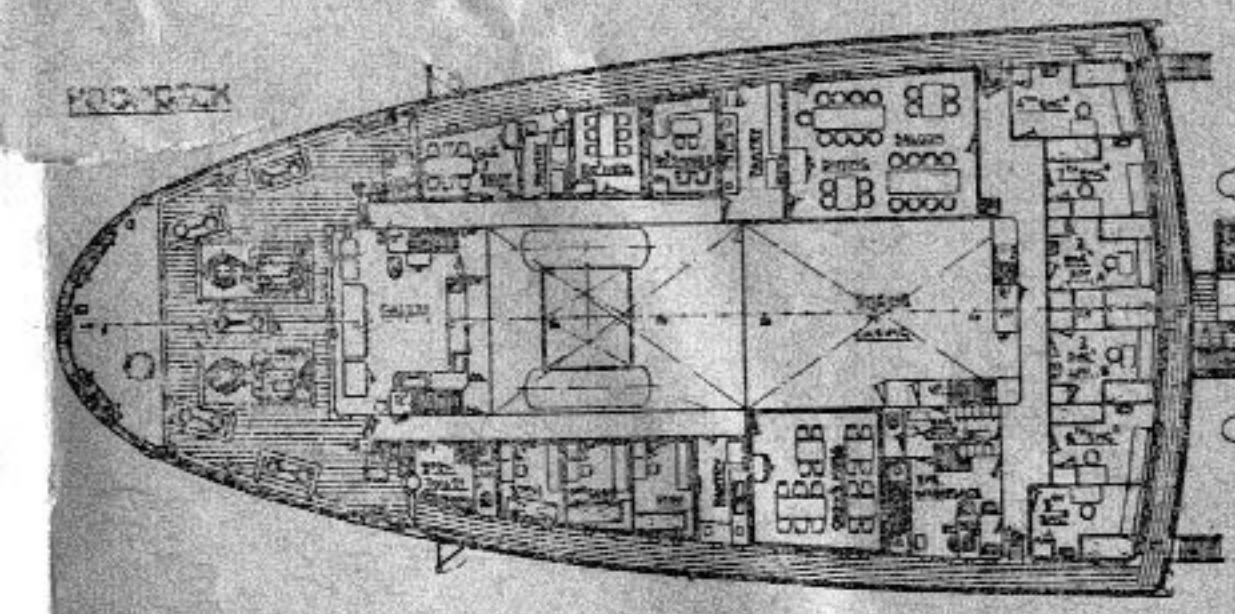
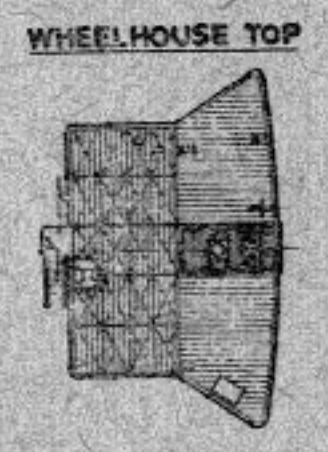
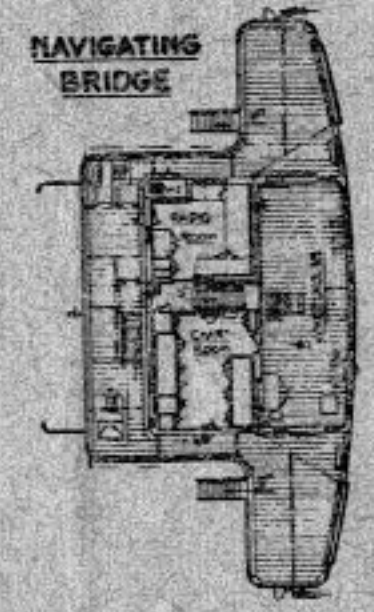
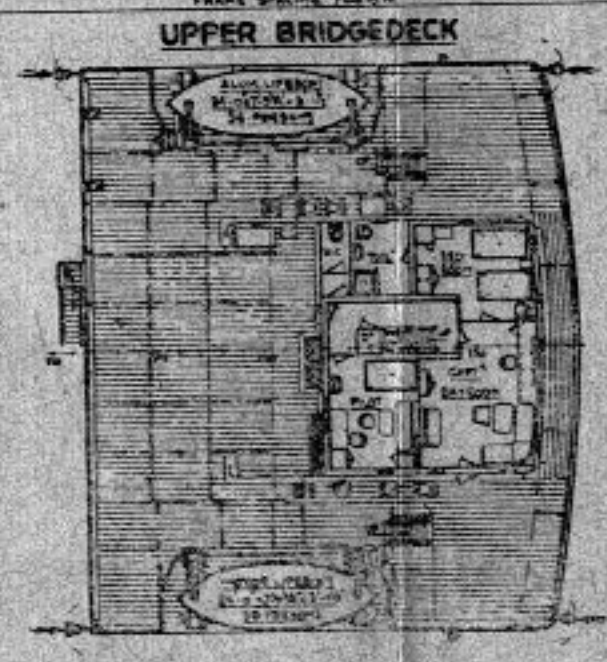
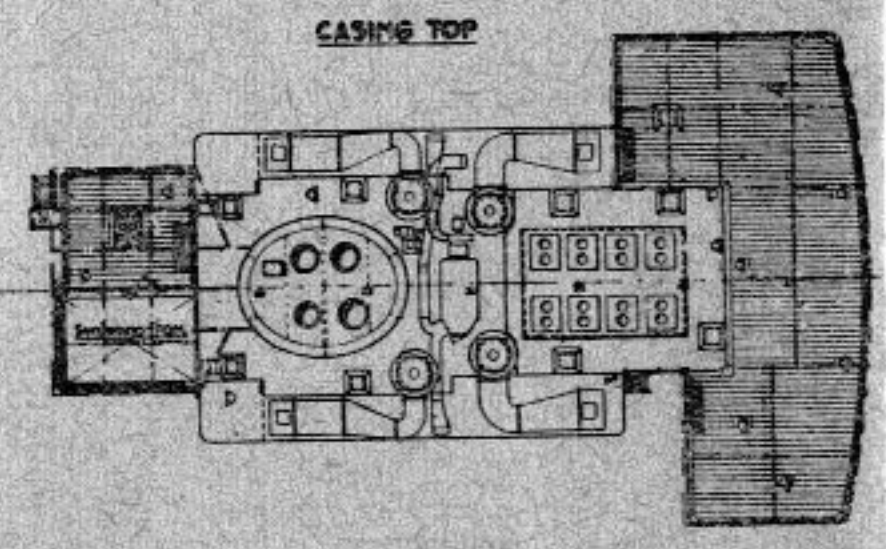
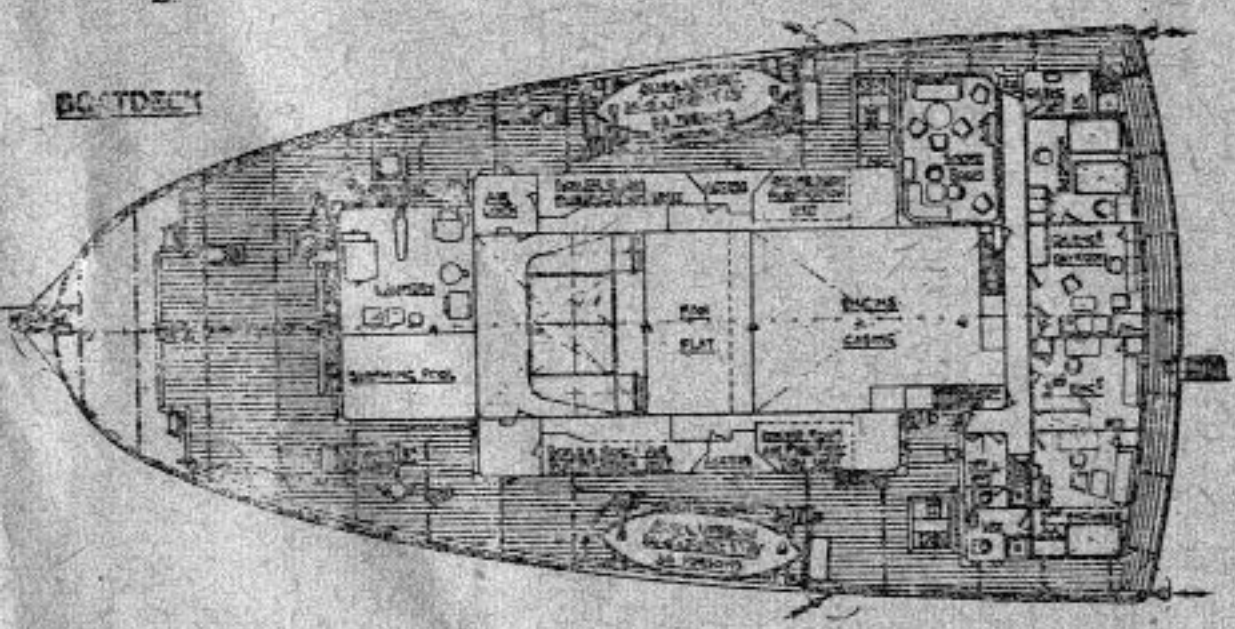
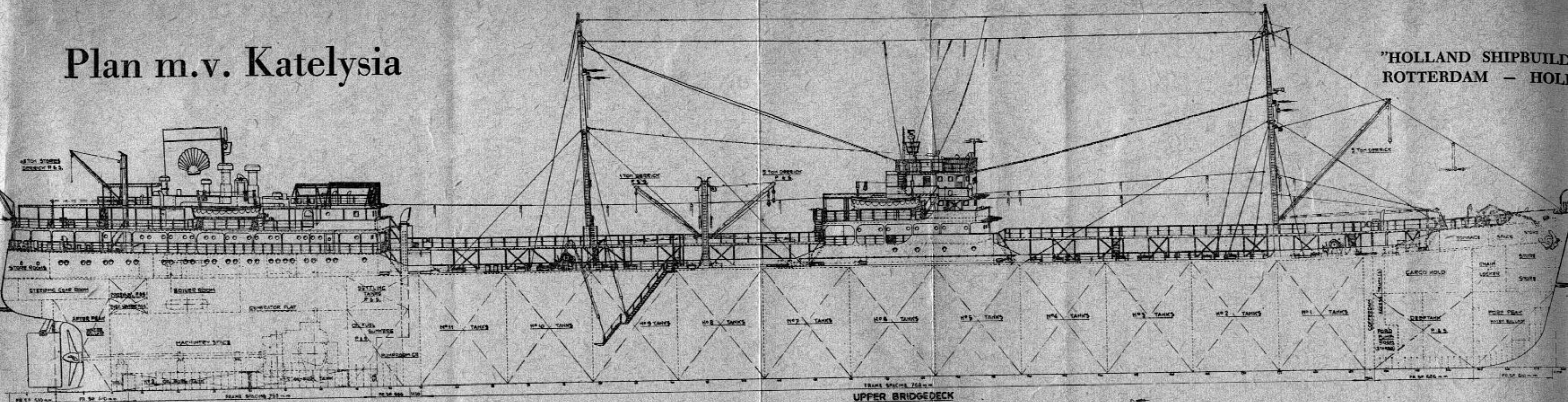
(Also supplied to tanker "Katelysia", ms. "White Rose", see descriptions in this issue)



