

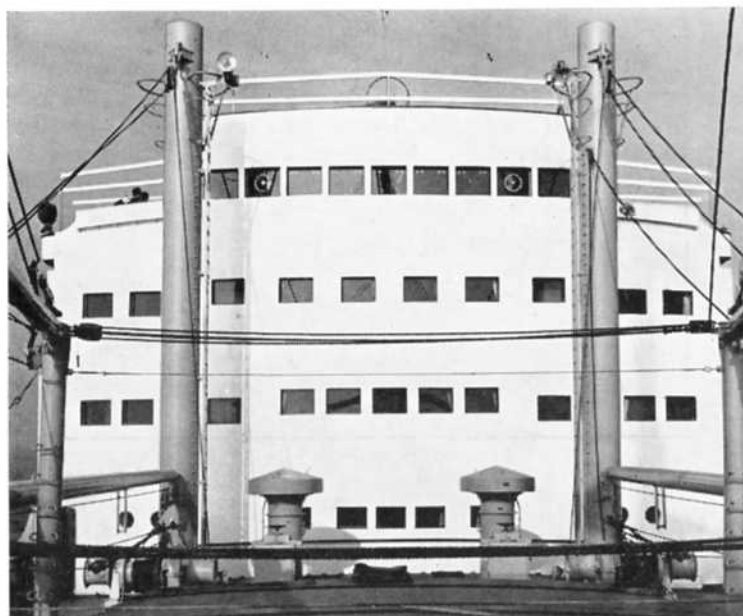
m.v. "Mary Nübel"



Breadth moulded	16.00 m.	52 ft. 6 in.
Depth to tweendeck	7.25 m.	23 ft. 9 ¹ / ₂ in.
Depth to weatherdeck	9.75 m.	32 ft.
Draught	7,638 m.	25 ft. 3 ³ / ₄ in.
Deadweight (fulldecker)	7,614 tons	
Draught (shelterdecker)	6,733 m.	22 ft. 1 in.
Deadweight (shelterdecker)	6,244 tons	
Gross tonnage (fulldecker)	4760.47 R.T.	
Gross tonnage (shelterdecker)	3311.14 R.T.	
Net tonnage (fulldecker)	2632.45 R.T.	

The cargo motor vessel *Mary Nübel*, built by Scheepswerf "De Beer" N.V., Zaandam, for the Emden Dampfercompagnie A.G., Emden, Germany, has entered the services of her owners. Her principal characteristics are as follows:

Length overall	117.45 m.	385 ft. 4 in.
Length b.p.	108.90 m.	357 ft. 3 ¹ / ₄ in.



Net tonnage (shelterdecker)	1722.03	R.T.
Grain capacity	338,671	cu.ft.
Bale capacity	306,752	cu.ft.
Ballast capacity	1159	cu.m.
Fuel capacity	499.50	cu.m.
Fresh water capacity	74.3	cu.m.

Main propulsion machinery:
Twin M.A.N. diesel engines, each of 1900 h.p. at 275 r.p.m.

Speed (fulldecker)	abt. 13.5 knots
Speed (shelterdecker)	abt. 14 knots
Total fuel consumption	12 tons/day

The ship has been constructed to Germanischer Lloyd + 100 A 4 (E) with strengthening for the carriage of heavy cargo. The general arrangement is as shown on the accompanying plans. There are four cargo holds, two of which are placed forward and two aft of the bridgedeckhouse. The hatchways which give access to the various cargo spaces have the following dimensions:

	Weatherdeck	Shelterdeck
No. 1	10.880 x 6.590 m.	10.880 x 8.210 m.
No. 2	16.320 x 6.590 m.	16.320 x 8.210 m.
No. 3	10.880 x 6.590 m.	10.880 x 8.210 m.
No. 4	10.880 x 6.590 m.	10.880 x 8.210 m.

The ship is arranged for the carriage of bulk grain cargoes in accordance with the latest requirements, with centre line bulkheads, feeders and bins. For the removable wooden grain line bulkheads, and components of the feeders and bins use has been made of light-alloy stanchions. The cargo holds are mechanically ventilated by means of Kennemer axial-flow ventilators, the system enabling 10 changes of air per hour. The cargo holds are connected to a Walther CO₂ fire-fighting plant and a smoke detector with audible and optical alarm.

