

REC'D NEW YORK MAY 23 1921

Rpt. 4.

# REPORT ON MACHINERY.

No. 1896

FRI. 10 JUN. 1921

Date of writing Report May 18 1921 When handed in at Local Office May 21 1921 Port of Montreal  
 No. in Survey held at Montreal Date, First Survey Apr. 5 1920 Last Survey May 16 1921  
 Reg. Book. on the S.S. "CANADIAN LEADER" (Number of Visits 50)  
 Master J. P. Huxton Built at Montreal By whom built Canadian Packers Ltd. Tons Gross 5492 Net 3342  
 Engines made at Montreal By whom made Canadian Packers Ltd. when made 1921  
 Boilers made at " By whom made " when made 1921  
 Registered Horse Power 266.5 Owners Canadian Govt. Merchant Marine Port belonging to Montreal  
 Nom. Horse Power as per Section 28 520 Is Refrigerating Machinery fitted for cargo purposes Yes Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple Expansion Simple Condensing. No. of Cylinders 3 No. of Cranks 3  
 Dia. of Cylinders 27"-44"-73" Length of Stroke 48 Revs. per minute 75 Dia. of Screw shaft as per rule 14.67" Material of S.  
 as fitted 16.5" screw shaft  
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube Yes Is the after end of the liner made water tight  
 in the propeller boss Yes If the liner is in more than one length are the joints burned ✓ If the liner does not fit tightly at the part  
 between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive ✓ If two  
 liners are fitted, is the shaft lapped or protected between the liners ✓ Length of stern bush 5'0 1/2"  
 Dia. of Tunnel shaft as per rule 13.3" Dia. of Crank shaft journals as per rule 13.96" Dia. of Crank pin 14.5" Size of Crank webs 52"x28"x9" Dia. of thrust shaft under  
 collars 14.5" Dia. of screw 7'6" Pitch of Screw 15'9" No. of Blades 4 State whether moveable Yes Total surface 95 sq ft  
 No. of Feed pumps 2 Diameter of ditto 8" Stroke 10 1/2" Can one be overhauled while the other is at work Yes  
 No. of Bilge pumps 2 Diameter of ditto 4" Stroke 24 Can one be overhauled while the other is at work Yes  
 No. of Donkey Engines 3 Sizes of Pumps GEN. SERVICE 11"x7 1/2"x10" CIRC 12" No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room 2-3 1/2" In Holds, &c. BALLAST 1-3" No. 1. 2-3" No. 2. 2-3" No. 3. 2-3" No. 4. 2-3" No. 5. 4-3" No. 6. 1-4" No. 7. 1-3" No. 8. 2-3 1/2" No. 9. 2-3 1/2" No. 10. 1-4" No. 11. 1-3"  
 No. of Bilge Injections 1 sizes 9" Connected to condenser or circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size 2-4"  
 Are all the bilge suction pipes fitted with roses Yes Are the roses in Engine room always accessible Yes Are the sluices on Engine room bulkheads always accessible Yes  
 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 and all boiler mountings accessible at all times Yes  
 Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges Yes  
 Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from E.R. by platform

BOILERS, &c.—(Letter for record S.) Manufacturers of Steel Worth Steel Co.  
 Total Heating Surface of Boilers 7810 Is Forced Draft fitted Yes No. and Description of Boilers 3 Scotch type  
 Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 25-11-20 No. of Certificate 49  
 Can each boiler be worked separately Yes Area of fire grate in each boiler 66.12 sq ft No. and Description of Safety Valves to  
 each boiler 2 Spring loaded Area of each valve 8.3 sq ft Pressure to which they are adjusted 184 Are they fitted with easing gear Yes  
 Smallest distance between boilers or uptakes and bunkers or woodwork 14" Mean dia. of boilers 15'6" Length 11'6" Material of shell plates S.  
 Thickness 1 3/8" Range of tensile strength 28-32 TONS Are the shell plates welded or flanged No. Descrip. of riveting: cir. seams DR.  
 long. seams DBS TR. Diameter of rivet holes in long. seams 1 3/8" Pitch of rivets 9 3/16" Lap of plates or width of butt straps 19 7/8"  
 Per centages of strength of longitudinal joint rivets 87.4 Working pressure of shell by rules 183 Size of manhole in shell 16"x12"  
 plate 85.0  
 Size of compensating ring 37 1/2" x 33" x 1 3/8" No. and Description of Furnaces in each boiler 3 Dighton. Material S. Outside diameter 4'2 1/4"  
 Length of plain part top ✓ Thickness of plates crown 19 1/32" Description of longitudinal joint Weld. No. of strengthening rings ✓  
 bottom ✓ Working pressure of furnace by the rules 187 lbs Combustion chamber plates: Material S. Thickness: Sides 5/8" Back 5/8" Top 5/8" Bottom 15/16"  
 Pitch of stays to ditto: Sides 9"x7 1/2" Back 8 1/2"x8" Top 9"x7 1/2" If stays are fitted with nuts or riveted heads Nuts. Working pressure by rules 197 lbs  
 Material of stays S. Area at smallest part 1.760 sq in Area supported by each stay 68.60 sq in Working pressure by rules 242 lbs End plates in steam space:  
 Material S. Thickness 1 1/8" Pitch of stays 18"x16" How are stays secured Welded to shell Working pressure by rules 195 lbs Material of stays S.  
 Area at smallest part 5.270 sq in Area supported by each stay 2900 sq in Working pressure by rules 190 lbs Material of Front plates at bottom S.  
 Thickness 1 3/16" Material of Lower back plate S. Thickness 1 3/16" Greatest pitch of stays 13 1/2" x 8 1/4" Working pressure of plate by rules 182.5 lbs  
 Diameter of tubes 3" Pitch of tubes 4 1/4" Material of tube plates S. Thickness: Front 1 3/16" Back 3/4" Mean pitch of stays 8 1/2" x 8 1/2"  
 Pitch across wide water spaces 13 1/2" Working pressures by rules 249 lbs Girders to Chamber tops: Material S. Depth and  
 thickness of girder at centre 10" x 1 1/2" Length as per rule 2'6 7/8" Distance apart 9" Number and pitch of stays in each 3-7 1/2"  
 Working pressure by rules 203 lbs Steam dome: description of joint to shell ✓ % of strength of joint ✓  
 Diameter ✓ Thickness of shell plates ✓ Material ✓ Description of longitudinal joint ✓ Diam. of rivet holes ✓  
 Pitch of rivets ✓ Working pressure of shell by rules ✓ Crown plates ✓ Thickness ✓ How stayed ✓