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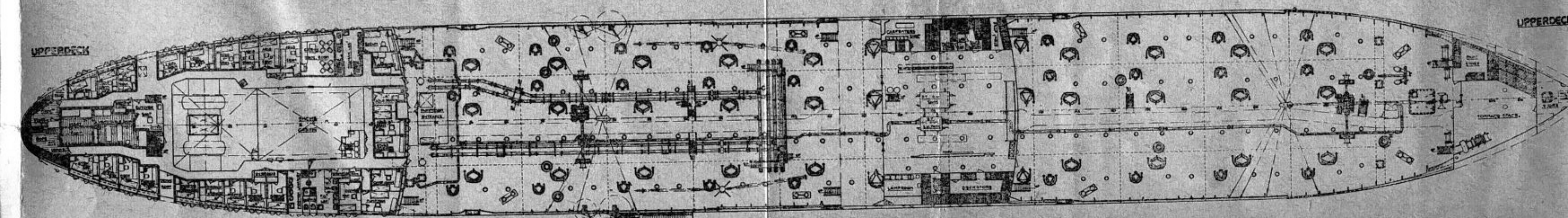
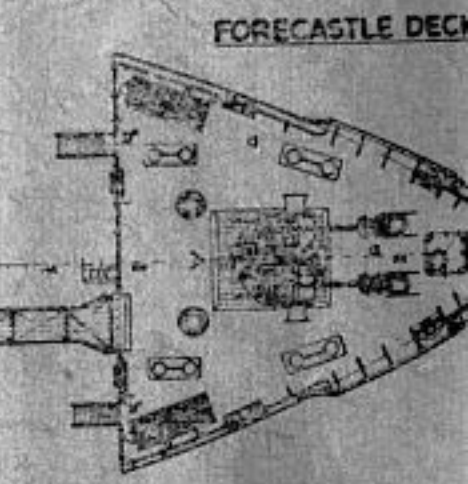
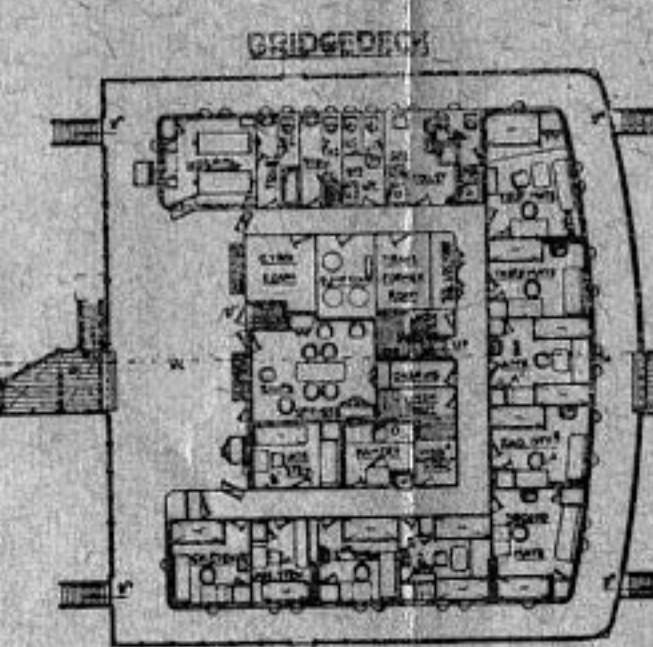
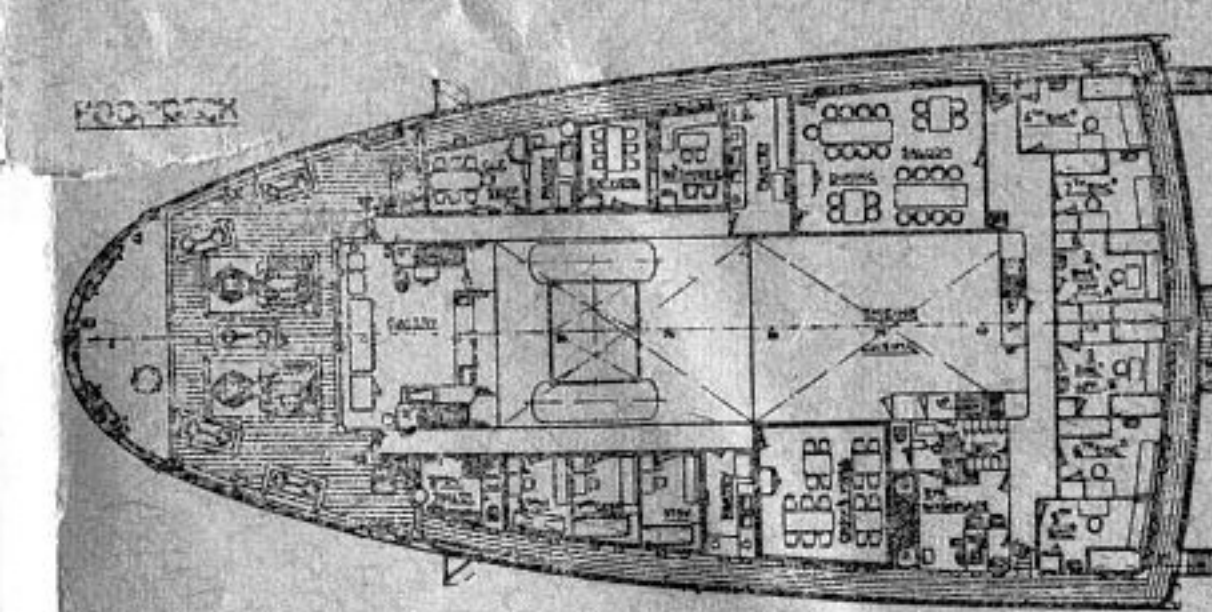
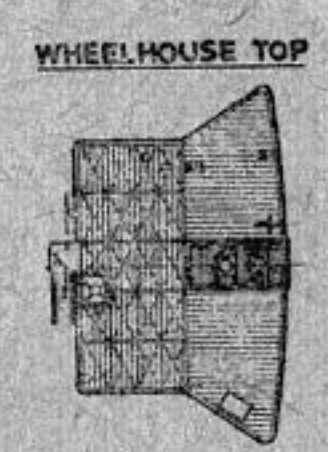