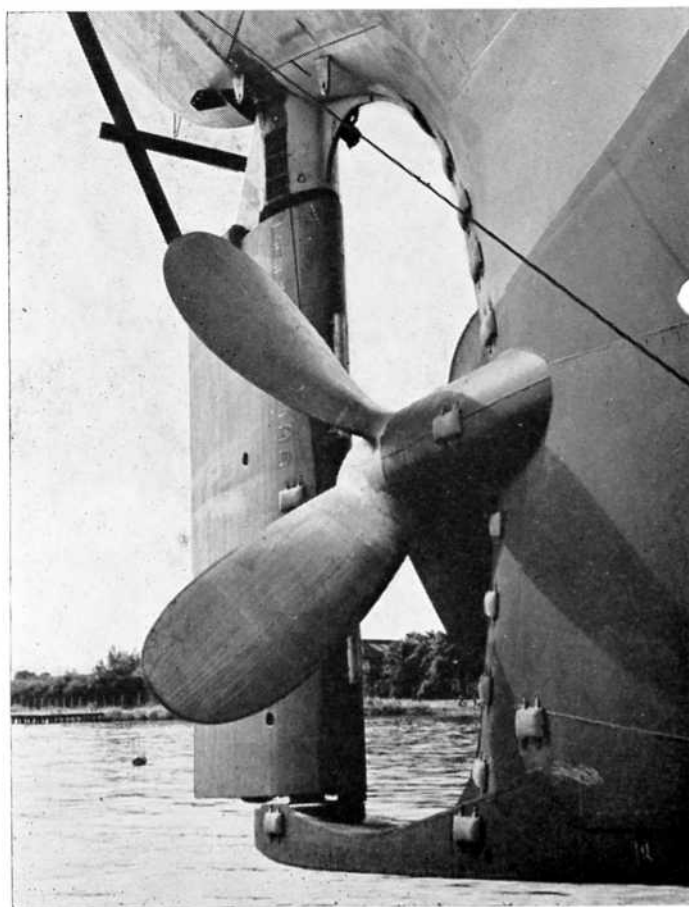
Cargo is handled by means of derricks which are attached to two self-supporting masts and one pair of derrick posts which is placed forward of the bridge-deckhouse. There are ten 3(5)-ton derricks, each with a length of 14.50 m., one 15-ton derrick having a length of 14.00 m., and one 25-ton derrick with a length of 14.00 m. The 25-ton derrick is fitted to the foremast to serve No. 2 hold, and the 15-ton derrick is attached to the aftermast to serve No. 3 hold.

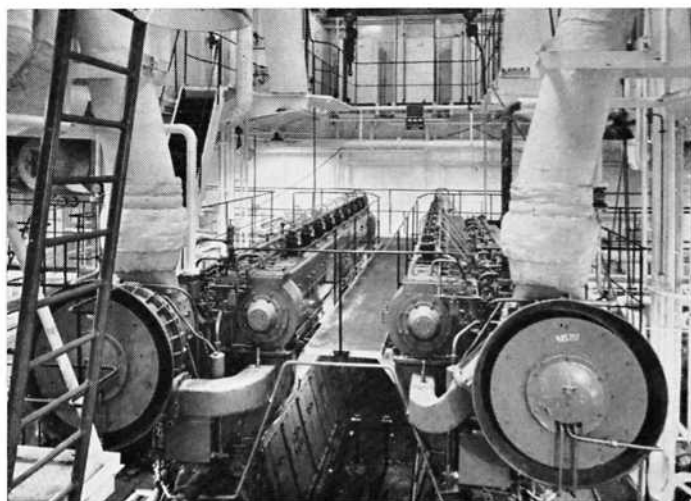
The derricks are served by electrically-operated Thrige cargo winches, namely eight with a pull of 3 tons at a speed of 30 m./min. and two with a lifting capacity of 5 tons at a hoisting speed of 20 m./min. The windlass

and the two capstans are also of Thrige manufacture, the latter having a pull of 5 tons. The windlass handles two 2-in. stud-link chain cables, each of 18 x 15 fathoms. The ship is equipped with three Spek-anchors, each of 3010 kg. and one Hogezaand-anchor of 980 kg.

