

# REPORT ON MACHINERY.

No. 108

No. in Survey held at

Kinderdyk

Date, first Survey

29 June 84

Last Survey

25 August 1884

Reg. Book.

on the Iron Pump Hopper, "Kisogawa".

(Number of Vials five)

Tons

Master D. Ouwehand.

Built at

Kinderdyk

By whom built

J & K. Smit

When built 8. 84

Engines made at

Kinderdyk

By whom made

Diepeveen, Lels & Smit

when made 1884

Boilers made at

d.

By whom made

same firm

when made 1884

Registered Horse Power 50

Owners

J & K. Smit

Port belonging to Kinderdyk

## ENGINES, &c.—

Description of Engines

Inverted, direct acting Compound surface condensing.

Diameter of Cylinders

18" & 34"

Length of Stroke

21"

No. of Rev. per minute

125

Point of Cut off, High Pressure

60%

Low Pressure 60%

Diameter of Screw shaft

4" iron

Diam. of Tunnel shaft

4" iron

Diam. of Crank shaft journals

6 1/4"

Diam. of Crank pin 3 1/4" size of Crank webs 8 1/2" x 3 1/4"

Diameter of screw

4 feet

Pitch of screw

9 feet

No. of blades

4

state whether moveable

no

total surface 50 sq. feet

No. of Feed pumps

two

diameter of ditto

3"

Stroke

13"

Can one be overhauled while the other is at work

no

No. of Bilge pumps

two

diameter of ditto

3"

Stroke

13"

Can one be overhauled while the other is at work

yes.

Where do they pump from

Engine room three roses, fore end of vessel

No. of Donkey Engines

One

Size of Pumps

dbl act. 2 1/2" x 8"

Where do they pump from

from sea, freshwater tank in forepeak (for boiler feed) bilges in engine room and forepeak

Are all the bilge suction pipes fitted with roses

yes

Are the roses always accessible

yes

Are the sluices on Engine room bulkheads always accessible

yes

No. of bilge injections

One

and sizes

2 1/2"

Are they connected to condenser, or to circulating pump

to circulating pump

How are the pumps worked

By levers from HP crosshead & R. P. crosshead.

Are all connections with the sea direct on the skin of the ship

yes

Are they Valves or Cocks

Both.

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates

yes

Are the discharge pipes above or below the deep water line

above

Are they each fitted with a discharge valve always accessible on the plating of the vessel

yes

Are the blow off cocks fitted with a spigot and brass covering plate

yes

What pipes are carried through the bunkers

None

How are they protected

—

Are all pipes, cocks, valves, and pumps in connection with the machinery accessible at all times

yes

Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilges

yes

Were stern tube, propeller, screw shaft, and all connections examined in dry dock

before launch of ship.

Is the screw shaft tunnel watertight

no tunnel

and fitted with a sluice door

—

worked from

—

## BOILERS, &c.—

Number of Boilers

two

Description

Cylindrical, return tub.

Whether Steel or Iron

Iron throughout (i)

Working Pressure

90 lbs

Tested by hydraulic pressure to

180 lbs

Date of test

29 July 84 (18. 68)

Description of superheating apparatus or steam chest

Cylindrical, diagonally placed in end.

Can each boiler be worked separately

yes

Can the superheater be shut off and the boiler worked separately

—

Area of square feet of fire grate surface in each boiler

26

Description of safety valves

Lever & Spring

No. to each boiler

two

Area of each valve

6.62 sq

Are they fitted with easing gear

yes

No. of safety valves to superheater

—

area of each valve

—

Are they fitted with easing gear

—

Smallest distance between boilers and bunkers or woodwork

three feet.

Diameter of boilers

8'-2 1/2"

Length of boilers

9'-11 1/2"

Description of riveting of shell long. seams

triple riv lap

circum. seams

dbl riv lap

Thickness of shell plates

3/4"

Diameter of rivet holes

15/16"

whether punched or drilled

drilled

pitch of rivets

3 1/4"

Lap of plating

6 1/2"

Stage of strength of longitudinal joint

65.4% riv.

working pressure of shell by rules

90 lbs

size of manholes in shell

12" x 16"

Compensating rings

riveted on

4 3/4"

No. of Furnaces in each boiler

two

Diameter

2'-7 1/8"

length, top

6'-1 1/2"

bottom

dr

thickness of plates

1 1/2"