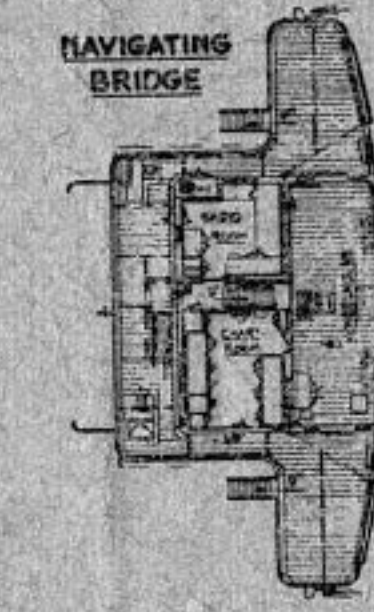
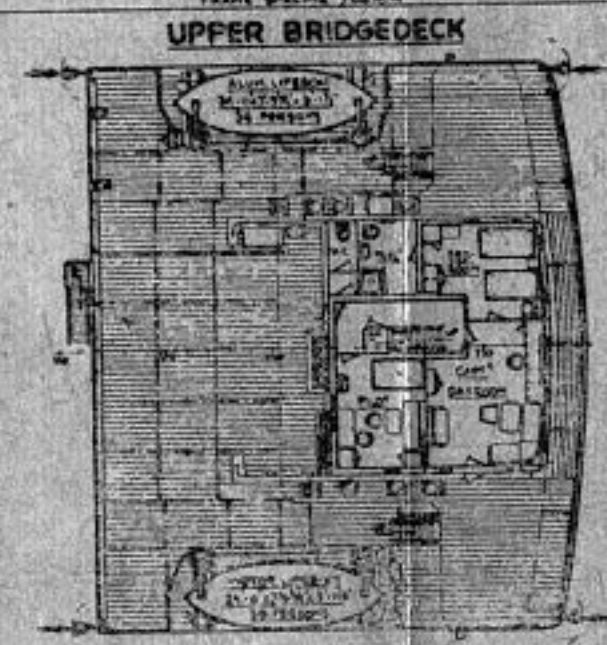
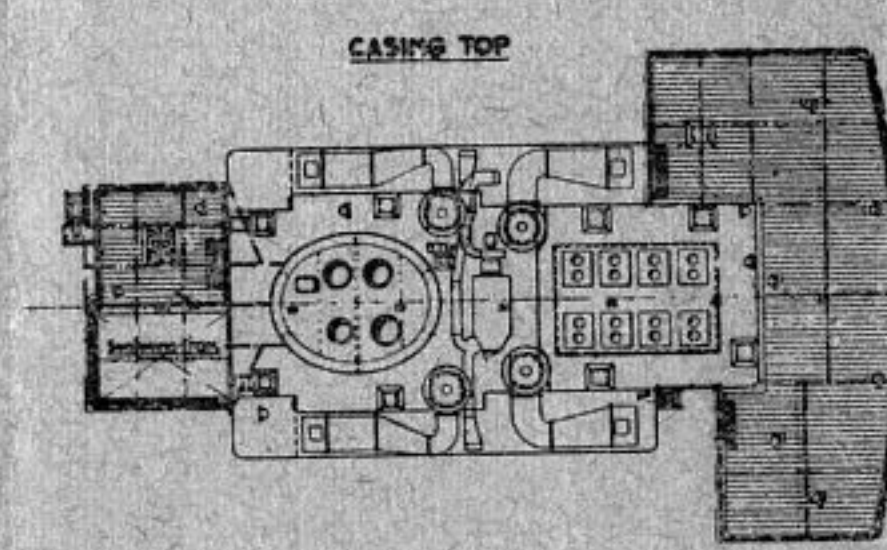
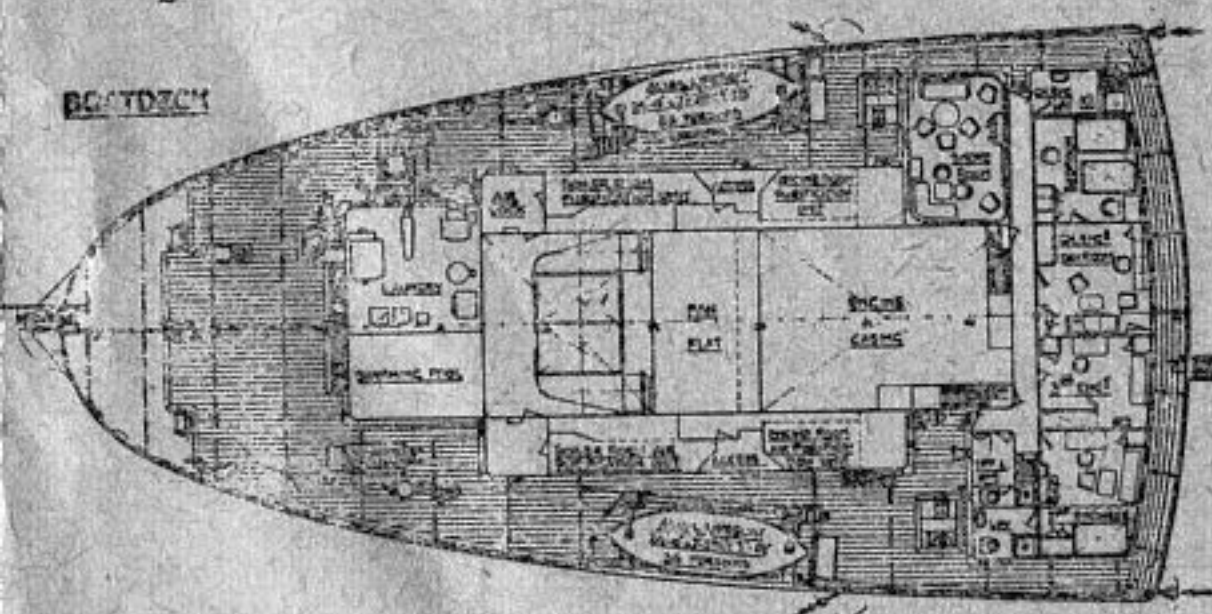
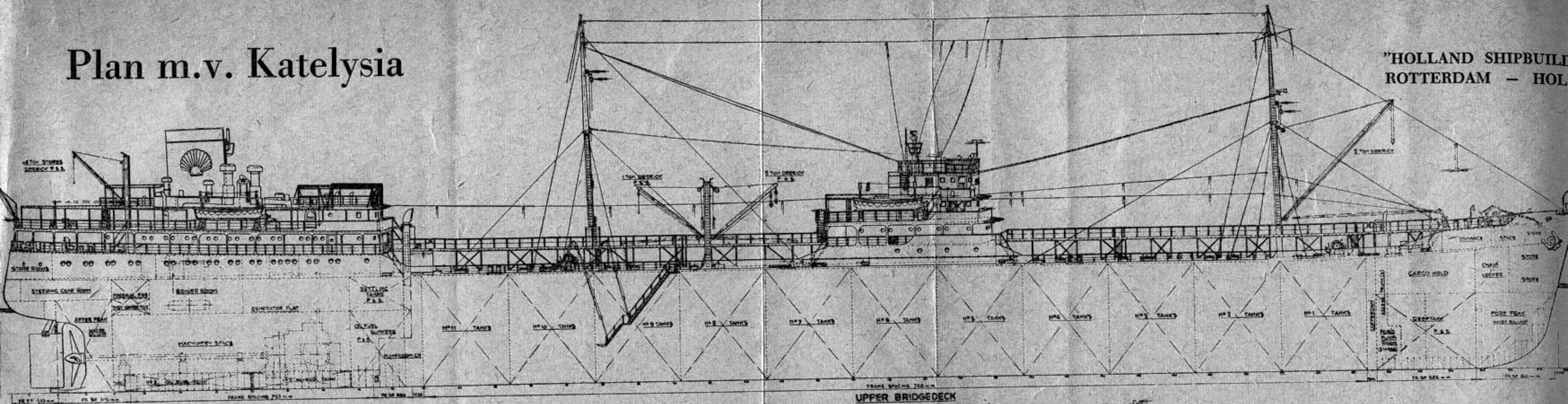
# Plan m.v. Katelysia