Two lifeboats are carried, one of these seating 40 persons and the other 42 persons. One of the boats is a motor boat and is powered by a one-cyl. air cooled four-stroke Coventry Victor diesel engine of 7-9 h.p. at 1500-2000 r.p.m. driving the screw through an O.K. reverse reduction gear with 2 : 1 reduction. The engine is capable of running without difficulty in arduous tropical conditions and has been approved for operation in a tropical ambient temperature of 138 deg. F. The deck equipment includes two aluminium-alloy accommodation ladders.

Navigational Aids. The navigational aids of the ship include an "Anschütz" gyro compass installation and automatic steering equipment. The master compass of the type "Standard IV" is of small dimensions and is placed in the wheelhouse next to the steering stand. By this arrangement the master compass offers an additional possibility of reading off the course, while it is always under the supervision of the ship's officers. In addition, a special gyro room is saved by this arrangement which simplifies the cable work. Two bearing repeaters are placed on a pelorous stand in the wing of the navigation bridge and the equipment is completed by the stabilisation arrangement for the direction finder. The Anschütz automatic steering equipment is arranged as a top plate on the Siemens bridge console which contains the manual controls for the electrically operated steering engine. The course can be read off from the repeater compass incorporated in the automatic steering equipment.

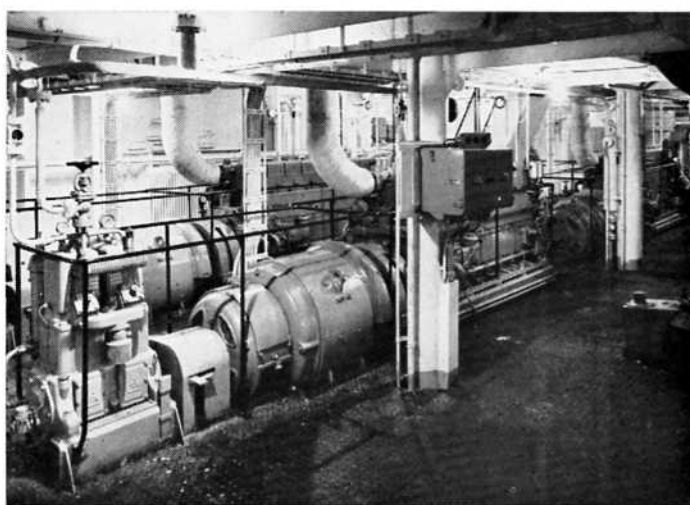




View of the main engines

In addition to this equipment the ship carries a Decca 45 radar as well as the following items which were supplied by D.E.B.E.G. and installed by Radio Holland: The communications of the ship are handled by three transmitters and two receivers. The Telefunken 375 Watt S 526 transmitter operates a radio telegraph/telephone service on the H.F. bands. For communications in the M.F. bands the ship is equipped with 30 Watt Telefunken S 519 transmitter. The main receiver is a Siemens E 566 all-wave receiver, providing reception of all marine stations in the available frequency spectrum. For emergency purposes there is a 70-Watt S 227 Telefunken receiver and the D.E.B.E.G. type E 500 emergency receiver. The

Diesel-generator sets.



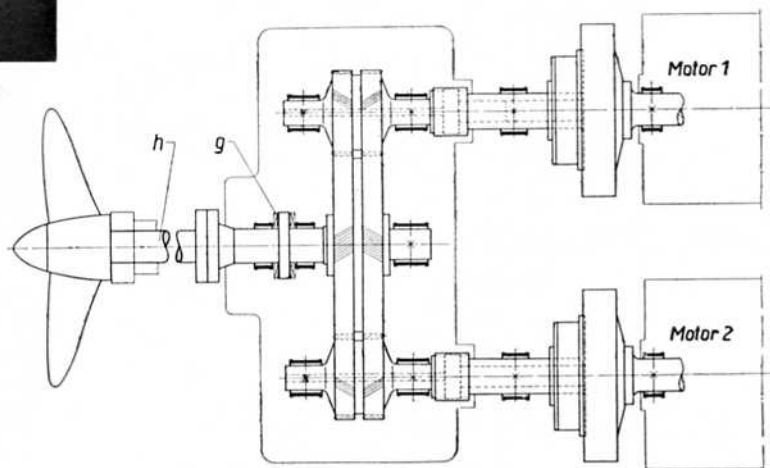
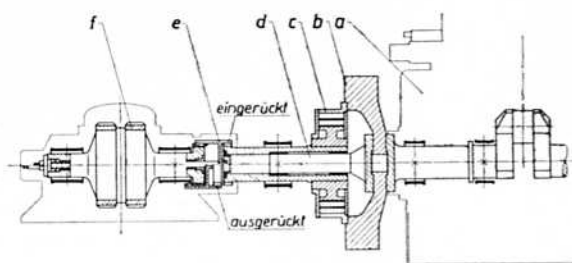
- a = engine
- b = flywheel
- c = flexible coupling
- d = supporting shaft
- e = disengageable toothed coupling
- f = pinion
- g = thrust bearing
- h = propeller shaft