Description of joint

lap riv

if rings are fitted

no

Length between rings

—

working pressure of furnace by the rules

110

combustion chamber plating, thickness, sides

9/16"

back

9/16"

top

9/16"

Stays to ditto, sides

4 x 4

back

4 x 4

top

8 x 4

Stays are fitted with nuts or riveted heads

riv. heads

working pressure of plating by

100

Diameter of stays at smallest part

1.38"

working pressure of ditto by rules

102

end plates in steam space, thickness

9/16"

Stays to ditto

largest

14"

how stays are secured

all riv. nut.

working pressure by rules

98 lbs

diameter of stays at

test part

2"

pitch of stays

10"

working pressure by rules

100

Diameter of tubes

3 1/4" ext.

pitch of tubes

4 3/8"

thickness of tube

1 1/2"

front

78" T

how stayed

stay tube

pitch of stays

8 1/4" x 1 1/8"

width of water spaces

1 1/2"

of Superheater or Steam chest

2'-11"

length

5'-10"

thickness of plates

1/2"

Description of longitudinal joint

dbl riv lap

diam. of rivet holes

3/4"

rivets

2 1/2"

working pressure of shell by rules

139

diameter of flue

—

thickness of plates

—

If stiffened with rings

—

between rings

—

working pressure by rules

—

end plates of superheater, or steam chest; thickness

1/2"

how stayed

4

1 1/4"

Superheater or steam chest; how connected to boiler

two flanged tubes.



**DONKEY BOILER** Description *None.*

Made at \_\_\_\_\_ by whom made \_\_\_\_\_ when made \_\_\_\_\_ where fixed \_\_\_\_\_

Working pressure \_\_\_\_\_ tested by hydraulic pressure to \_\_\_\_\_ No. of Certificate \_\_\_\_\_ fire grate area \_\_\_\_\_ description of safety valves \_\_\_\_\_ No. of safety valves \_\_\_\_\_ area of each \_\_\_\_\_ if fitted with easing gear \_\_\_\_\_ if steam from main boilers can enter the donkey boiler \_\_\_\_\_ diameter of donkey boiler \_\_\_\_\_ length \_\_\_\_\_ description of riveting \_\_\_\_\_ Thickness of shell plates \_\_\_\_\_ diameter of rivet holes \_\_\_\_\_ whether punched or drilled \_\_\_\_\_ pitch of rivets \_\_\_\_\_ lap of plating \_\_\_\_\_ per centage of strength of joint \_\_\_\_\_ thickness of crown plates \_\_\_\_\_ stayed by \_\_\_\_\_ Diameter of furnace, top \_\_\_\_\_ bottom \_\_\_\_\_ length of furnace \_\_\_\_\_ thickness of plates \_\_\_\_\_ description of joint \_\_\_\_\_ Thickness of furnace crown plates \_\_\_\_\_ stayed by \_\_\_\_\_ working pressure of shell by rules \_\_\_\_\_ Working pressure of furnace by rules \_\_\_\_\_ diameter of uptake \_\_\_\_\_ thickness of plates \_\_\_\_\_ thickness of water tubes \_\_\_\_\_

**SPARE GEAR.** State the articles supplied: *two Propellers propellershaft and stern burh complete. Circulating pump bucket and rod; 1 set of crankpin braces; 1 set of coupling bolts. 2 main bearing bolts; 2 Connecting rod top & bottom end bolts & nuts; 1 set of valves for feed & bilge pumps and for air & circulating pump; 1 set of piston rings and springs; 36 Condenser tubes; 24 boiler tubes; 6 tube stoppers; A quantity of bolts & nuts; Iron of various sizes; 1 ton of furnace bars*

The foregoing is a correct description, *Diagonian Loh Smith* Manufacturer.

**General Remarks** (State quality of workmanship, opinions as to class, &c.)

*The materials used and the workmanship being good; and the boiler and machinery proving to work well under full steam renders this vessel eligible, in my opinion, to be recorded in the Society's Register Book with*

*T.M.C. 8.87*

The amount of Entry Fee . . . £ *1* : received by me, }  
 Special . . . £ *8* :  
 Donkey Boiler Fee . . . £ :  
 Certificate (if required) . . . £ : *2.6* 18  
 To be sent as per margin.

(Travelling Expenses, if any, £ *3.14-3*)

Committee's Minute, **TUESDAY 6 SEPT 1887**

*W.F.D. van Allen*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.