"HOLLAND SHIPBUILDING"  
ROTTERDAM — HOLLAND



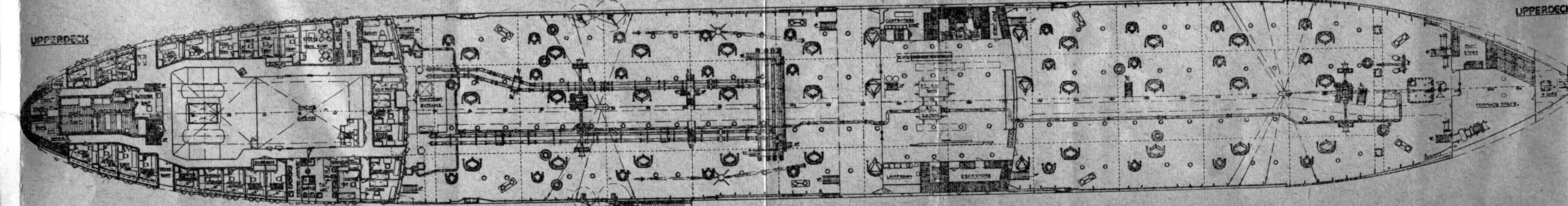
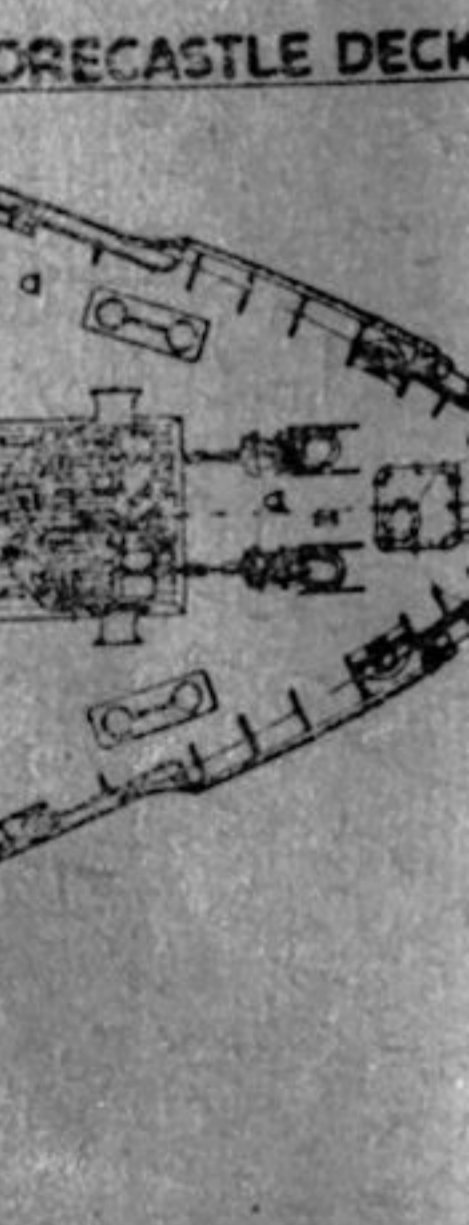
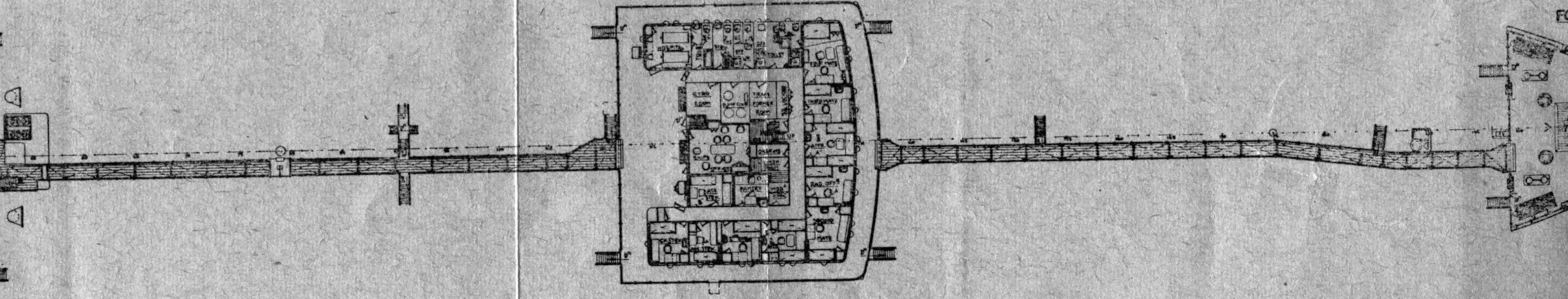