eingerrückt = engaged
ausgerückt = disengaged

equipment includes a Lorenx automatic alarm and a Telefunken Telegon III direction finder.

The living accommodation is disposed over three decks of the amidships deckhouse and the main and shelterdeck aft. On the boat deck there are two suites, one for the master and one for the supercargo. The navigating officers are housed and have their cabins on the bridge deck, while the engineer officers are accommodated on the maindeck. On this deck there also are the engineers' messroom, crews' messroom and the cabins of the members of the catering department. The P.O.'s and ratings of the deck and machinery departments are housed aft in two-berth cabins. The interiors are of a high standard, the officers' messroom having been decorated by glass-carvings made by means of a sandblasting process. Use has been made of Vynide and Perstorp, as well as foam rubber. The insulation of the provision stores as well as the comfort insulation consists of BX-Spintex, an incombustible, rotproof and water repellent material.

Machinery Equipment. The main propelling machinery of the ship consists of two direct reversing four-stroke, 9-cylinder M.A.N. diesel engines, type G9V40/60. The engines are supercharged and develop 1900 h.p. at 275 r.p.m. An interesting feature of the installation is that both engines are coupled to a "Renk" gearcase type AG 2 x 120 and together drive the Lips propeller at a speed of 125 r.p.m. Each engine is coupled to the gear by means of a flexible sleeve spring coupling type NF 16 So, built by Renk. The power is transmitted via the sleeve spring couplings and through a hollow shaft to a toothed coupling. This toothed coupling can be engaged or disengaged by means of a handwheel enabling each engine to be connected or disconnected. A flange-shaft directly bolted to the flywheel of the engine is inserted into the hollow shaft, which latter is provided with inner bearings. The hollow shaft is provided with a supporting bearing. Thus the weight of the flywheel is supported partly by the supporting bearing mentioned above and partly by the



crankshaft bearing. Thus, inadmissible bending stresses on the crankshaft are prevented.

For this particular ship a geared twin installation was chosen to increase the safety as on one engine the ship will still travel at 71 per cent of her service speed. In the early stages of the design the application of fluid or magnetic slip couplings was considered. However, the price of these couplings with their extensive equipment is higher than once the price of the sleeve spring couplings. In addition, in that case the gear has to be enlarged as the fluid or magnetic couplings have a rather large diameter. Furthermore, fluid or magnetic couplings have a certain percentage of slip, so that with flexible sleeve spring couplings as applied here, the efficiency of the gear is better. With a view to manoeuvrability, the manoeuvring stands of the main engines are mechanically connected, so that both engines can be operated from the port as well as from the starboard engine. Manoeuvring is achieved as if only one engine were installed and the propeller were direct driven. Finally, the initial cost of this geared twin installation is lower than that of one main engine developing 3,800 h.p. at 125 r.p.m.

