



WHEELS (continued)

|  | PRIMARY        |    |                | MAIN      |
|--|----------------|----|----------------|-----------|
|  | HP             | MP | LP             |           |
| Material of rims, state nominal composition ...        | EN 8           | -  | EN 8           | EN 8      |
| Tensile strength, tons per sq. in./kg. per sq. mm. ... | 69,5           | -  | 68,2           | 65,0-66,3 |
| Diameter of shaft at bearings, inches/mm. ...          | see 2nd pinion | -  | see 2nd pinion | 533       |
| Material of shaft ...                                  | EN 25          | -  | EN 25          | SM-Steel  |
| Tensile strength, tons per sq. in./kg. per sq. mm. ... | 86,7-89,2      | -  | 88-92,2        | 44,0-44,2 |

Have wheels been statically balanced? yes, 1st wheels dynamically Are wheel bodies of cast or welded construction? welded construction

Are wheel bodies connected to the shafts by bolts? no, by welding Material of wheel bodies SM-Steel

Are rims shrunk on, or bolted to bodies, or attached by welding? attached by welding Are radial or axial dowels fitted? -

If shrunk, has the shrinkage allowance been checked and found as approved? - How were the teeth cut? hobbing

If hobbed, name and serial no. of hobbing machine Schiess RF 40/55 What post-hobbing process was applied? lapping

Name and serial no. of machine used for finishing process No. 43 148 If teeth are surface hardened, state method not hardened

Were teeth cut under conditions of temperature control? yes, 20° C.

Is gearcase of cast or welded construction? welded If welded, has it been stress relieved? gear case as fitted 1944 Have trammels or other means been supplied for verifying that gearcase is free from distortion when secured in ship? - Diameter of shaft at thrust collar 406,5mm/339,7mm

Has gearing been run light/under load in the shop and the tooth contact found satisfactory? yes

What is the backlash? (state whether measured circumferentially or normal to the teeth) circumferentially 0,6 mm

If undulation records were taken, state maximum height from crest to trough and wave length, pinions -

wheels -

Maximum adjacent pitch error normal to teeth, if measured, pinions -

wheels 7611 over 204 teeth Date of approval of plans 4.2.1960

If gearing is a duplicate of a previous case, state name of ship replace gear

The foregoing description of reduction gearing is correct.

**HOWALDTSWERKE HAMBURG A.-G.**

*W. Duglath* *H. V. Eggert*  
 Manufacturer

GENERAL REMARKS

State if the gearing has been constructed under special survey in accordance with the Rules, approved plans and Secretary's letters. State quality of materials and workmanship. This report should be forwarded to the Head Office with the First Entry report on the machinery. When gearing is made at a Port other than the Port of installation, the Surveyors at the former should send this report to the Surveyors at the Port of installation as soon as possible after completion of the gearing. The latter should complete the Declaration below and send the report to the Head Office with their First Entry report on the machinery.

This reduction gear has been constructed under Special Survey in accordance with the Society's Rules and Regulations, the approved plans and the Secretary's letters. The materials and workmanship are good.

Survey fee see Hamburg Rpt. 3311

Expenses -

Date when a/c rendered -

*W. Duglath*  
 Engineer Surveyor to Lloyd's Register of Shipping

IDENTIFICATION MARKS

PRIMARY PINIONS HP:- LLOYD'S HNO 621 GS 11.3.60, LP:- LLOYD'S HNO 588 GS 11.3.60

PRIMARY QUILL SHAFTS -

SECONDARY PINIONS HP:- LLOYD'S HNO 526 GS 2.3.60, LP Lloyd's HNO 395 GS 20.1.60

SECONDARY QUILL SHAFTS -

FLEXIBLE COUPLINGS -

PRIMARY WHEEL RIMS HP:- LLOYD'S HNO 387 GS 11.1.60, LP:- LLOYD'S HNO 386 GS 11.1.60

PRIMARY WHEEL SHAFTS see 2nd pinions

MAIN WHEEL RIM LLOYD'S HNO 287 + 288 GS 21.12.59 MAIN WHEEL SHAFT LLOYD'S HNO 189 GS 9.11.59

All above parts in addition to the identification marks HAM 3311 RFK 9.11.60

DECLARATION TO BE COMPLETED AND SIGNED BY THE SURVEYOR AT THE PORT OF INSTALLATION

The above reduction gearing has been fitted on board the S.S. "INDIAN NAVIGATOR" at HAMBURG

in a proper manner and found satisfactory when tested on the (date) 11.12.60 under full-power working conditions for 8 hours and when examined subsequently.

*W. Duglath*  
 Engineer Surveyor to Lloyd's Register of Shipping

DATE OF COMMITTEE See casualty report

DECISION -

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