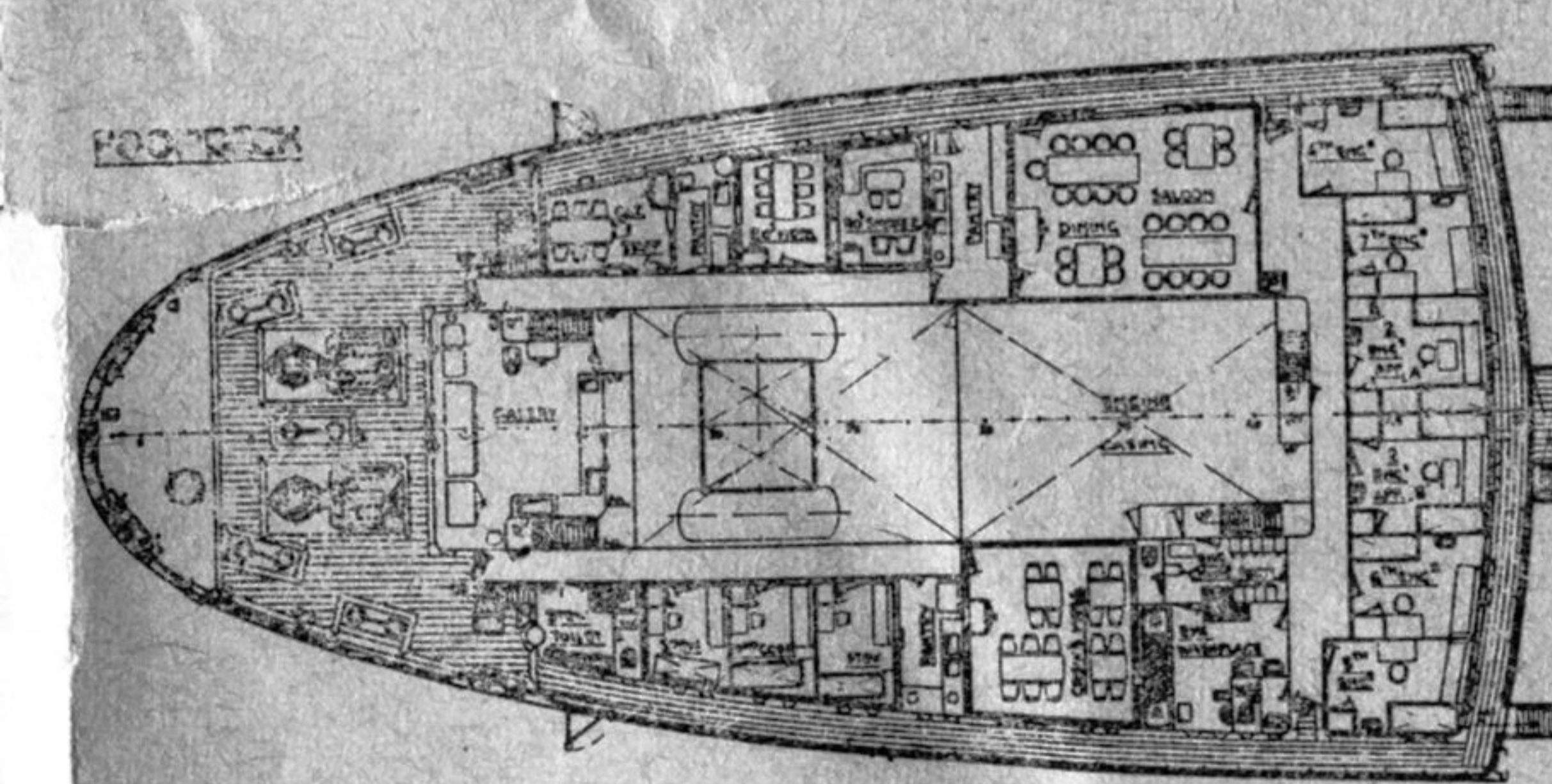
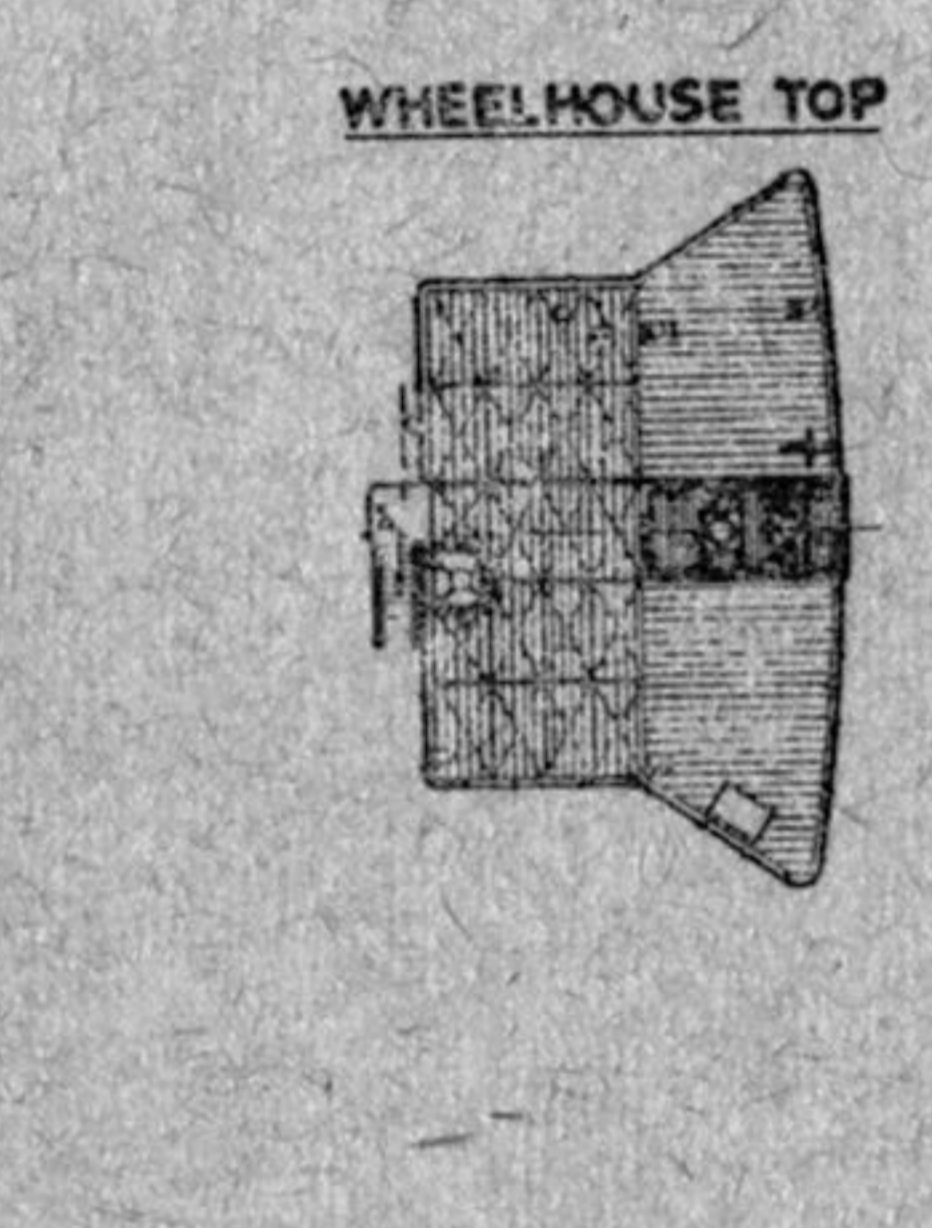
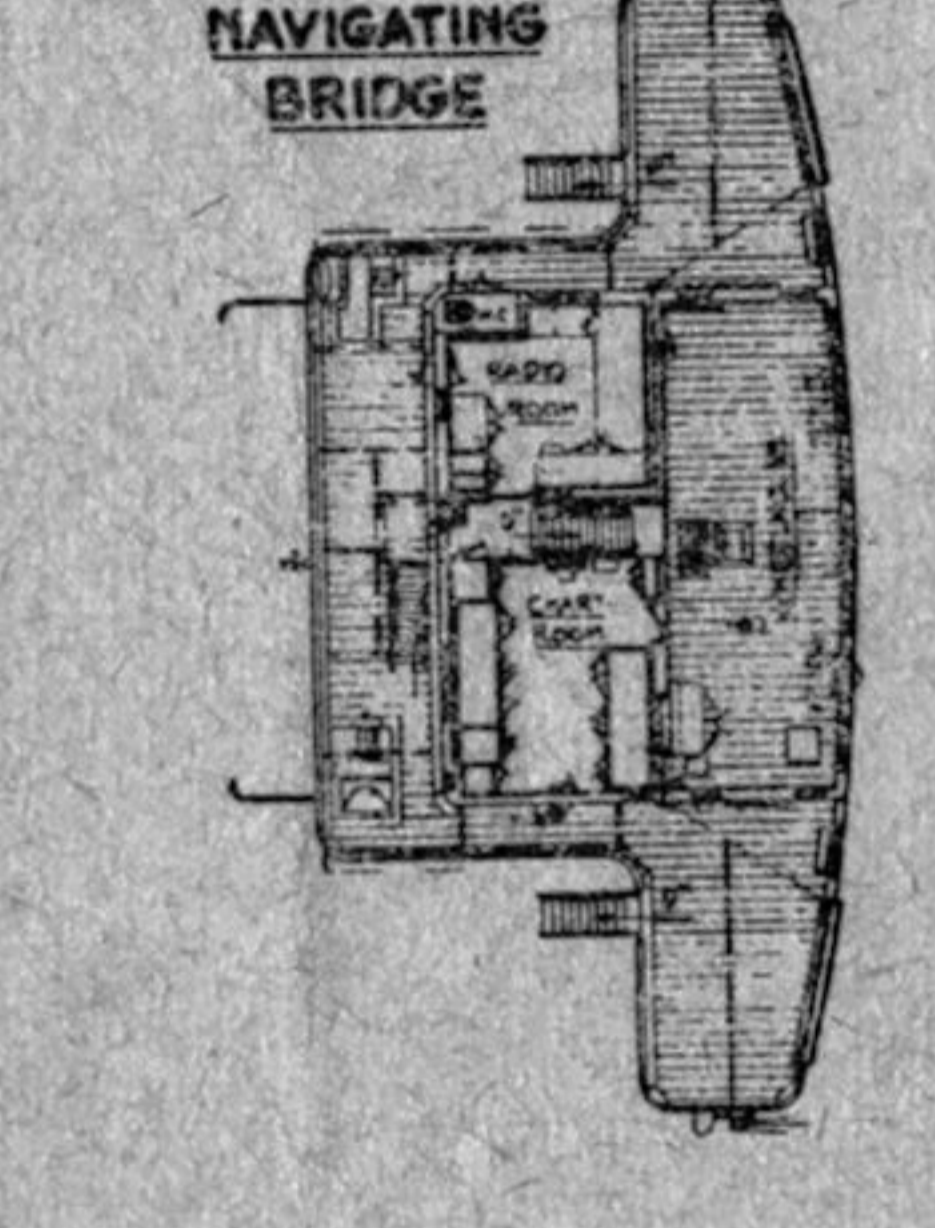
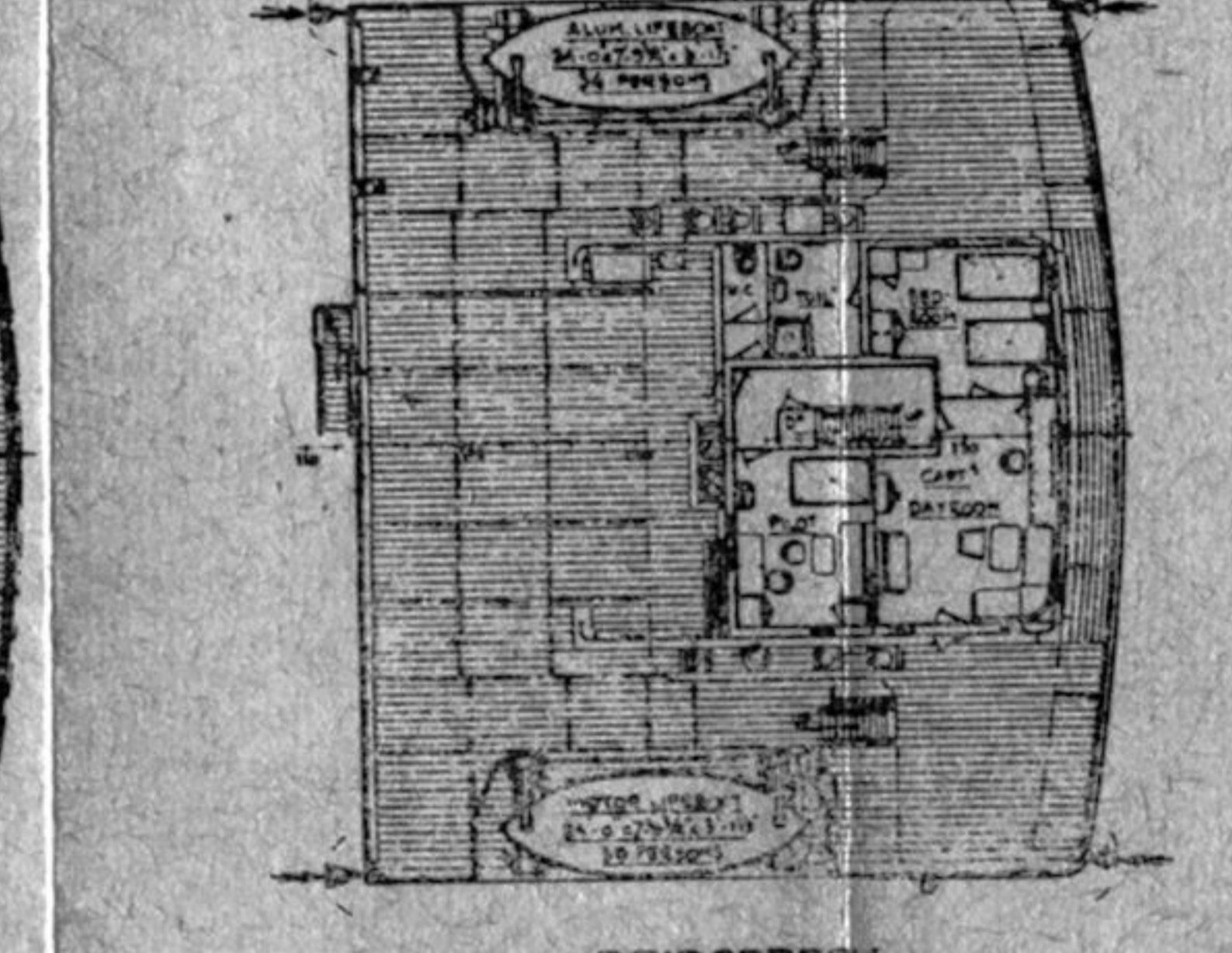