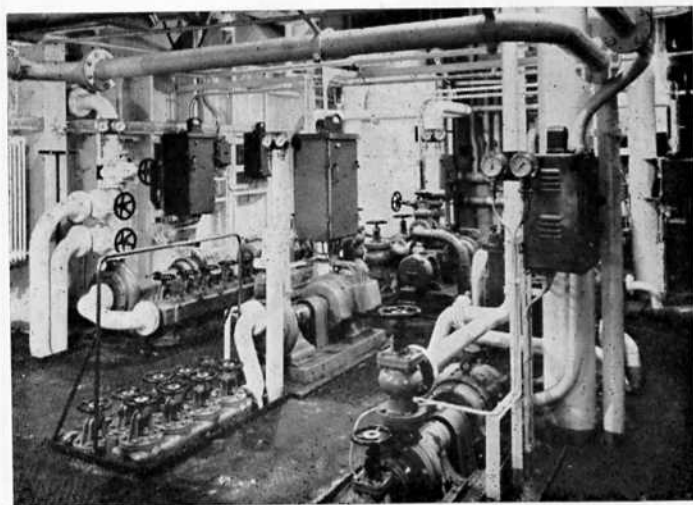
Electricity is supplied by three generator sets. Each of these sets consists of an M.A.N. diesel engine type W8V17,5/22A, which is an 8-cylinder, four-stroke diesel engine developing 205 h.p. at 750 r.p.m., directly coupled to a Garbe Lahmeyer D.C. generator supplying 131 kW D.C. at 230 volts. Two of these sets are provided with a two stage Poppe air compressor, having a capacity of 80 cu.m. of free air per hour at an end pressure of 30 kg./sq.cm. The compressors are driven from the free end of the generator by means of a clutch. The sets were delivered assembled on a welded steel bedplate. Each of the main engines is served by a Bloksma fresh water cooler type 440A, L=1900, the cooling surface per cooler being 33.2 sq.m. Bloksma fresh water coolers type 172, L=1600, each having a cooling surface of 4.55 sq.m. were fitted for each of the auxiliary engines. The ship is equipped with a harbour set consisting of an air-cooled Deutz diesel engine of 50 h.p. driving a 30-kW D.C. generator and a starting air compressor of 21 cu.m.

Equipment on board the "Mary Nübel"

(Partial List)

Bloksma Radiateurenfabriek N.V., Amsterdam: Fresh water coolers main and auxiliary engines.
Bruynzeel, Zaandam: Timber.
Dam, Wed. A. van, Bolnes: Mosquito screens.

The pumps



Dunlop Mij. Ned., Amsterdam: Sementex flooring.
Deutz Motoren N.V., Rotterdam: Auxiliary generator sets.
Dijk's Scheepsuitrustingen N.V. van, Rotterdam: Accommodation ladders, acc. ladder winches, rigging.
Elceestaal, Rotterdam: Steel dressers.
Goodwill Schuimrubber N.V., Rotterdam: Foam rubber mattresses.
Fransé, T. Amsterdam: Coventry Victor boat engine.
Houttuin, Utrecht: Bilge pump.
Int. Navigatie App., Rotterdam: Smith clear view screen, Decca 45 radar.
Kennemer Mach. Fabr., Beverwijk: Ventilation.
Keyzer, de, Rotterdam: Masts, derricks.
Kon. Grofsmederij, Leiden: Anchors, chain cables.
Lips, Drunen: Propeller.
MacGregor, Amsterdam: Bipod masts.
Maters, Beverwijk: Hydrophor plants.
Nijhuis, Winterswijk: Pumps.
Plaisier, Ing. Bur., The Hague: Anschütz gyro compass installation.
Profiltra N.V., Amsterdam: BX Spintex insulation.
Pijtersen's Machinehandel, Sneek: Westfalia separators.
Radio Holland N.V., Amsterdam: Wireless communications equipment.
Reek, J., Zaandam: Glass decorations.
Rietschoten & Houwens, Rotterdam: electrical installation, Thrige winches.
Rollo N.V., The Hague: Main and auxiliary engines, Renk gear with flexible couplings, air compressors, generators.
Straatman, Machinefabriek L., Dordrecht: Design and installation of machinery installation.
Todd, C. W., Amsterdam: Insulation.
Trost & Co., L., Rotterdam: Vynide, Perstorp.
Visser Jan, Zaandam: Paints.
Visser, N.V., Jan, Zaandam: Lifesaving equipment.
Vries, de, Alkmaar: Heating.
Vrolijk & Coster, Rotterdam: Galley range.
Winel, Zaandam: Sidelights, windows, etc.
Wijsmuller, Bureau, IJmuiden: Trial trip.

