

# REPORT ON BOILERS.

No. 417.

22 MAR -5 JAN 1931

Received at London Office

Date of writing Report March 15<sup>th</sup> 1930 When handed in at Local Office 19 Port of Sheffield & Copenhagen

No. in Reg. Book 90961 Survey held at Sheffield & Nakskov Date, First Survey 17/1/30 18/1/30 Last Survey 12/3/30 17/12 1930

on the Steel Twin S. 4 Mast "INDIA" (Number of Visits 4 7) Gross Tons 9549.15 Net Tons 6030.63

Built at Nakskov By whom built Nakskov Skibverft. Yard No. 39 When built 1930

Engines made at Copenhagen By whom made J. S. Dinesen & Wain Engine No. 1718 1719 When made 1930

Boilers made at Sheffield By whom made Messrs Davy Bros. Ltd. Boiler No. 1979 When made 1930

Owners To the Order of Messrs The Clarkson Thimble Tube Balm Co Ltd Port belonging to Copenhagen

OWNERS: N. O. A. Asiatiske Kompagni

## VERTICAL DONKEY BOILER.

Made at Sheffield By whom made Davy Bros. Ltd. Boiler No. 1979 When made 1930 Where fixed On upper deck, inside engine casing.

Manufacturers of Steel Messrs The Parkgate Iron & Steel Co. Ltd. Rotherham.

Total Heating Surface of Boiler 232 sq Is forced draught fitted yes Coal or Oil fired Oil and exhaust gas.

No. and Description of Boilers One Clarkson Thimble Tube. Working pressure 100 LB<sup>s</sup>

Tested by hydraulic pressure to 200 LB<sup>s</sup> Date of test 12/3/30 No. of Certificate 516

Area of Firegrate in each Boiler — No. and Description of safety valves to each boiler Double 2" Spring.

Area of each set of valves per boiler per rule 3.025 sq as fitted 6.282 sq Pressure to which they are adjusted 100 lbs. Are they fitted with easing gear yes.

State whether steam from main boilers can enter the donkey boiler No. main boiler. Smallest distance between boiler or uptake and bunkers or woodwork —

Is oil fuel carried in the double bottom under boiler — Smallest distance between base of boiler and tank top plating —

Is the base of the boiler insulated — Largest internal dia. of boiler 4" 0" Height 7" 9"

Shell plates: Material Steel Tensile strength 28/32 Thickness 7/16

Are the shell plates welded or flanged no Description of riveting: circ. seams S. P. lap long seams D. R. butt.

Dia. of rivet holes in circ. seams 13/16 long. seams 13/16 Pitch of rivets 2 1/8 3.05 Percentage of strength of circ. seams plate 61 rivets 46 of Longitudinal joint plate 73 rivets 120 combined 107

Working pressure of shell by rules 185 LB<sup>s</sup> Thickness of butt straps outer 13/32 inner 13/32

Shell Crown: Whether complete hemisphere, dished partial spherical, or flat Flat. Material Steel

Tensile strength 26/30 Thickness 9/16 Radius — Working pressure by rules 360 LB<sup>s</sup>

Description of Furnace: Plain, spherical, or dished crown Dished Material Steel Tensile strength 26/30

Thickness 3/4 External diameter top 3 1/8 bottom 3 1/8 Length as per rule 4" 4" Working pressure by rules 134 LB<sup>s</sup>

Pitch of support stays circumferentially — and vertically — Are stays fitted with nuts or riveted over —

Diameter of stays over thread — Radius of spherical or dished furnace crown 3-0" Working pressure by rule —

Thickness of Ogee Ring none. Diameter as per rule D Working pressure by rule 144 lbs.

Combustion Chamber: Material — Tensile strength — Thickness of top plate —

Radius if dished — Working pressure by rule — Thickness of back plate — Diameter if circular —

Length as per rule — Pitch of stays — Are stays fitted with nuts or riveted over —

Diameter of stays over thread — Working pressure of back plate by rules —

Tube Plates: Material Circular. Steel Tensile strength 26/30 Thickness 3/4 Mean pitch of stay tubes in nests —

If comprising shell, Dia. as per rule front — back — Pitch in outer vertical rows Circular 4.86 Vertical 3" Dia. of tube holes FRONT stay 2 3/4 plain 2 3/4 BACK Thimble tubes

Is each alternate tube in outer vertical rows a stay tube — Working pressure by rules Circular 134 LB<sup>s</sup>

Girders to combustion chamber tops: Material — Tensile strength —

Depth and thickness of girder at centre — Length as per rule —

Distance apart — No. and pitch of stays in each — Working pressure by rule —



**Crown stays:** Material ✓ Tensile strength ✓ Diameter { at body of stay, or over threads ✓  
 No. of threads per inch ✓ Area supported by each stay ✓ Working pressure by rules ✓

**Screw stays:** Material ✓ Tensile strength ✓ Diameter { at turned off part, or over threads ✓ No. of threads per inch ✓  
 Area supported by each stay ✓ Working pressure by rules ✓ Are the stays drilled at the outer ends ✓

**Tubes:** Material Steel External diameter { plain Thimble 2 3/4 ✓ Taper to 2" dia ✓ Thickness { 9 B.W.G. ✓  
 No. of threads per inch — Pitch of tubes 4.86 Circular, 3" Vertical. Working pressure by rules ✓

**Manhole Compensation:** Size of opening in shell plate ✓ Section of compensating ring ✓ No. of rivets and diameter of rivet holes ✓  
 Outer row rivet pitch at ends ✓ Depth of flange if manhole flanged ✓

**Uptake:** External diameter 1 9/8 ✓ Thickness of uptake plate 9/16 ✓

**Cross Tubes:** No. ✓ External diameters { ✓ Thickness of plates ✓

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with Yes

The foregoing is a correct description,  
**DAVY BROTHERS, LIMITED.**  
*C. Astwood* Manufacturer.  
 BOILER WORKS MANAGER.

Dates of Survey { During progress of work in shops - - 17/1/30. 5/2/30. 19/2/30. 12/3/30. Is the approved plan of boiler forwarded herewith (If not state date of approval.) Yes  
 while building { During erection on board vessel - - 18/1/11. 25/1/11. 28/1/11. 4/2/11. 12/2/11. 14/2/11. 17/2/30. Total No. of visits Four + seven.

**GENERAL REMARKS** (State quality of workmanship, opinions as to class, &c.) This Boiler has been built under special survey and to the approved plan, the materials have been tested in accordance with the rules and the workmanship is good.  
This boiler is for shipment to - Messrs Aktieselskabet Nakskov Skibsvaerft. Nakskov, Denmark.  
for their Y<sup>d</sup> N<sup>o</sup> 39.

Marked N<sup>o</sup> 516  
 LLOYDS TEST  
 200 LBS  
 WP. 100 —  
 R.W.F. 12/3/30

The donkey boiler has been fitted on board the vessel under the supervision and to the satisfaction of the undersigned; it has been so arranged, that the boiler can be fired either by oil or by exhaust gas from the shaftboard main engine.  
For feeding purposes a 75 x 50 x 75 mm duplex feed pump and a feed injector have been fitted and connected complete.  
Recommend the vessel to have notation of O.B. 100 lb. in the Register Book.

*Chiliffe*  
 SURVEYOR TO LLOYD'S REGISTER OF SHIPPING

Survey Fee ... .. £ 4 : 4 When applied for, 19...  
 Travelling Expenses (if any) £ ✓ : ✓ : 4 When received, 5. 4. 30

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

Committee's Minute TUE. 27 JAN 1931  
 Assigned See Opn F.C. 8405