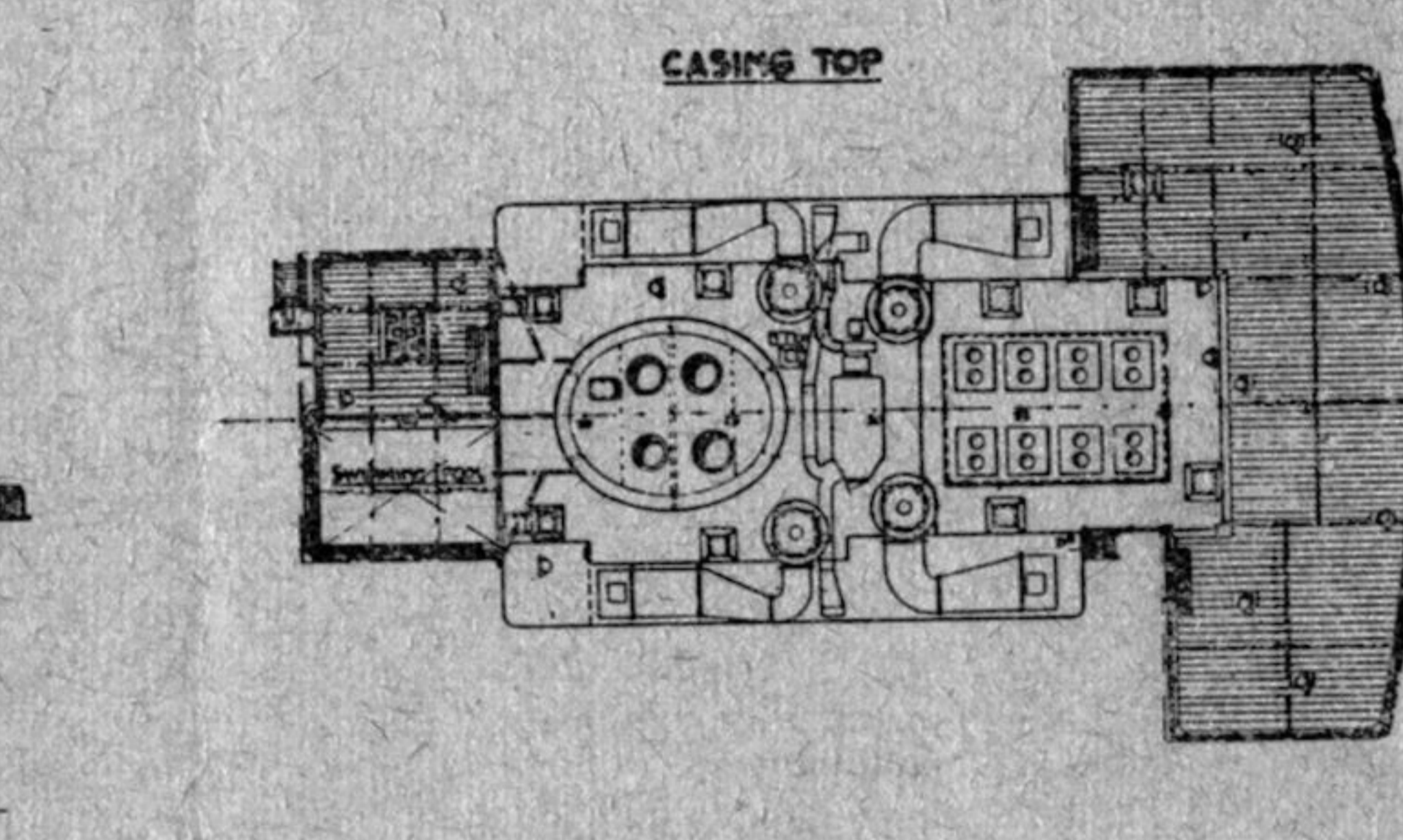
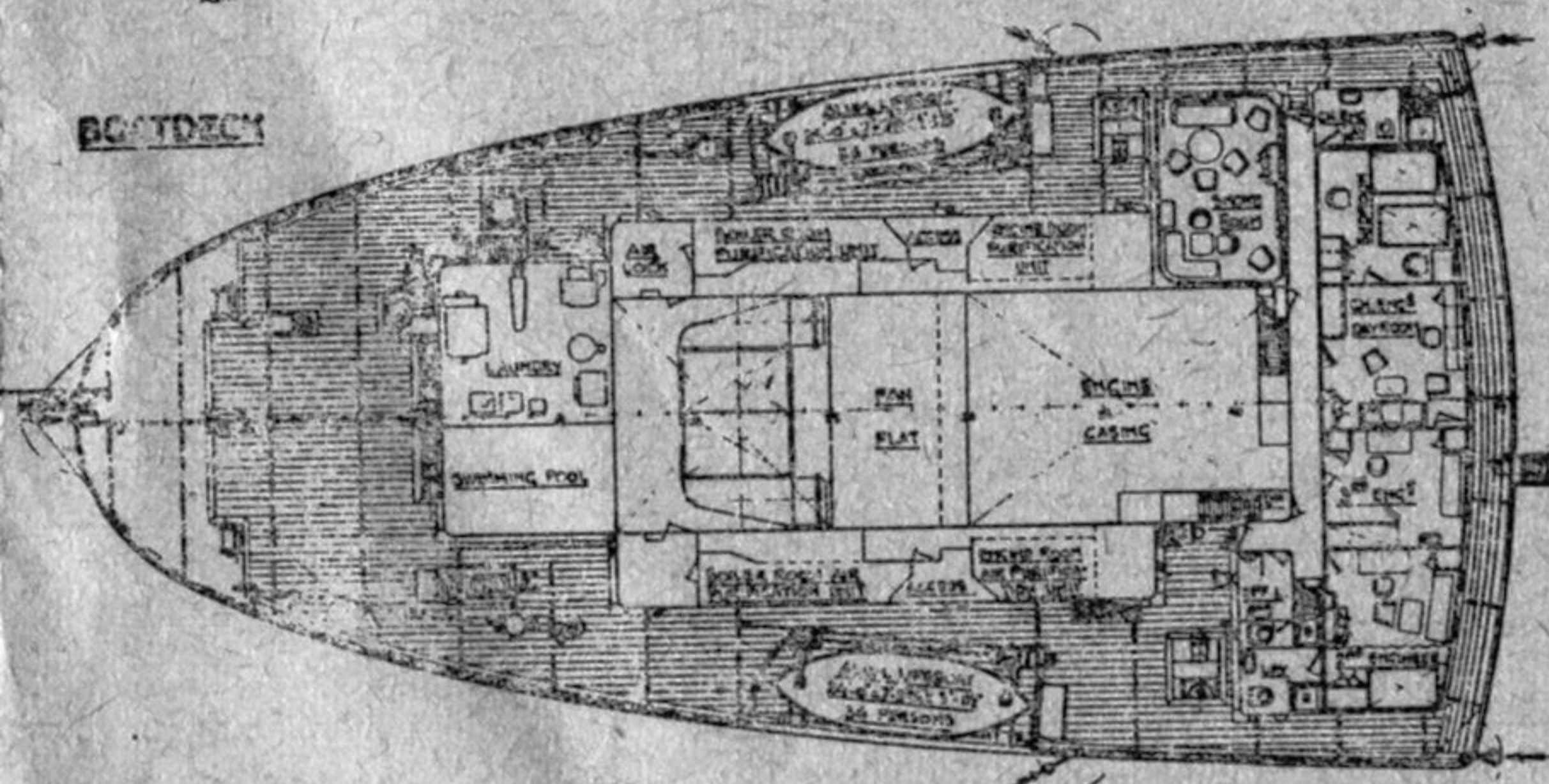
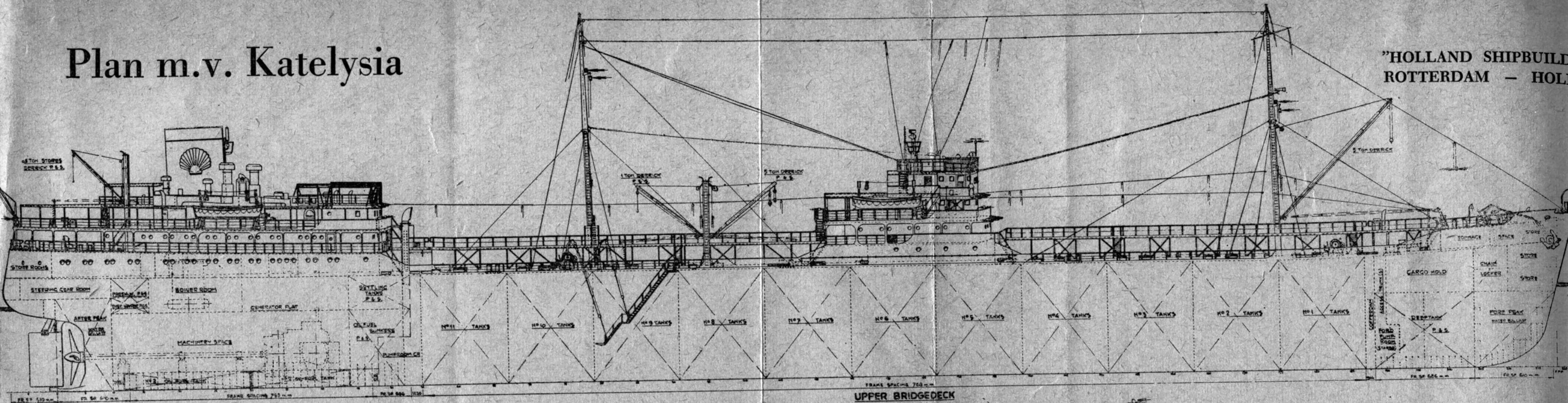
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ROTTERDAM - HOLLAND