SUPERHEATER. Type ✓ Date of Approval of Plan ✓ Tested by Hydraulic Pressure to ✓  
 Date of Test ✓ Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler ✓  
 Diameter of Safety Valve ✓ Pressure to which each is adjusted ✓ Is Easing Gear fitted ✓

IS A DONKEY BOILER FITTED? *No.*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

2 connecting rod top end bolts & nuts	1 set of main & donkey feed checks	2 bronze propeller blades
2 " " bottom " " "	6 cyl cone studs & nuts	1 H. P. piston valve.
2 main bearing " " "	6 stem chest " " "	1 set H.P. - I.P. & L.P. piston rings
6 coupling " " "	12 junk ring " " "	Ordinary & 6 stay bolts for boilers
1 set of feed pump valves	Washed bolts & nuts	12 condenser tubes & 50 screws
1 " " " " "	" bars of round & flat iron	1 set of fire bars for one boiler.

The foregoing is a correct description,

FOR CANADIAN MARINERS LIMITED  
*M. Miller*

Manufacturer.

Dates of Survey while building  
 During progress of work in shops -- 1920 Apr. 5-19, May 5, Jun. 22, July-Aug. 30, Sept. 3, 10-29, Oct. 11-14-15, Nov. 15-8-11-16-17, 11-22-15-19-30, Dec. 3-6-8.  
 During erection on board vessel --- 1921 Jan. 7-12-17-24-31, Feb. 4-15-25, Mar. 8-21-28-30, Apr. 1-5-11-13-16-22-28-29, May. 1-2-3-16.  
 Total No. of visits 50.

Is the approved plan of main boiler forwarded herewith *No*

17-11-20 " " " donkey " " "

Dates of Examination of principal parts—Cylinders 29-10-20 Slides 8-3-21 Covers 29-10-20 Pistons 23-11-20 Rods 23-11-20

Connecting rods 16-11-20 Crank shaft 16-11-20 Thrust shaft 16-11-20 Tunnel shafts 16-11-20 Screw shaft 13-10-20 Propeller 13-10-20

Stern-tube 16-11-20 Steam pipes tested 8-3-21 Engine and boiler seatings 25-11-20 Engines holding down bolts 17-1-21

Completion of pumping arrangements 3-5-21 Boilers fixed 6-2-20 Engines tried under steam 3-5-21

Completion of fitting sea connections 25-11-20 Stern tube 19-11-20 Screw shaft and propeller 22-11-20

Main boiler safety valves adjusted 2-5-20 Thickness of adjusting washers P. 496" S. 350" P. 418" S. 448" P. 450" S. 514"

Material of Crank shaft S Identification Mark on Do. O.T.J. Material of Thrust shaft S Identification Mark on Do. O.T.J.

Material of Tunnel shafts S Identification Marks on Do. O.T.J. Material of Screw shaft S Identification Marks on Do. O.T.J.

Material of Steam Pipes Steel Test pressure 540 lbs per sq in

Is an installation fitted for burning oil fuel *No.* Is the flash point of the oil to be used over 150°F.

Have the requirements of Section 49 of the Rules been complied with

Is this machinery duplicate of a previous case *Yes* If so, state name of vessel *Canadian Pioneer, Com. Kayis, Com. deipreni, Com. Indra, Com. Firmer, Com. Planter, Com. Compara, Com. Victor, Com. Commander.*

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

The Machinery of this vessel has been constructed under special survey and in accordance with the rules and the approved plans. The workmanship and materials are good. It has been fitted on board and tried out under full working conditions with satisfactory results.

The Boilers are of good workmanship and the materials have been tested according to rule. They have been tested by water pressure to 360 lbs and the safety valves have been adjusted under steam to blow at 184 lbs per sq in.

In my opinion the machinery of this vessel is in good and efficient condition and is eligible to be classed in the Society's Register Book with the record of F.L.M.C. 5-21.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 5.21. F.D. C.L.

*Reck*  
17/6/21  
*ARK*

The amount of Entry Fee ...	£ 30.00	When applied for,	May 12 1921
Special ...	£ 505.00	When received,	2/6/21
Donkey Boiler Fee ...	£ 40.00		
Travelling Expenses (if any) £	31.85		

*H. J. Alderson*  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 17 JUN. 1921

Assigned + L.M.C. 5.21

F.D. C.L.

CERTIFICATE WRITTEN



© 2020

Lloyd's Register Foundation

Certificate (if required) to be sent to Montreal

Rpt. 1

Port

No. in Reg. Bo

Owners

Yard No

DESCRIP

1-

Capacit

Where

Position

Position

partly

equip

If fuse

circ

If vesse

Are the

Are all

are

Are all

Total n

A. 7m

B. 1ft

C. 1/2

D. 1/2

E. 1/2

2

If arc

Where

DESCRIP

Main cat

Branch

Branch

Leads to

Cargo lig

DESCRIP

Ke

size

Joints in

Are all t

post

Are ther

How are

constr