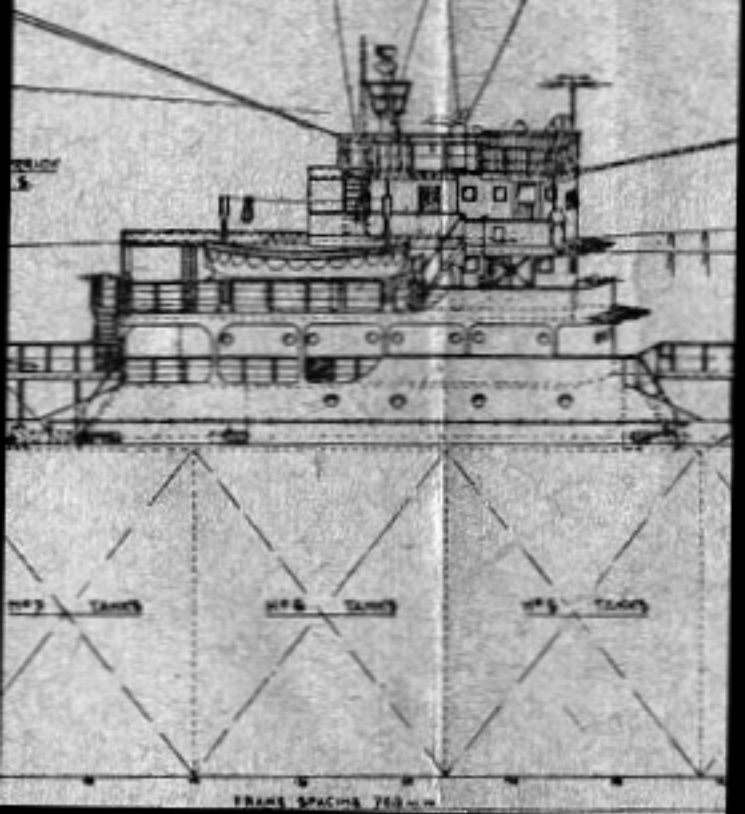


# Plan m.v. Katelysia

"HOLLAND SHIPBUILDING  
ROTTERDAM - HOLLAND



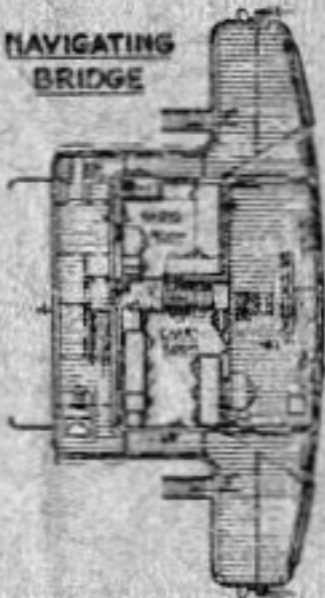




## WHEELHOUSE TOP



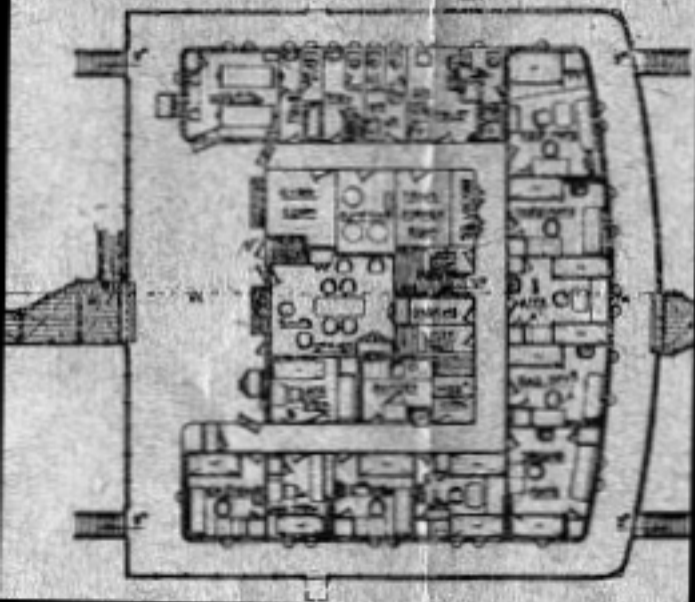
NAVIGATING  
BRIDGE

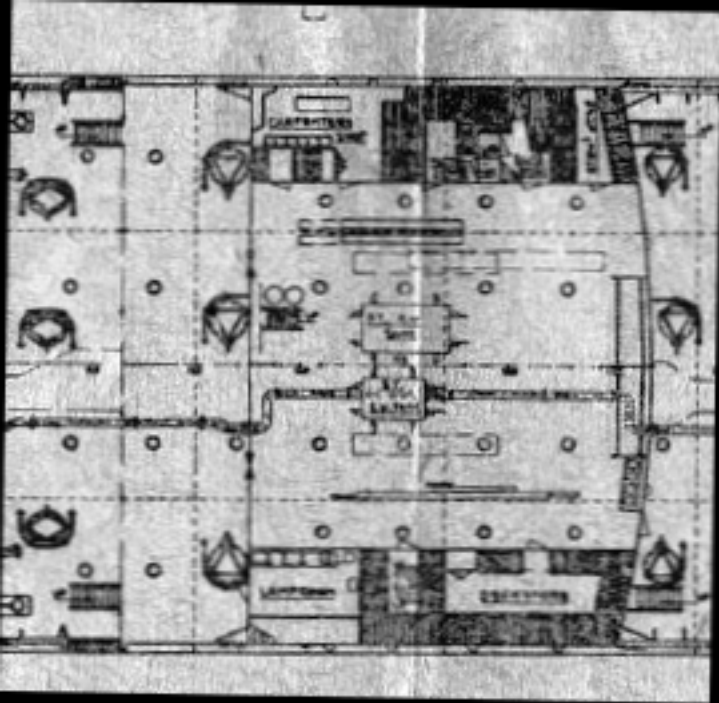


# UPPER BRIDGEDECK

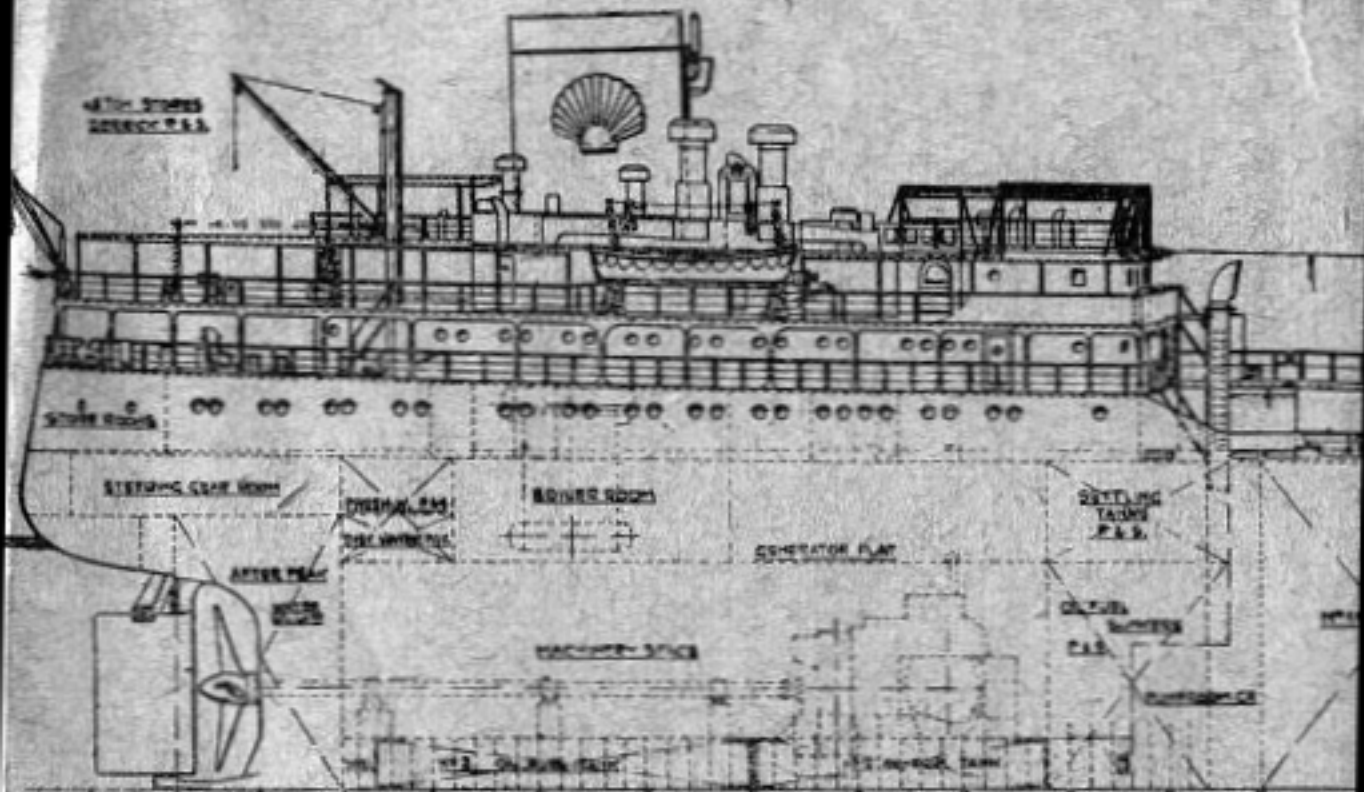


# BRIDGEDECK





47th Street  
LONDON P.A.S.



STEERING ROOM

STEERING CASE ROOM

DRUM ROOM  
DRUM WINDING

ENGINE ROOM

GENERATOR PLANT

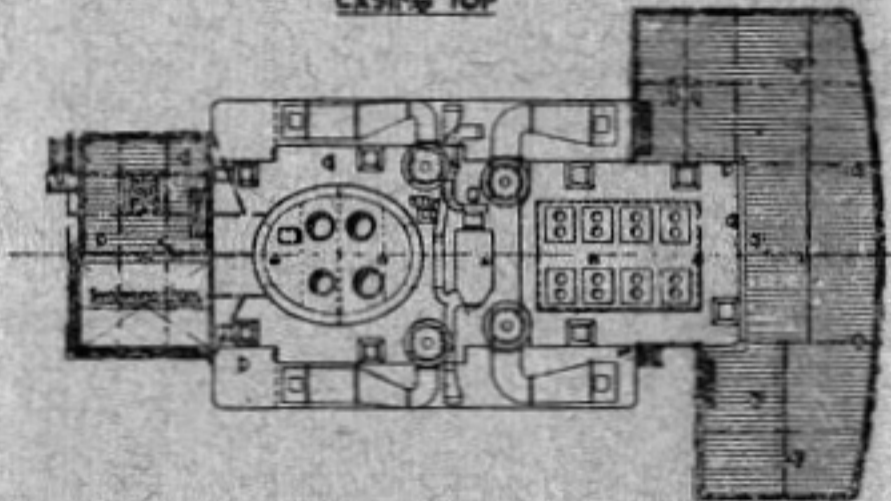
SETTLING TANK  
P.A.S.

ANCHOR  
WINDING

WATER TANK

WATER TANK  
P.A.S.

CASING TOP





**BOATDECK**

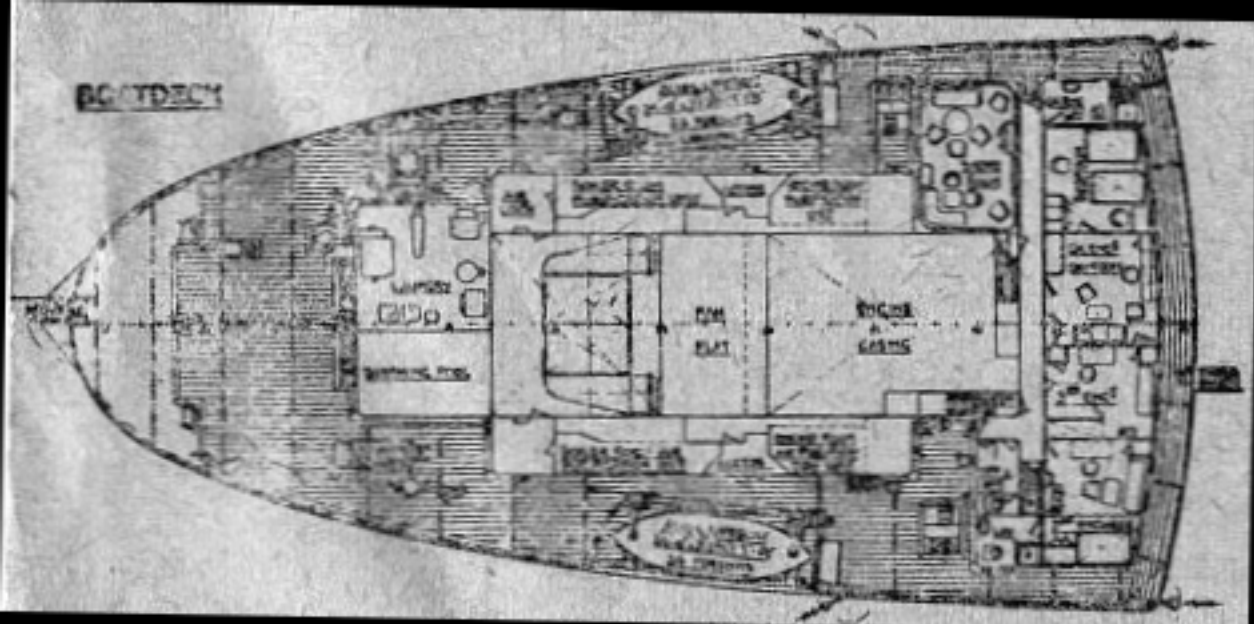
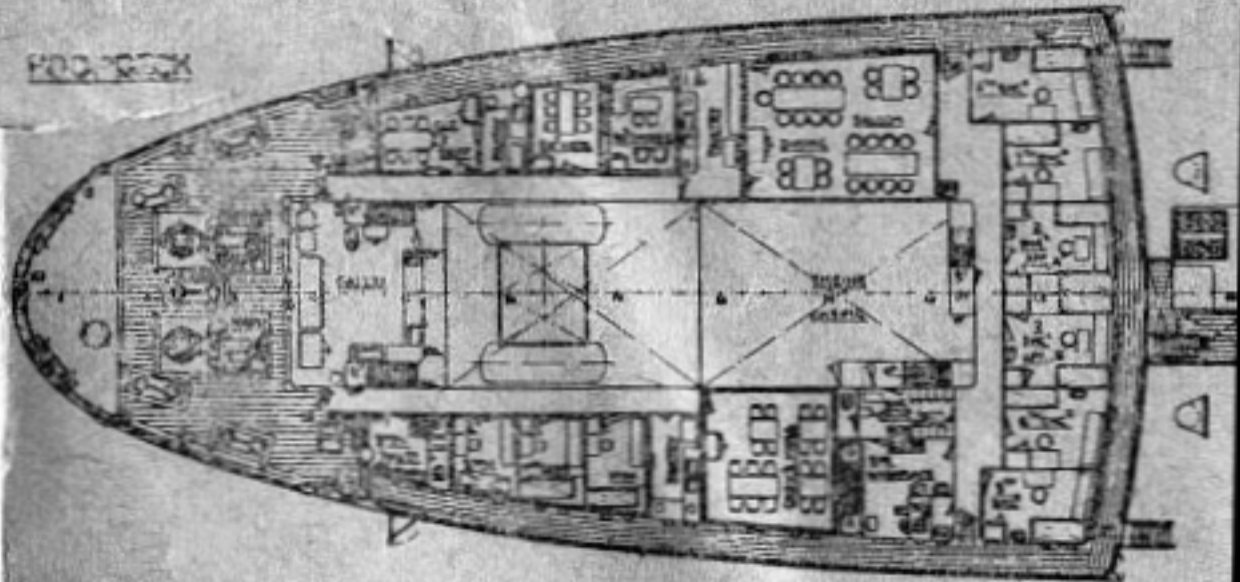
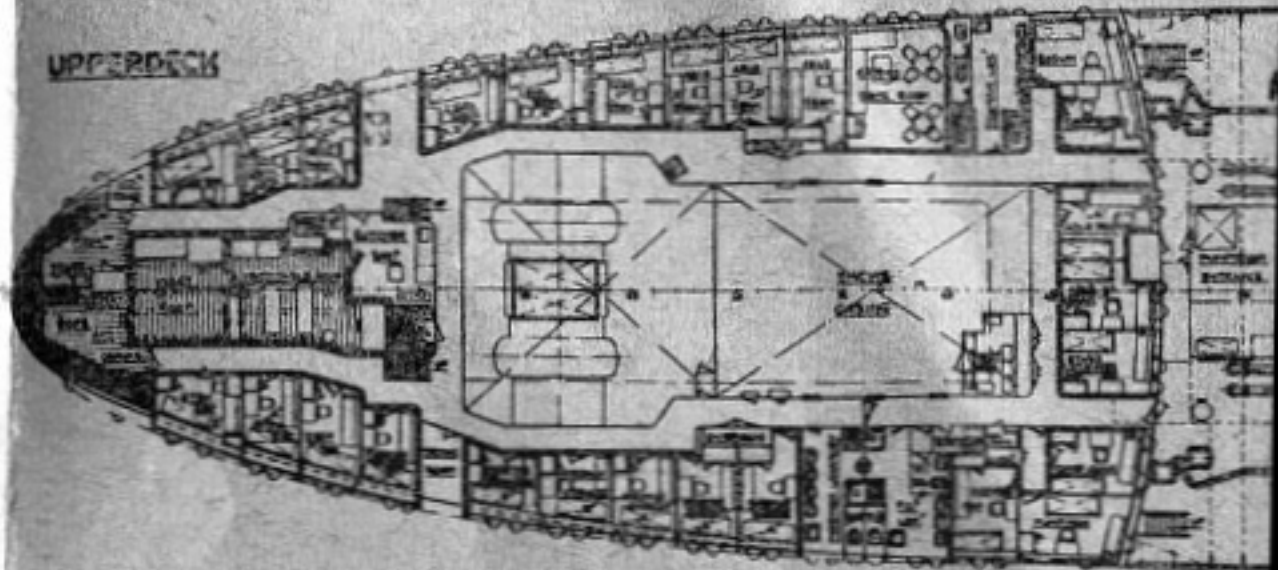


FIG. 107



UPPERDECK



# TWEENDECKS AND TANKS

